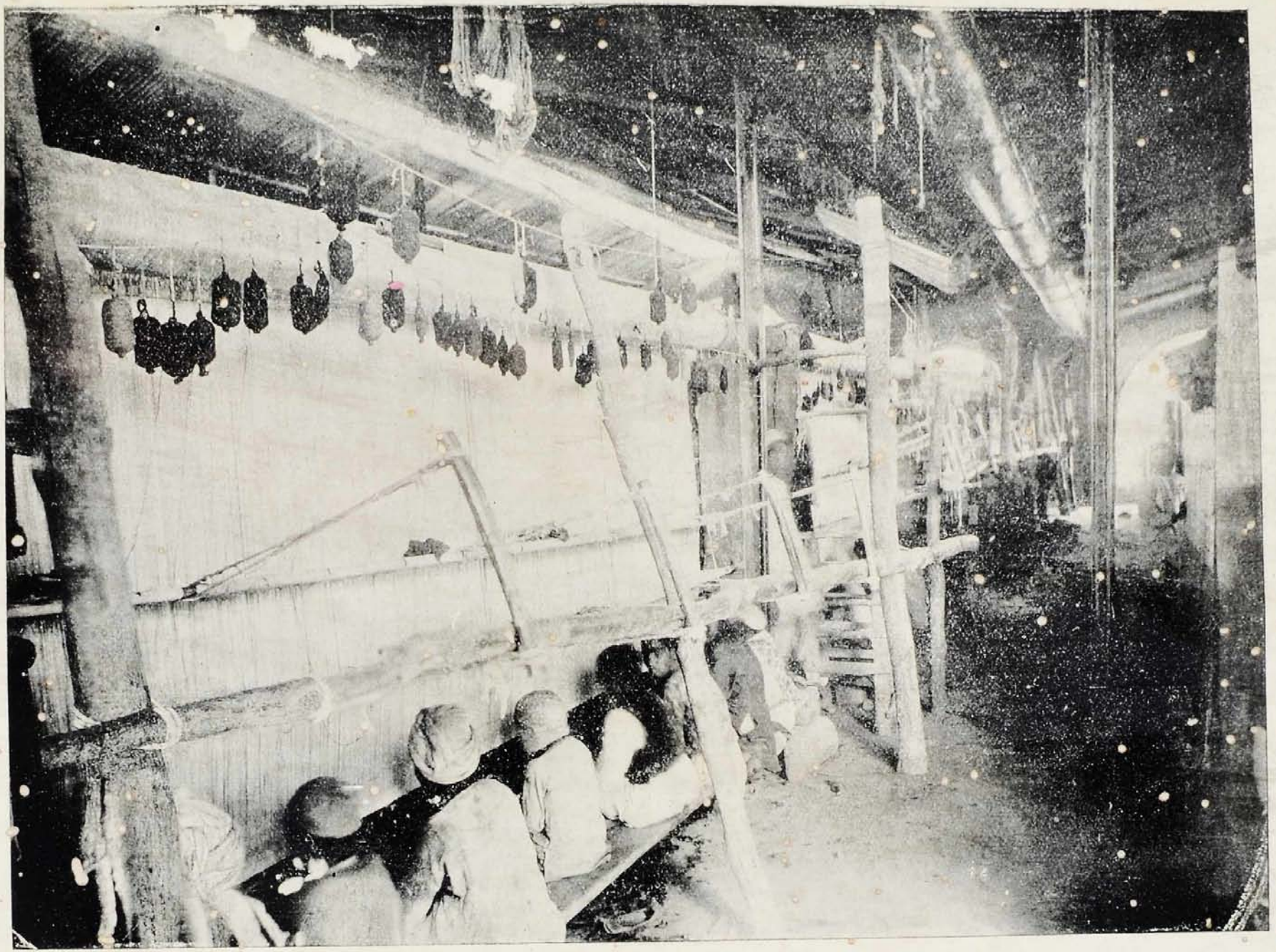

The Carpet Loom.

MONOGRAPH

ON

CARPET MAKING

IN THE

UNITED PROVINCES.

BY

KUNWAR JAGDISH PRASAD, B.A., I.C.S.

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PREFACE.

THIS monograph has been written in accordance with Government orders. I have not limited myself merely to a description of the technical details of carpet-making, but have endeavoured to show the actual position of the industry under modern conditions.

In treating of designs, I have generally tried to follow the opinion of some well-known authority, as I can lay no claims to any special knowledge of the subject.

I have visited the following districts, Allahabad, Cawnpore, Lucknow, Bareilly, Moradabad, Aligarh, Agra and Jhansi. My accounts of the other districts are derived from reports sent by district officers on the lines set out by me in a printed list of questions.

The reports from Banda (by Mr. C. M. King, I.C.S.), from Meerut (by Mr. C. Andrews, Deputy Collector), from Benares (by Muhammad Abdus Sami) and from Cawnpore (by Mr. Abdul Hamid Khan, Deputy Collector) contained much valuable information. Useful reports were also received from Shahjahanpur, Etah, Farrukhabad, Fyzabad, Mainpuri, Moradabad, Gorakhpur, Bijnor, Bareilly, Bulandshahr, Ghazipur, Muttra, Rae Bareli and Amroha.

I beg to acknowledge the valuable assistance given to me by Messrs. Branford and Yeld, of the firm of E. Hill & Co., carpet manufacturers, Mirzapur; by Mr. Tellery, of the firm of A. Tellery & Co., Mirzapur, and by Mr. Otto Weylandt, of the firm of Otto Weylandt & Co., Agra. Through the courtesy of Messrs. Moreland and Alexander, I.C.S., I have been able to collect the statistics given in Appendices I and II respectively, and my best thanks are due to them.

I wish specially to thank Professor Homersham Cox of the Muir Central College, Allahabad, for kindly going through the proof-sheets and for making many useful corrections.

A list of the papers and books consulted by me in the preparation of this monograph will be found in the bibliography at the end.

JAGDISH PRASAD.

MIRZAPUR :
September 1906.

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MONOGRAPH ON CARPET-MAKING.

CHAPTER I.

EARLY HISTORY OF CARPET-MAKING.

EGYPT is regarded as the original home of carpet-making. Thence it spread to the other parts of the East. Memphis, Thebes, Babylon, and Nineveh were the four chief centres of production. The manufacture of carpets was later taken up at Alexandria and, according to Sir George Birdwood, from Alexandria it was imported into Western India. According to the same authority it was introduced into Southern India from Babylon. An equally remote antiquity is assigned to the manufacture of cotton carpets or *daris*.

Sir George Birdwood puts the following interpretation on a passage in the Book of Esther (circa B.C. 450, chapter I, verse 6) describing the "white, green, and blue hangings" of the King's palace at Sushan: "The Hebrew word here translated is the Sanskrit word for cotton, and the passage really refers to the well-known Indian blue-striped cotton carpets called *daris*."

However, on closer examination it will be found that many of the theories on the origin of carpet-weaving in India are conjectural. The Sanskrit writers, as far as can be ascertained, make no mention of carpet-weaving. The earlier Muhammadan historians and travellers are equally silent. They make references to the use of carpets in India, but not to their manufacture.

The first definite account of the manufacture of carpets is found in the *Ayin Akbari*. In describing Hindustan the learned author of the Institutes says: "But they were notorious for the want of cold water, the intolerable heat of their climate, the scarcity of their grapes and melons; and that they had not any manufacture of carpets, neither did they breed camels." "The manufactures of silk and woollen carpets were introduced together with that of brocades."

It may then be of some interest to inquire whether Akbar was the originator of carpet-weaving in Northern India, or whether he merely gave encouragement to a long-established industry.

It is the fashion to regard Akbar much in the same way as people regard King Alfred. Most good things in India are ascribed to the

genius of the Great Moghal Emperor, and the language of Abul Fazl would lend colour to the theory that the carpet manufacture of Northern India began with Akbar. But on studying the Institutes it will be clear that already in the time of Akbar, carpets were made in Agra, Fatehpur, Lahore, Allahabad, Jaunpur, Nerwal, Allore. It is extremely improbable that all these centres of carpet-weaving should have sprung up during one reign.

Abul Fazl goes on to say: "it would take too much time to describe the beauty and variety of Jajams, Shatranjis, Baluchis, and silken carpets that are fabricated in this empire."

The passages quoted above point to the widespread nature of the industry, and it is highly probable that carpets were manufactured before the time of Akbar. It will next be of interest to enquire how much the industry owes to the Muhammadan invasion. Were carpets manufactured before the Muhammadan conquest, or was the industry brought in the train of the foreign invader? Sir George Birdwood says that "the representation of carpets on the old Buddhistic monuments of India are also very few, although, in the sculptures of Barhut and the cave paintings at Ajanta, they are unmistakable and prove the absolute identity of the designs with which they were then ornamented with those still in use by the caste carpet-weavers of India." But who are the caste carpet-weavers in India? In Northern India they were all Muhammadans until very recently. In Madras, too, the carpet-weavers are Muhammadans. Gradually they formed themselves into an occupational caste and called themselves *kalinbafs* or weavers of carpets. The fact that carpet-weaving was confined exclusively to Muhammadans may lead to the conclusion that it is a foreign art. However, the carpet-weavers are undoubtedly in many cases converts from Hinduism, nor is it certain that they can trace their origin to the Moghal or Pathan invaders.

This probably accounts for the low place the weaver occupies in the social hetrarchy of the Muhammadans in India. The restriction of the industry, then, to a particular class of Muhammadans does not prove much. It may mean either that the original Hindu weavers had become converts to Muhammadanism, or it may mean that with the new faith a new industry was introduced into India.

It is further said that the designs of carpets in Northern India are Persian. It is conceivable that some future writer might argue that carpet-weaving was introduced from Europe, because many of the

designs of modern Indian carpets are anything but oriental. Designs migrate. Commercial intercourse, the great religious pilgrimages of the East, and in many cases the antiquity of the design, make it difficult to assert where a design originated. The prevalence of certain designs depends to a great degree upon taste, and this is itself affected by the political and social conditions of the community. The prevalence of Persian designs in old Indian carpets, while it shows the predominant influence exercised by the Muhammadan conquerors, cannot be regarded as fixing the origin of the industry. Political ascendancy has had considerable influence on design, and it is erroneous to trace from design the origin of the industry.

Of similar value is the evidence of terminology. Many of the technical terms used in the modern carpet-industry are undoubtedly Persian, as is the shape of the loom and of the implements used in weaving. But language is often a treacherous guide. Old things appear under new names, and foreign designations do not always imply a foreign origin. It will be clear from the foregoing remarks that it is exceedingly difficult to make any positive assertion as to the origin of carpet-weaving in India. But there can be no doubt that the Moghals gave it much encouragement. The industry grew under royal patronage. The places where carpets were manufactured during the time of Akbar and which are mentioned by Abul Fazl were almost all either the seats of government, like Agra and Lahore and Allahabad, or the capitals of old kingdoms, like Jaunpur. Royal workshops were also established. The splendour of the Moghal Court and the personal interest displayed by the Emperor attracted workmen from all parts of the Empire. The work was carried on under the most favourable conditions. There was none of the hurry of modern times. Work in the royal factory conferred leisure and distinction on the workmen. Moreover, there was a constant demand for expensive carpets. The nobles about the Court vied with each other in gorgeous display. During public *darbars* and once every year, when the Great Moghal was weighed, rich carpets were given away as presents. Carpets served also as coverings for tents, as canopies, as gifts for mosques. They formed almost the only furniture of a room. Whether it was at a banquet, or a solemn function of state, or a religious congregation, the carpet was indispensable. Nor was the work of the loom ruined by false principles of economy. The most costly materials were used, the designs were elaborated with care, the dye stuffs properly chosen

and the patience and skill of the workman suitably rewarded. The result is described by Abul Fazl with the slight exaggeration of a courtier: "His Majesty has given such encouragement to this manufacture that the carpets of Persia and Tartary are thought no more of. Great numbers of carpet-weavers are settled here and derive immense profit from their labour." The testimony of Abul Fazl is borne out by a later writer. Tavernier says: "the colours of those carpets which are made in India do not last so long as the colour of those which are made in Persia, but for the workmanship it is very lovely."

It was during the Moghal Empire that the manufacture of carpets reached its highest excellence. It was inevitable that as this Empire began to crumble to pieces, the old centres of manufacture should also show signs of decay, and should soon disappear altogether. Allahabad, Jaunpur, Lahore, Agra lost their importance as centres of carpet manufacture. On the other hand, Mirzapur began to grow in importance, and during the nineteenth century its development was extraordinarily rapid. Its growth was due to its geographic position and to the modern spirit of commercial enterprise, and not to the patronage of some powerful court. From Mirzapur the industry spread to Benares, Jhansi, Cawnpore, Amroha, and back to its original home in Agra. Long before the Mutiny, the carpets of Jhansi were known for their excellence, but with the opening of the Indian Midland Railway the industry has sadly declined. Mirzapur and Agra are at the present moment the two important seats of woollen-pile carpet manufacture, and the industry is mainly dependent on the European demand for its existence. The important effects of this demand on the industry will be discussed subsequently.

CHAPTER II.

General description of the industry.

It is noticeable that, while in Persia and Turkey women weave, in India the weavers are mostly boys and men. The reasons given for the exclusion of women are hardly convincing. A want of intelligence and the pre-occupations of the home cannot be regarded as adequate reasons for excluding women, for the same argument would apply to Persia and Turkey. However, there is a strong prejudice in India against women doing work on the loom, and this prejudice may to some extent be explained by the peculiar conditions of the country.

The Moghals no doubt imported weavers from Persia and other places. We have the testimony of Abul Fazl for it. But it is unlikely that the women-weavers would consent to leave their homes; perhaps they even thought that, as members of a superior race, it was improper for them to undertake manual work in the midst of a conquered people. There would thus be no women among the newcomers. An equally strong prejudice in the subject population against allowing their women to associate with the foreign weavers probably soon crystallized into a custom, and it may serve to explain why women, who are such expert weavers in other parts of the world, are rigidly excluded in India. However, it is not an unmixed evil. The employment of women would probably mean a further lowering of wages, and—what is worse—it would increase the opportunities for the men to sit idle.

Organization of the industry.

It is in many respects similar to that in Persia, Turkey, and other parts of India. The owners of the looms receive advances from the firms, and engage their own workmen. The weavers do not deal directly with the firms. The system of giving money in advance to the weavers is almost universal. Its effect on the carpet industry will be discussed in the chapter dealing with wages.

Looms are not worked on the factory system.

The looms are widely distributed, and generally one man does not own more than a few looms. The whole household is engaged in the work, the women and boys assisting in the preliminary processes of opening the yarn, spinning the warp, &c. However, the firm of Messrs. Otto Weylandt & Co. at Agra, and in a slightly modified form the European carpet firms in Cawnpore, are worked on the factory system. On the whole, it is fortunate that this system is not common in these provinces. The industrial home has not yet been completely replaced by factory hands.

Industry chiefly urban, except Mirzapur.

The majority of the weavers are settled in towns, but in Mirzapur the industry is chiefly rural. As, however, the largest number of woollen-pile carpets are made in Mirzapur, it may be said that the woollen-pile carpet industry is rural, while the cotton-pile carpet and *dari* industry is urban. The weavers in towns are mainly dependent on weaving for their livelihood, but in rural tracts agriculture is also combined with weaving. This is a very desirable combination. The work is less monotonous, and is carried on under healthier conditions than in cities.

The weavers are mostly Muhammadans.

As a general rule the weavers are Muhammadans, except in Mirzapur and in the carpet factory of Messrs. Otto Weylandt & Co. They

include the various sub-sects of the Muhammadans, as for example, Sheikh, Saiyid, Moghal, Pathan, Julahas, Teli (oil pressers), Nais (barbers), Nurbaf (weavers of cloth), &c. In Mirzapur, Cawnpore, and Jhansi an occupational caste, that of the Kalinbafs (weavers of pile-carpets), has been formed. They are in reality Manihars (or bangle makers), but have formed a separate caste as is often the case in India.

With the extension of the market and the increased demand for carpets the old class monopoly is disappearing. As the demand has increased, the different sections of the Muhammadan population have first been admitted to the trade, while in places like Mirzapur the door has been thrown open to all castes except the very lowest.

This has had great influence on the question of wages, on design, and on industrial organization. It has meant the decay of the trade guilds, and in place of a mediæval form of industry with regulated wages, has come in the modern spirit of cut-throat competition.

Trade guilds or panchayats.

The guilds have greatly declined in influence, and in many districts they have altogether disappeared. They served a very useful purpose in regulating wages, in checking the quality of the goods produced, in limiting supply to demand, and in settling trade disputes. They are still active in places where the industry is comparatively small, and exercise their influence in confining the industry to certain classes and in enforcing the payment of debts. They no longer exercise any control over wages or production. There is at present no organization to take their place, and there seems to be a decline in the spirit of co-operation and communal responsibility amongst the weavers.

Number of actual weavers.

There are not sufficient materials to give a correct estimate of the number of men engaged in making cotton-pile carpets and *daris*. However, approximate figures can be given for those engaged in the woollen carpet industry. There are between five to six thousand weavers in these provinces, of whom there are about four to five thousand in Mirzapur, including the Family Domains of His Highness the Maharaja of Benares, about 600 in Agra, and the rest distributed over the other manufacturing districts.

Amount of the trade in carpets.

No figures are available for cotton-pile carpets and *daris*, but the figures for woollen-pile carpets are given in Appendix I. It is estimated that woollen carpets to the value of about seven lakhs of rupees are exported every year from these provinces, out of which Mirzapur exports nearly six lakhs of rupees worth of carpets. More than ninety per cent. of these carpets are sent to Europe, chiefly from

the port of Calcutta and to a very much smaller extent from the ports of Bombay and Karachi.

Two to three annas a day may be taken as the average wage of a weaver. The money wage has not altered much during the last ten years, but the real wage has gone down on account of the rise in the price of food stuffs. The profits of the small owners of looms are about six pies ($\frac{1}{2}d.$) to one anna ($1d.$) per square yard, and those of the big contractors are from four annas to eight annas per square yard in ordinary carpets. The profits are very much higher in carpets of superior quality, as there is very little difference in the rate of wages paid for superior and inferior carpets. Wages and profits.

It is difficult to determine why the industry is carried on in particular places. Its distribution often appears to be capricious. There seems no apparent reason why excellent carpets should be made in Jewar, an obscure village of the Bulandshahr district, or in the Fatehpur tahsil of the Bara Banki district. Local distribution of the industry

The peculiar caste and village system of India would explain many of these anomalies. A few weavers have collected in a particular locality, either through the initiative of some local magnates or by pure accident, and the industry has been handed down from father to son and has persisted in spite of all difficulties. In some cases the industry has been started either by released convicts themselves or with the help of their labour, for example, the cotton-pile carpet manufacture of Amroha and the factory of Messrs. Otto Weylandt & Co. at Agra. In others the rise of the industry has been due to economic causes, for example, the modern manufacture of carpets at Mirzapur. The growth of new towns has also attracted weavers from other parts. Thus in the *dari* manufacture of Cawnpore the weavers are drawn from Bareilly, Fatehgarh, Agra, Aligarh. The older centres of manufacture like Agra probably owe their origin to the Moghal Court.

Taking a wider view, it is noticeable that most of the carpet-manufacturing towns are situated outside of Oudh. In the *Ayin Akbari* not a single place is mentioned in the Subah of Oudh where carpets were manufactured: perhaps the absence of large towns in Oudh, and their distance from the imperial cities of Agra and Delhi, may throw some light on the subject. Even to this day Fatehpur tahsil in the Bara Banki district is the only important seat of carpet-manufacture in that province.

It would thus appear that in some cases the industry is due to economic, in others to historic, causes and in some to pure accident, and

that the structure of Indian society tends to perpetuate an industry when it is once started.

Local characteristics.

The modern facility of communication and the copying of designs from certain standard works, such as the Vienna Museum Book, tend to obliterate local peculiarities. However, differences of material, design, shape, and workmanship still exist. It is possible to distinguish the woollen-pile carpet of Mirzapur made to meet a popular demand from the more expensive carpets of Agra. Similarly the stiff, closely woven *daris* of Aligarh, and the elegant *daris* of Agra, differ from those made in the other districts.

Different towns manufacture for different purposes. Bareilly and Cawnpore hold the market for the larger *daris* suitable for rooms and tents; Agra and Aligarh for the more expensive bed *daris* and cotton prayer carpets *(jainamaz)*; while Jhansi supplies a fair number of *asans*, or Hindu prayer rugs, made entirely of wool.

Apprenticeship.

The usual period of apprenticeship is from six months to two years. Boys of from eight to nine years of age become apprentices, and receive either no wages at all during the period of apprenticeship, or get about one anna a day. The formalities that are observed when apprentices are admitted are given in the chapter on Customs and Traditions. Fewer difficulties are placed now in the way of imparting knowledge than in the old days, when an apprentice was also a household drudge of the master. On the other hand, the great demand for labour makes the instruction less thorough and, very often, raw workmen are turned out. There does not appear to be any demand for Technical Schools in the industry, as under the present system, the workmen are taught all that they require in their trade, and though mostly illiterate, are very well versed in the technical part of their work. The ambition of every workman is some day to become a master-weaver.

System of advertising goods.

The Indian firms have no regular system of advertisement on modern lines. They have generally business houses *(arhats)* in different places, which supply them with commercial intelligence, but no effort is made to give publicity to goods by any organised and scientific system of advertisement. However, the great religious fairs help, to some extent, to make goods known to the public, but we are yet very far from the pushful methods and cunning devices of travelling agents, nor is the insinuating grace of free samples thoroughly recognised. The Indian firms spend practically nothing on making their goods known and are considerably handicapped in competing with their

European rivals. The Indian traders and merchants have yet to learn that unadvertised goods, like most other things, are apt to be neglected and merit to be recognised must be loudly proclaimed. The policy of dozing over goods in an obscure shop in an unknown street of an Indian bazar is obsolete and not in keeping with this age of self-advertisement.

At present the scope for advertising goods is necessarily limited by the general want of education among the masses, and by the prevalence of bargaining. An advertisement to be effective must be read, and before a customer can venture to order goods, he must have some assurance that he is getting good value for his money. The ingrained habit of the Indian trader of claiming a big price and of being content with a small one, must be rooted out. Fixed prices appear to be almost an antecedent condition of successful advertising. With the more general spread of education, it will be possible to reach a larger circle of customers, and when Indian traders have learnt to issue more reliable price-lists, we may hope to see much improvement in the present unsatisfactory state of advertising goods.

Chief markets.

Daris and cotton-pile carpets are made mostly for the Indian market, being largely exported to Calcutta, Bombay, the Punjab, and even as far as Burma and Assam. *Daris* are also sent to Europe from Cawnpore. The woollen-pile carpets are exported mostly to England. Carpets of superior quality are sent to America and Germany from Agra.

Rival substitut for carpets.

Munj and aloe-fibre matting, printed floor cloths, and *chattais* are frequently used as coverings for floors, in place of cotton and woollen carpets. Aloe-fibre carpets are also being made in the Bareilly Central Jail, and their larger use seems only a question of time. The use of carpets in India is further restricted by a change in the mode of living of the upper classes.

Effect of fashi on the indu

With the spread of a *pseudo*-western culture, the Indian gentleman, like the modern Persian, prefers to live in what he considers to be European style. The votaries of this style ignore the highly artistic industries of India and show a marked weakness for all that would be considered intensely vulgar by the very persons whom they are so anxious to imitate. The walls of a palace will often be hung up with glaring German prints, and the floor strewed with chairs and sofas in all styles. Rarely will one find an Indian carpet in the house of the wealthy and so-called enlightened classes. This depravity of taste has

had a very disastrous result on the carpet industry. There is practically no Indian demand for expensive carpets. The weavers have to look to Europe for the sale of their goods and have to adjust themselves to all the vagaries of taste of their foreign customers. They are no longer bound down by the canons of taste prevalent in India.

Convention and Indian Art.

The charge is often laid that the Indian weaver is slow to adopt new processes, and that his methods are conventional and old-fashioned. Convention in Indian Art has been a great regulating force.

The artistic experience of centuries and the religious ideas of the people are embodied in these conventions. While taking his inspiration from nature, the Indian artist has found in the traditional convention of his art, what are, according to many competent authorities, the true principles of surface decoration.

Copying of designs.

The attempt at imitating Western models has been far from successful. The conservatism of the East preserved for it a pure tradition in Art. This is being gradually lost. The real danger does not lie in the want of adaptability of the Indian workman, but in the bewildering rapidity with which he follows every change of fashion. The experience of the past has been sacrificed in the hope of satisfying the fickle taste of the modern European customer.

Designs which were the heritage of a family and were regarded with jealous care are now being replaced by concoctions that can suitably be named only by numbers. The modern designs sent out from Europe are labelled and numbered. The scheme of colour is mapped out. Paid agents supervise the work. Skill lies in imitating these designs, and it must be confessed that the Indian workman is an expert imitator. With perfect impartiality he copies the most worthless design and the finished product of art. And he can hardly be blamed for this. The need for daily food is greater than the pursuit of an artistic ideal that will lead to bankruptcy. It rests with the Indian public to create a demand for good carpets, and there seems no doubt that the modern workman will not fall very short of his predecessor of the Moghal era.

CHAPTER III.

Deterioration in Artistic Quality.

Since the London Exhibition of 1851, there has been a great demand in England for Indian carpets. Firms dealing in oriental carpets began to turn their attention to India as a future source of

supply. Keen commercial rivalry soon set in. Attempts were made to create a popular demand, and the only way to reach the English middle-class householder was by lowering the price of carpets. At first the quality of carpets exported from India was good. This soon began to deteriorate through a variety of causes. The increased output soon led to careless work. From the nature of the trade the presence of the middleman was necessary. A great deal depended on the commercial integrity of these middlemen. Unfortunately the great distance between the producer and the consumer led to a diminished sense of responsibility on the part of Indian firms. The temptation to send out inferior work was great, especially as the effects were not immediately felt.

Moreover, the want of accurate information led to over-production. The result was that the London market was flooded with carpets of inferior quality. There was a strong reaction. The prices of carpets went down. The American market was practically closed to low-priced carpets, such as those produced in Mirzapur. While the price of carpets in the London market remained low, the price of raw material in India was steadily increasing. (Accurate figures are not available, but the price of wool has gone up about thirty to forty per cent.) The Indian weaver found himself in great difficulties. His profits began to dwindle. He could not control the supply. All that he could do was to find some means of cheapening the cost of production. The remedy lay near at hand. The Indian processes of dyeing were expensive. They required time and a certain amount of knowledge which was not easily obtainable. This cumbrous and costly process could not find favour with a workman who had to make a shift for his living. He turned eagerly to the foreign aniline dyes. These could be easily manipulated, and they had the inestimable advantage of being cheap and readily procurable. The new process promised well at the beginning. Every manufacturer could dispense with the services of a professional dyer, who was often arrogant and grasping. The younger generation grew up in happy ignorance of the old Indian processes of dyeing, so much so that dyeing of wool as a profession became almost extinct.

In the meantime complaints were received that the colouring of the new carpets was crude and inharmonious, and the weavers were advised to revert to their old processes. They were told that unless they mended their ways there was no hope for them. It thus came

about that the use of aniline dyes, which held out hopes of increasing the profits of the weavers, now threatens to destroy the industry altogether.

In addition to the use of cheap dyes, other methods are employed to lessen the cost of production. In many cases the preliminary process of washing and cleaning the wool is dispensed with; the knots are not pressed home properly; the wool used in knotting is spun thin, so that a small quantity might go a long way; the thread for the weft is often coarse and spun from spent cotton. The result of all this ingenuity is the well-known bazar carpet of Mirzapur—loose in texture, shaggy in pile, crudely coloured, but, in spite of all, a marvel of cheapness. This carpet does not symbolize "space and eternity, and the general pattern, or filling, as it is technically called, the fleeting, finite universe of animated beauty." It is rather the symbol of the eternal struggle between capital and labour and the equally animated contest between cheapness and artistic merit.

CHAPTER IV.

The foreign demand and wages.

It will perhaps be well to discuss this question by taking Mirzapur as a typical example, since it is the chief centre of the woollen carpet industry of these provinces. On comparing the export figures for carpets with the rate of wages, it will be found that Mirzapur exports more carpets and pays lower wages than any other town in these provinces, or perhaps in India. What is then the explanation of the paradox that an increased demand for labour has not resulted in a rise of wages? Before answering this question the system of calculating wages in Mirzapur may be briefly explained. Wages are calculated on the number of separate stitches or knots tied by the hand by each weaver. The unit of measurement is the *dihari*, which is the equivalent of 6,000 stitches or Knots. The rate of wages in Mirzapur varies from eight to nine *diharis* for the rupee; in other words, two annas are paid for every six to seven thousand knots. The rates are about six to seven *diharis* for the rupee in Agra, Jhansi, and Cawnpore. The reasons for a comparative low wage in Mirzapur may now be stated:—

I.—The circumstances which led many men to turn to the carpet industry were such that a rise in wages was out of the question. Thus many *julahas* rushed to the trade when their hereditary occupation of weaving cloth was gone.

They were not in a position to fight over wages. They had to take up carpet-weaving as a last resource.

II.—The opening of the trade to almost all castes has produced an unlimited supply of labour. Nor can these different castes combine together to assert their rights. United action has become impossible, and the old trade guilds can no longer regulate the conduct of weavers drawn from so many sources.

III.—As the trade can easily be learnt and there are immediate prospects of employment, there is a large number of apprentices.

IV.—Some of the weavers are not absolutely dependent on weaving for their subsistence. It often happens that while one member of a family weaves, the others are engaged in agriculture or some other calling. The wages earned in weaving are merely regarded as supplemental to the earnings of the family.

V.—A large number of boys are engaged in the industry, who are willing to work for comparatively low wages for the simple reason that in other trades they would either not earn anything at all or not nearly as much. The wages of the men are thus adversely influenced by the low rates at which boys can be induced to work.

But in many respects the most important cause of a low rate of wages is the system of advances. This system is almost universal in India. It prevails among the shawl weavers of the Punjab and the carpet weavers of Madras and Bangalore. The firms dealing in carpets generally advance money to the head weaver or *ustad*, who in turn gives advances to the weavers. The chief reason for its prevalence is the poverty of the workmen on the one hand and the desire of the employers to get the weaver into debt and then secure his services in perpetuity.

The system has some advantages. There is a business connection established between the workman and the master. On the occasion of a marriage or a funeral, or during some great calamity like the plague, the weaver can turn to his employer for help. Very often the weaver cannot make a start without a certain amount of capital, and this is supplied in the shape of an advance.

But the disadvantages of this system are many. The workman loses all freedom. He cannot take his labour to the best market. The money that has been advanced must be paid before he can

regain his liberty. Many firms, while they charge no interest on the advance, recoup themselves indirectly by lowering the wages of the men who have large advances against them. Another curious effect of this system is that the workman is often forced to sit idle through no fault of his. Either orders for carpets are not promptly given or the raw material is not supplied regularly and the weaver has to abide his time. He cannot leave his employer on account of the advance he has received, while he is paid no wages during the time that he has been forced to stop work. This often leads to a complicated system of accounts. Deductions are made for bad work. No compensation is allowed for unreasonable delay on the part of the employer, and the result is that the workman never quite knows where he stands. He is very often tempted to repudiate all claims, which leads to law suits and strained relations between master and workmen. The system also results in a diminished sense of responsibility on the part of the weaver. Finding himself hopelessly in debt, he makes no attempt to provide for the future. He loses interest in his work and that manly self-reliance that comes from a sense of freedom.

Another cause that tends to depress wages is the host of middlemen between the producer and the consumer. There is first of all the wholesale merchant in England, and his agent in Mirzapur who receives orders for carpets. The agent gives advances to the owners of looms and deals with them directly. The owners of looms, or *ustads*, supply the raw material and engage the weavers.

Thus between the weaver in Mirzapur and the consumer in England is, (1) the owner of the loom with whom the weaver deals directly; (2) the firm in Mirzapur that deals with the owner of the loom; (3) the shipping agent in Calcutta; (4) the wholesale merchant in London; (5) the retail merchant; and (6) the consumer. These captains of industry leave very little for the large army of workers. They are further inspired by a spirit of speculation. For a year or two everything goes well. Large numbers of weavers are employed and a feverish energy is displayed in manufacturing carpets. Then comes a slump in the market and the inevitable commercial crisis follows. A great many weavers are thrown out of work or have to work for such wages as they can get.

The small, steady, and persistent demand which characterized the old form of industry has been replaced by the violent fluctuations of the modern market. These tend to unsettle the weaver. He is never

sure when the demand for his labour may cease. When the blow does come he is absolutely unprepared for it. He has not enough capital to tide over bad times. The old trade guilds, which often helped a member in distress, have declined. The result is that commercial crises, mainly due to speculation and over-production, tend still further to lower wages and to make the weaver more and more dependent on the middleman.

From what has been said above, it will be obvious that the opening of foreign markets has introduced many new elements which are not quite favourable to the workman. Production has increased, but the weavers are generally poor and in debt. The *panchayat* or trade guild has decayed and has not been replaced by any of the modern forms of labour combination. The mobility of labour is checked by the system of advances, and the complexity of demand baffles the workman and makes him lean more and more on the middleman, who absorbs the greater part of the profits.

CHAPTER V.

Wool and processes prior to warping.

The subject has already been fully treated in a previous monograph (Mr. Pim's monograph on woollen fabrics), but for convenience of reference a few details are given below :—

According to Mr. Pim's estimate the number of sheep in these provinces is approximately 170,000 and the annual yield about 32,000 maunds. Agra, Jhansi, Gwalior, Jalaun, Fatehpur, Hamirpur, and Mirzapur are all wool-producing districts.

Since about fifteen years, Mirzapur has been unable to supply enough wool for local consumption and has had to import it from Agra, Jhansi, Gwalior, Fatehpur and Cawnpore.

The wool produced in these provinces is of an inferior quality, being dry, coarse, and short-stapled. A better class of wool is imported from the Punjab and Rajputana, and is used in the manufacture of carpets at Agra. The long, soft wool of Thibet, which used to be brought on caravans during the times of the Moghals, is no longer employed in the manufacture of carpets in these provinces.

The quality of wool is greatly influenced by climate. In India the wool is generally thicker and coarser than that of Persia, and is consequently more suited to large and bold patterns.

Efforts have been made to improve the breed of sheep, but have not met with much success. Perhaps the most potent cause of failure

is that sheep-breeding is confined to a particular caste, that of *gararias*, and they have generally not enough capital to carry on experiments through a series of years. Thus, for example, practically all the shepherds in Mirzapur have taken money advances and are under engagements to deliver their wool at certain prices. Such men can hardly be expected to take much interest in improving the quality of their wool. A secondary cause is the scarcity of grazing grounds and pasture lands owing to increased cultivation. For a more exhaustive treatment of the subject the reader is referred to Dr. Watts' Dictionary of the Economic Products of India.

Shearing. In Mirzapur and in most other districts the shearing takes place three times a year—*Phagun* (February-March), *Katik* (October-November), and *Asarh* (June-July). It is customary to wash the sheep in a tank or river the day previous to shearing.

The wool from the spring shearing is the best and is called *phaguni*; it is generally white in colour and rather thick. The wool from the September shearing is called *katki*; it is yellowish in colour and rather thin. The last called *asarhi* is the worst of the three, the fleece being dirty in colour.

The price of wool. The price of wool has risen rapidly during the last few years. The large consumption of the Cawnpore mills and the export to Europe have considerably diminished the stock available for carpets. The subjoined table will show the rise in prices in Mirzapur :—

Places whence imported.	*Quality.*	*Price per maund, 1895 to 1905.* Rs. Rs.	*Quality.*	*Present price per maund.* Rs. Rs.
Jhansi, Gwalior ...	Inferior	18 to 20	Inferior	25 to 26
	2nd quality	22	2nd quality	30
	1st „	25	1st „	35

The price of raw wool has thus risen from 25 to 40 per cent.

The price of woollen yarn has risen from about Rs. 28 per maund to Rs. 40 per maund.

Sorting and hand-picking. In Mirzapur women are employed to do the work. The black wool is separated from the white. The worst pieces of wool and any thorns or other substance sticking to the wool are carefully picked out. The wages are one anna for five seers of wool. The daily earnings come to about three pice a day.

Carding. The wool is carded under cover by means of an appliance which consists of a bow and a harp-shaped instrument. The bow is suspended to the roof, while the carder or *dhunia* squats on the ground and holds the *panja* in his left hand. The string attached

Fig. I.—Wool carding.

Spinning warp thread and opening *kukris*.

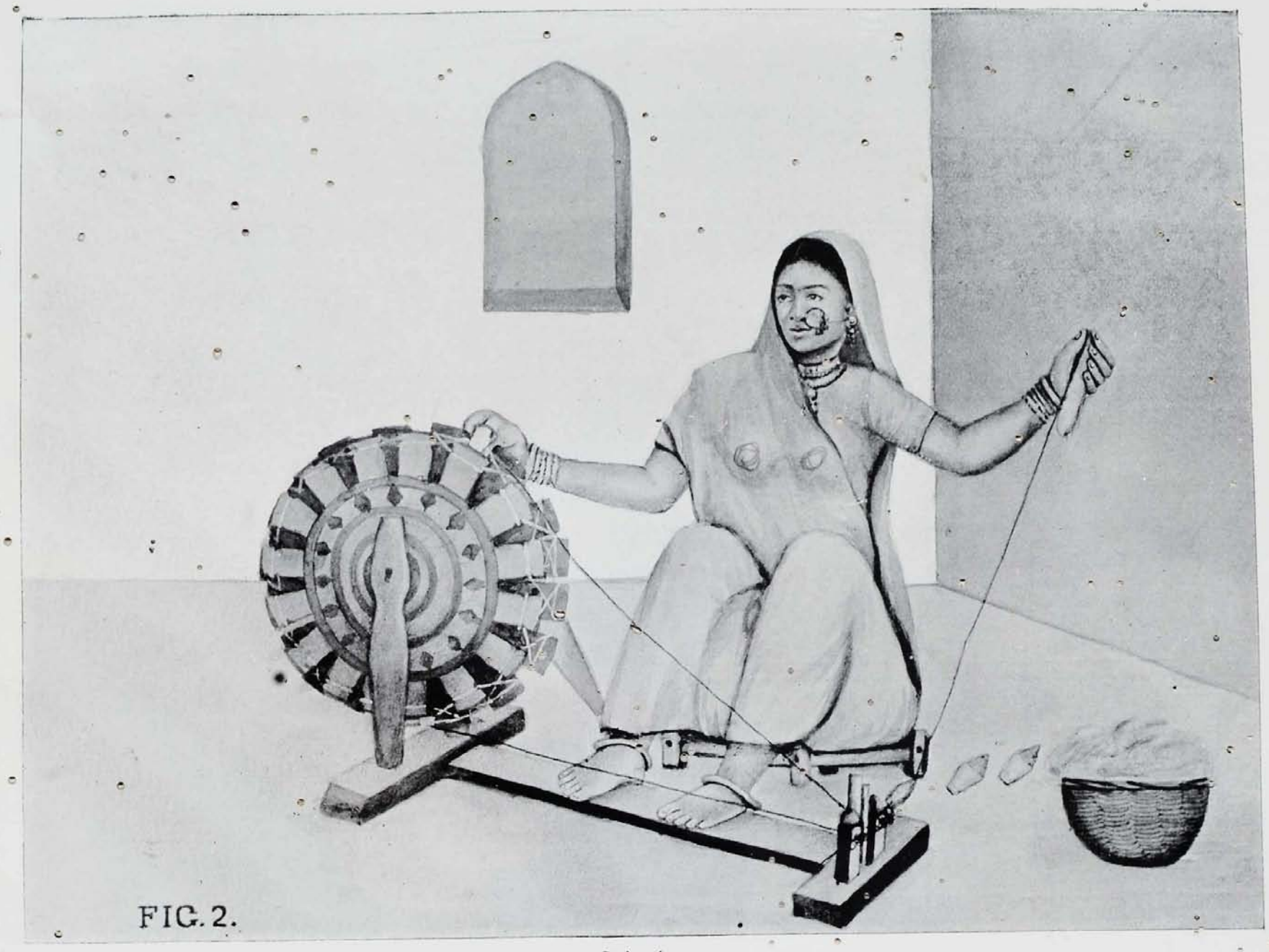


FIG. 2.

Spinning.

FIG. 3.

Opening *kukris*.

Fig. 4.—Making lattas.

Fig. 6.– Opening dyed latias *(rang kholna)*.

Fig. 7.—Making kublis.

Making kublis *(knops)*. Moia making. Opening dyed yarn. Making *latias* (hanks).

to the *panja* is practically buried in the heap of uncleaned wool. It is then made to vibrate by means of a dumb-bell shaped instrument, and the vibrations of the string disintegrate and scatter the masses of wool and free it from dirt. The process is shown in the illustration. For fuller details the reader is referred to Mr. Silberrad's monograph on Cotton Fabrics.

The rate of payment in Mirzapur is one rupee for thirty-two seers of wool and the cleaner is also given his morning meal. The average daily wage of a cleaner is from two to four annas a day, while the work is monotonous and unhealthy. Lung diseases are very common among carders. The *behna* is, as a rule, a Muhammadan, and his social standing is very low. In Jhansi some of the wool merchants have regular establishments, where the wool is carded by boys and men and then made over to the women to spin.

Spinning.

Spinning is carried out by means of a *charkha*, which is shown in the photograph and in the illustration (figure no. 2). The method of working it, and its mechanical parts, have been admirably described by Mr. Silberrad. "It consists of "two parallel discs, the circumferences of which are connected by threads. Over the drum so formed passes a driving band also made of thread, which communicates a rapid motion to the axis of the spindle (*takua* or *takla*). The end of a *puni* (a small quantity of yarn) is presented to the point of the spindle, which seizes the fibre and spins a thread, the *puni* being drawn away as the thread forms so far as the spinner's arm will reach" (Punjab Report). The yarn is removed from the spindle in the form of a double cone (*kukri*). Spinning is generally done by women and is not limited to any particular caste. The wages are very low, and the art of spinning fine yarn has greatly declined. The rate of payment in Mirzapur is sixteen seers for one rupee, and the average wage comes to about one anna a day.

Opening the kukris and making latias.

Two *kukris* are placed side by side and the threads simultaneously pulled out and placed in a heap (figure no. 3). Next, this heap is converted into a figure resembling an eight, as shown in the illustration (figure no. 4). The wool is taken in this shape to be dyed. After the wool has been dyed the *latias* are opened again (figure no. 6) and formed into a heap, and then made into *kublis* (figure no. 7). These *kublis* weigh about half a seer and are hung alongside the loom.

The *kukris* are generally opened by women, the wages being one pice for one seer. The *latias* and *kublis* are made by the weavers themselves.

CHAPTER VI.

THE CARPET-LOOM AND OTHER IMPLEMENTS.

The carpet-loom.

THE diagram on the opposite page shows a carpet-loom, which consists of two upright posts and two horizontal beams. The uprights are about six or seven feet high, and the width of the horizontal beams varies according to the width of the carpet to be woven. The two beams are placed parallel to each other, the upper beam being about six or seven feet above the lower beam.

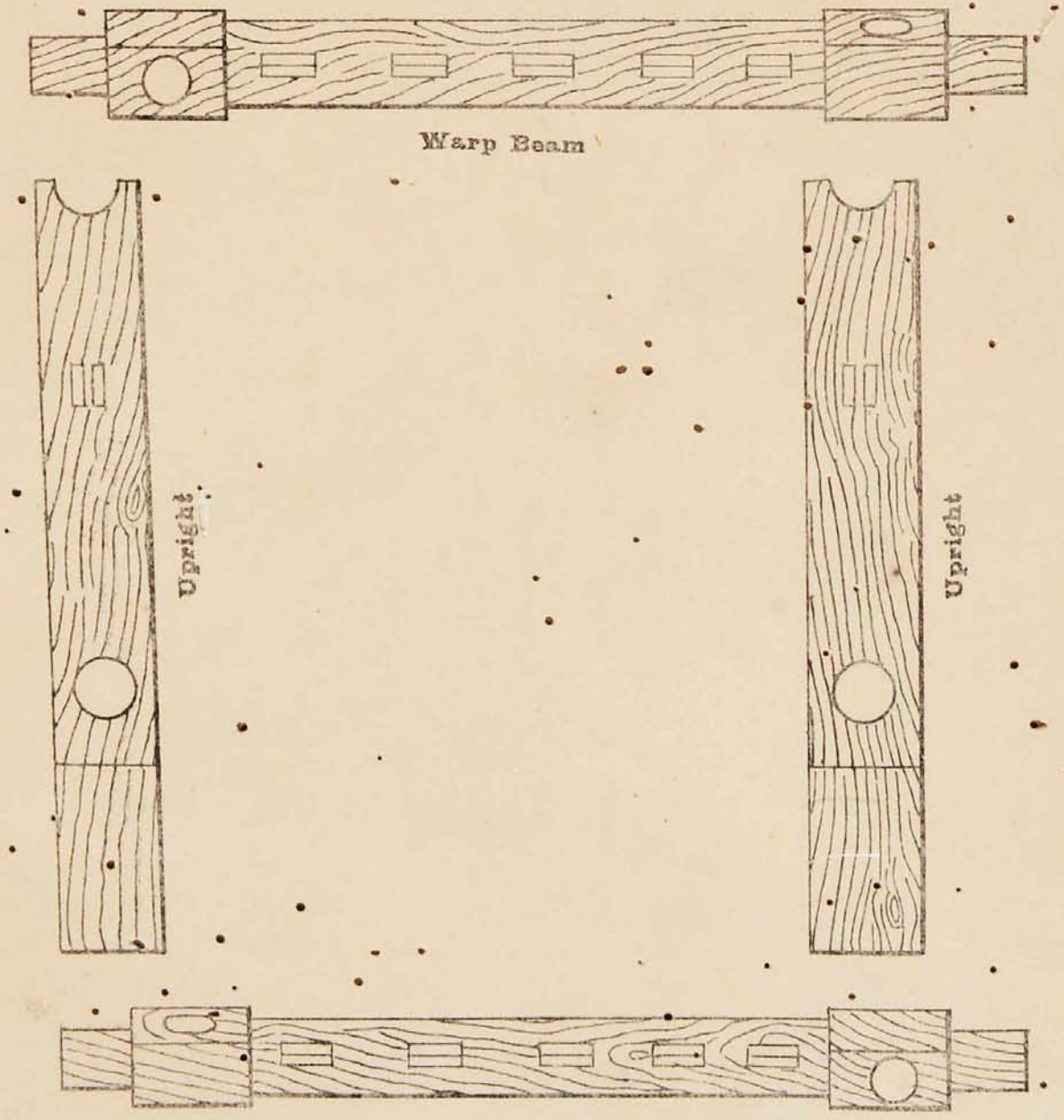
In Mirzapur the lower beam rests in a trench about two feet deep and about two and a half feet wide. The beam is fixed about one foot above the bottom of the trench. In other places the trench is not made and the lower beam is raised about one foot or eighteen inches above the surface of the ground. The warp threads are coiled round the upper beam, while their lower ends are attached to the beam underneath. Each beam has two holes, one at each end, and the beams are so placed on the uprights that they can be turned by passing a wooden or iron bar through each hole and turning it round. This bar is called *tang*. When more warp is required the upper beam is turned from right to left by means of the *tang* and the requisite length of warp uncoiled. Similarly, when a certain length of carpet has been woven, it is wound round the lower beam by turning it from left to right. The *tang* is also used to tighten the warp by turning round the upper beam till the requisite tension is obtained. To maintain the tension and to keep the upper beam from slipping, a rod is passed through the hole at the end and is then fastened to the lower beam by means of a rope. The lower beam is kept in position by a similar arrangement, only the rod, instead of being fastened, merely rests on the ground and prevents the lower beam from moving.

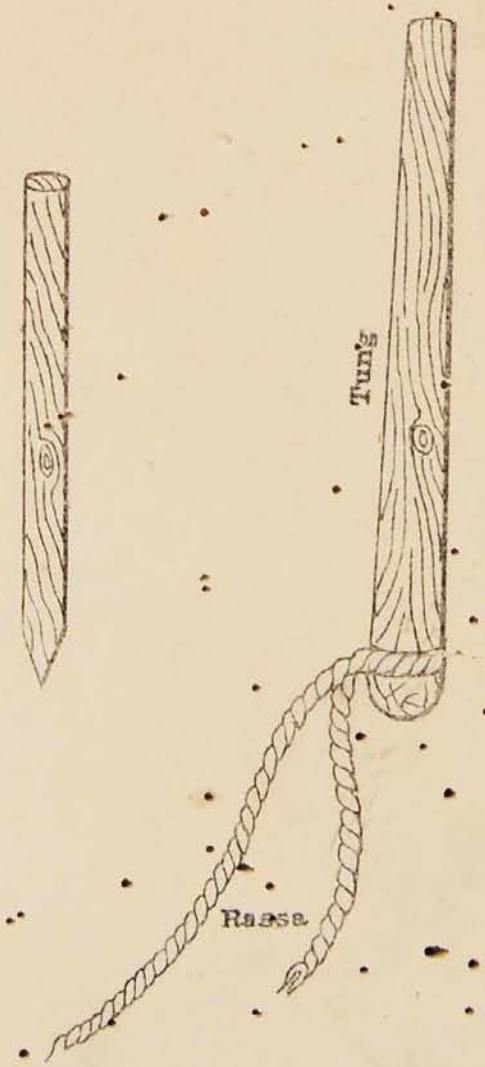
The weavers sit in front of the warp on a flat, wooden board, about two feet wide, resting their feet in the trench or on the ground as the case may be. This board is called *patta* and its supports are called *otta*. This wooden platform is sufficiently raised from the ground so that the weavers have not to stoop down while they sit and weave.

The wool, dyed in the requisite colours, is made into knops and hung overhead by small bits of string.

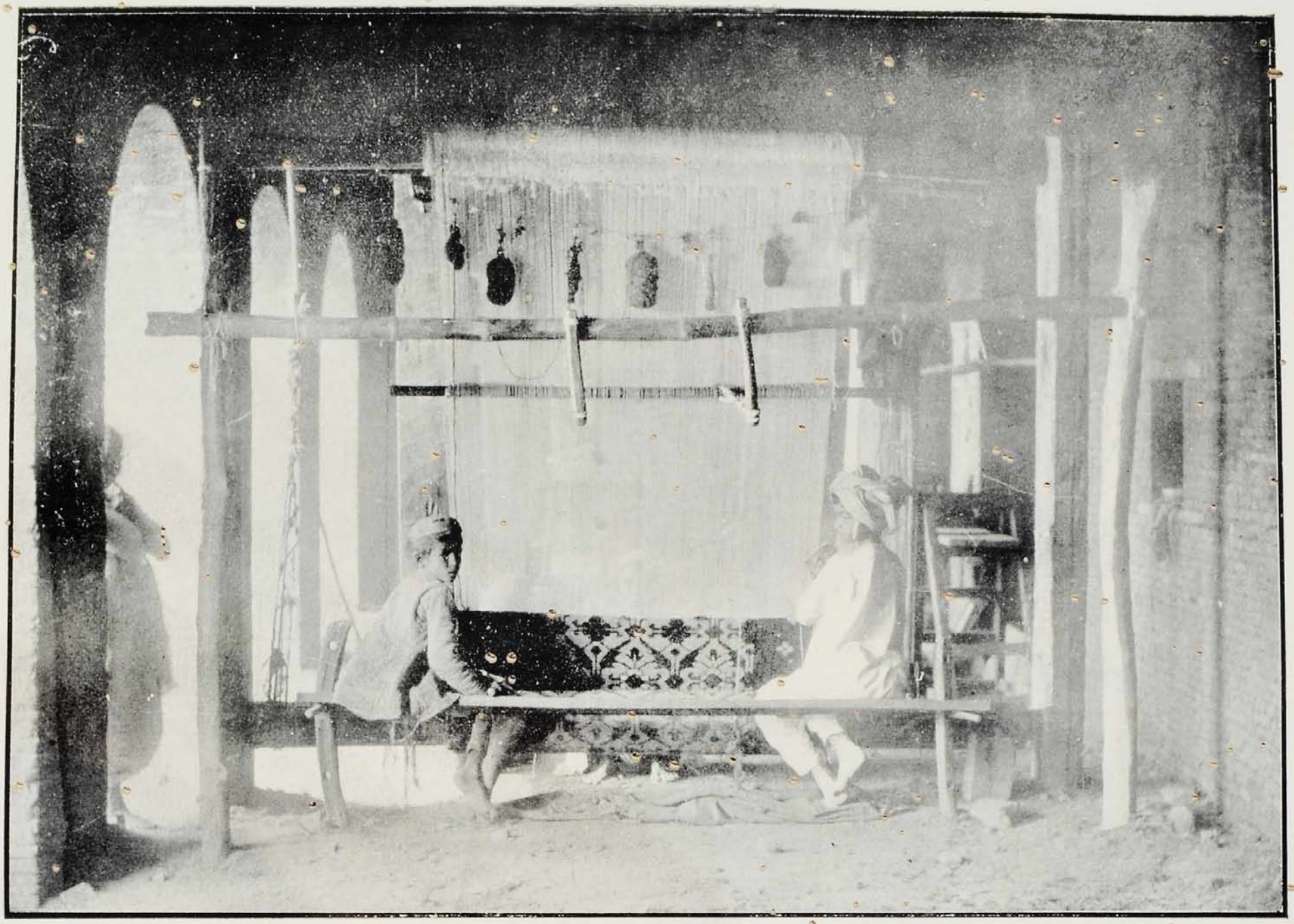
These knops are called *kublis*.

The two heddles, whose use will be explained below, are attached to a flat piece of wood by means of two bits of string. This flat piece of wood with the heddle attached moves up and down a beam placed





Carpet Loom.



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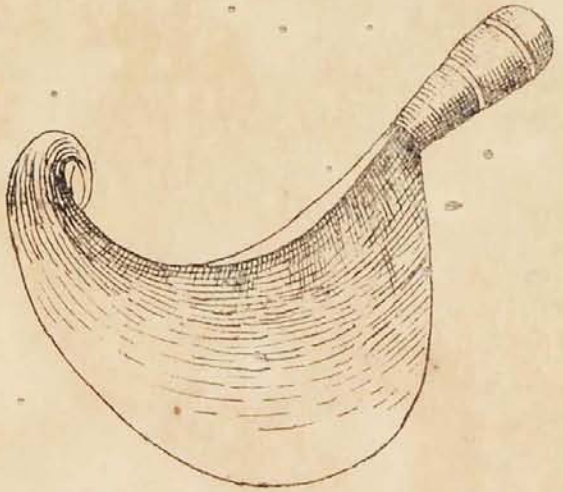


Fig. 1. Knife.

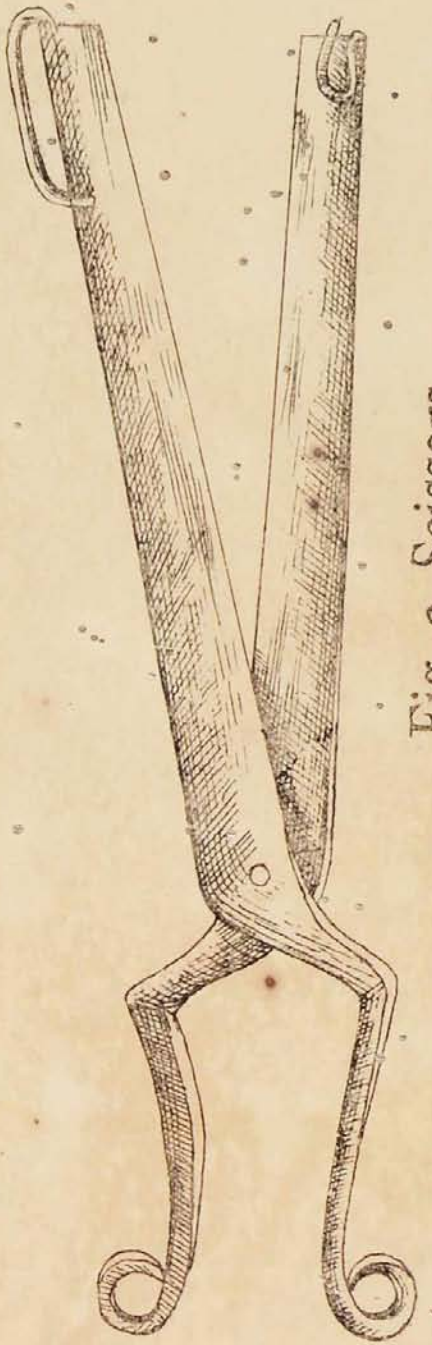


Fig. 2. Scissors.

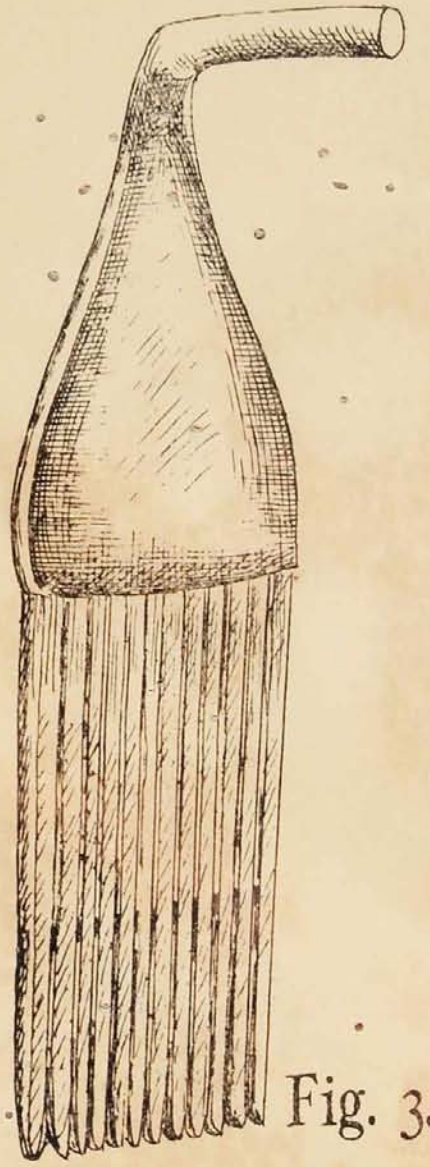


Fig. 3. Punja.

Implements of Weaving.

Carpet makers.

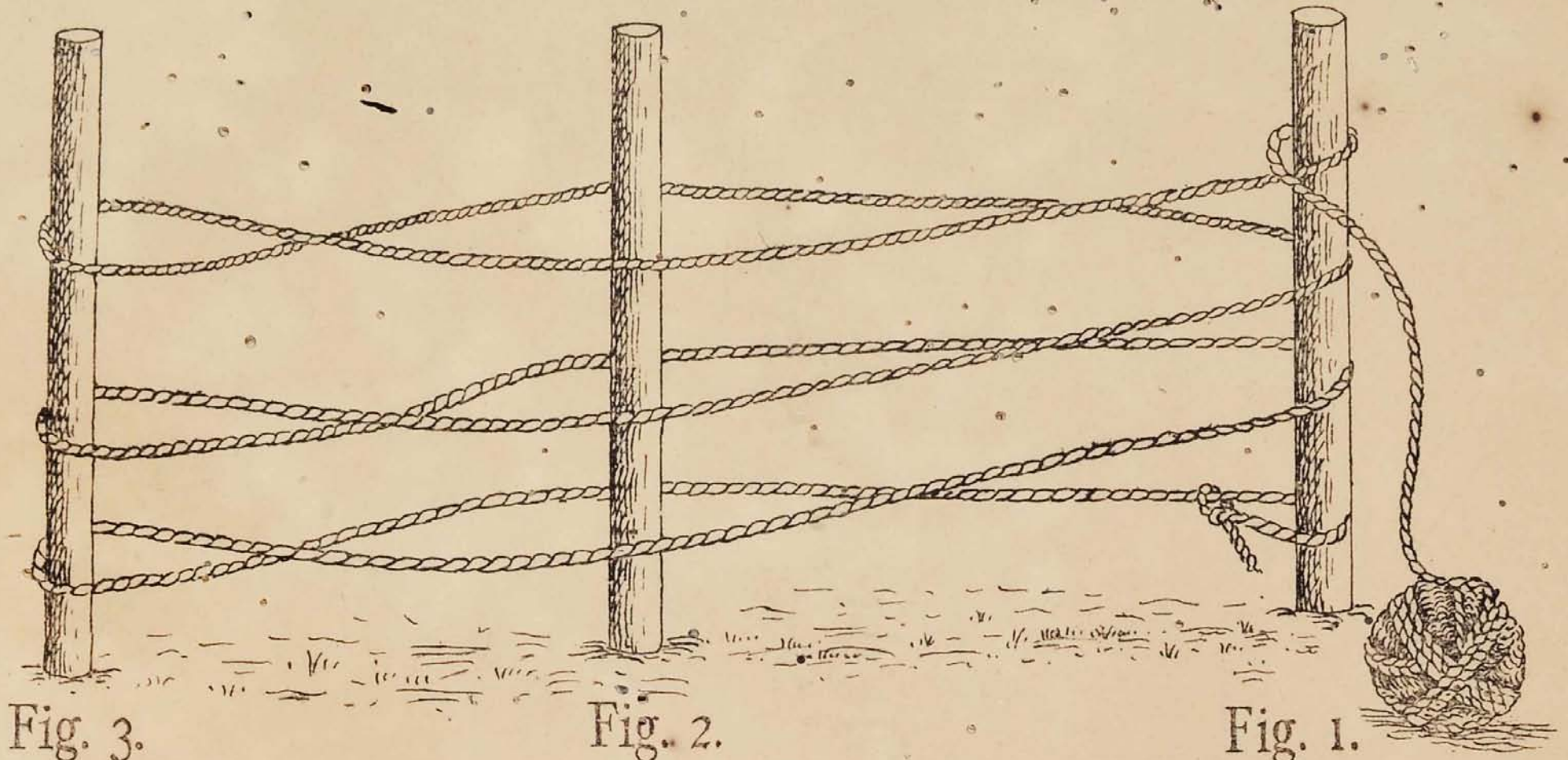
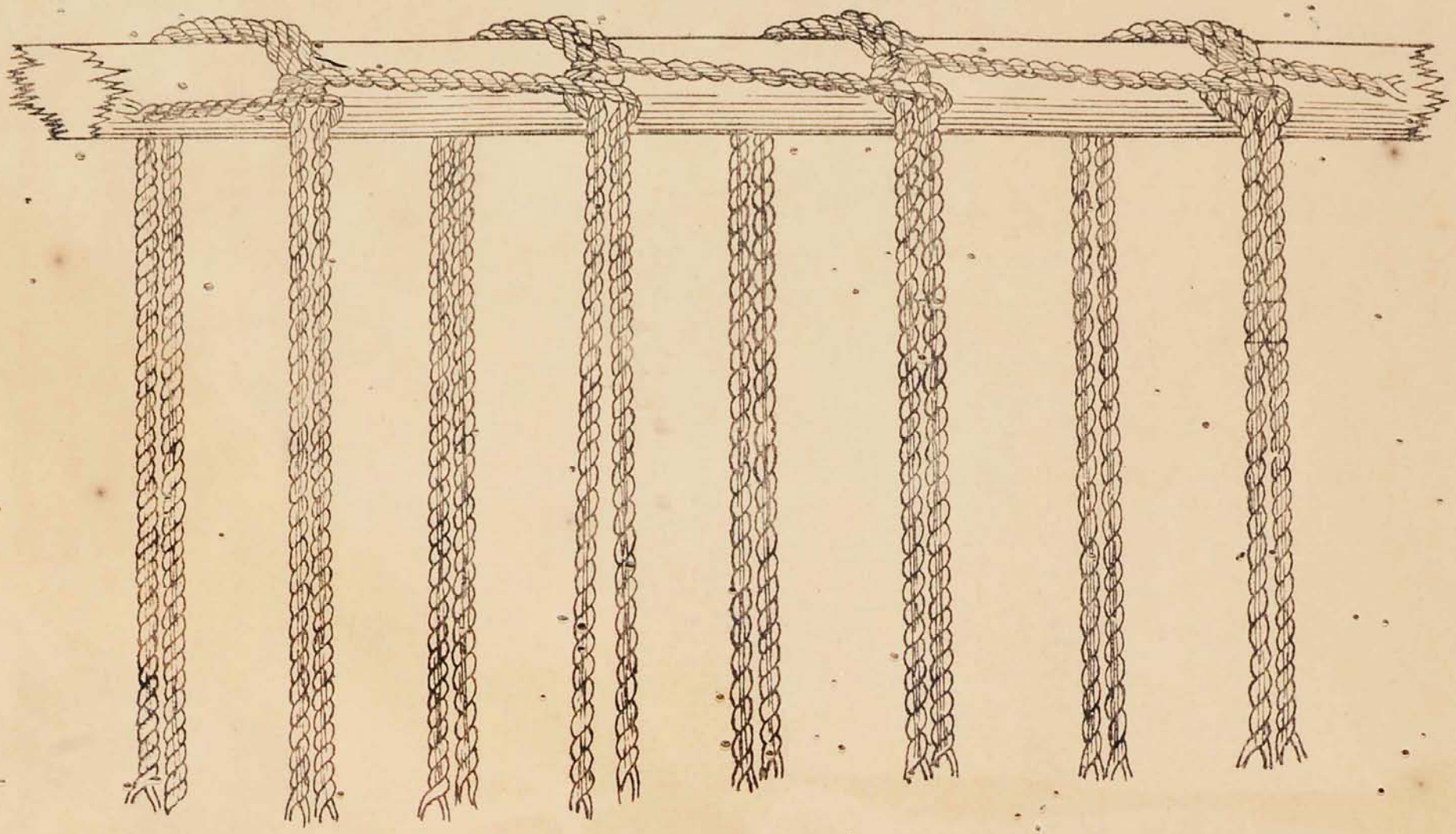


Fig. 3. Fig. 2. Fig. 1.

LAYING OUT THE WARP.



Durchzug.

parallel to the warp. (This is shown very clearly in the accompanying photograph.) Each heddle is called a *bai*. The parallel beam is called *pasband*, and the flat piece of wood to which the heddles are attached is called a *kamana* from its resemblance to a bow.

Other implement of weaving.

The illustrations and the photograph show the other implements required by the weaver. Figure 1 shows a knife with which the two projecting ends of the wool are cut as each knot is tied. Figure 2 shows the shape of the scissors used in clipping the surface of the carpet. Figure 3 represents a comb *(panja)*. The knots and the weft are driven home by repeated beating with the *panja*, which is held firmly in both hands. In Mirzapur, Jhansi, Cawnpore, this comb is made entirely of iron and weighs about a seer; in Agra and Amroha the prongs are of iron, but the handle is of wood. The advantage of the iron comb is that it is heavy, and its weight helps to press down the knots tightly. But where the work is very fine, the lighter comb is more useful.

CHAPTER VII.

Carpet-weaving.

Carpet-weaving.

Before the actual weaving begins the following preliminaries have to be gone through :—

(1) The warp is laid out on the ground.
(2) It is then set up on the loom.
(3) The heddles are then prepared.
(4) The warp is tightened.
(5) The *kamana* is attached to the heddles and is kept closely pressed against the *pasband* by the tension of the warp.

Each of these processes is described below :—

Laying out the warp.

Three pegs are first laid on the ground (see diagram). The weaver takes the warp thread, which is rolled up in the shape of a sphere, and lays out the thread on the pegs, forming a double loop in the shape of an 8. Through each croissage of the loop the two ends of a strong bit of string are passed and are tied together. This string, called *rassi*, helps to keep the crossings of the warp threads intact. To prevent the end threads of the warp from getting entangled, each pair of threads at the two ends is enclosed in a movable knot, by passing a string (see illustration). This process is called *durchun*.

After a sufficient number of threads have been laid out, the next thing is to remove the warp threads from the pegs. This is done by replacing the two end pegs by two iron bars slightly in excess of the required breadth of the warp.

Setting up the warp on the loom.

The breadth of the warp is measured in order to test that the number of warp threads to the inch is as required. The threads are roughly arranged in pairs, and then the warp is rolled up and taken to the loom.

Arranging the warp on the loom.

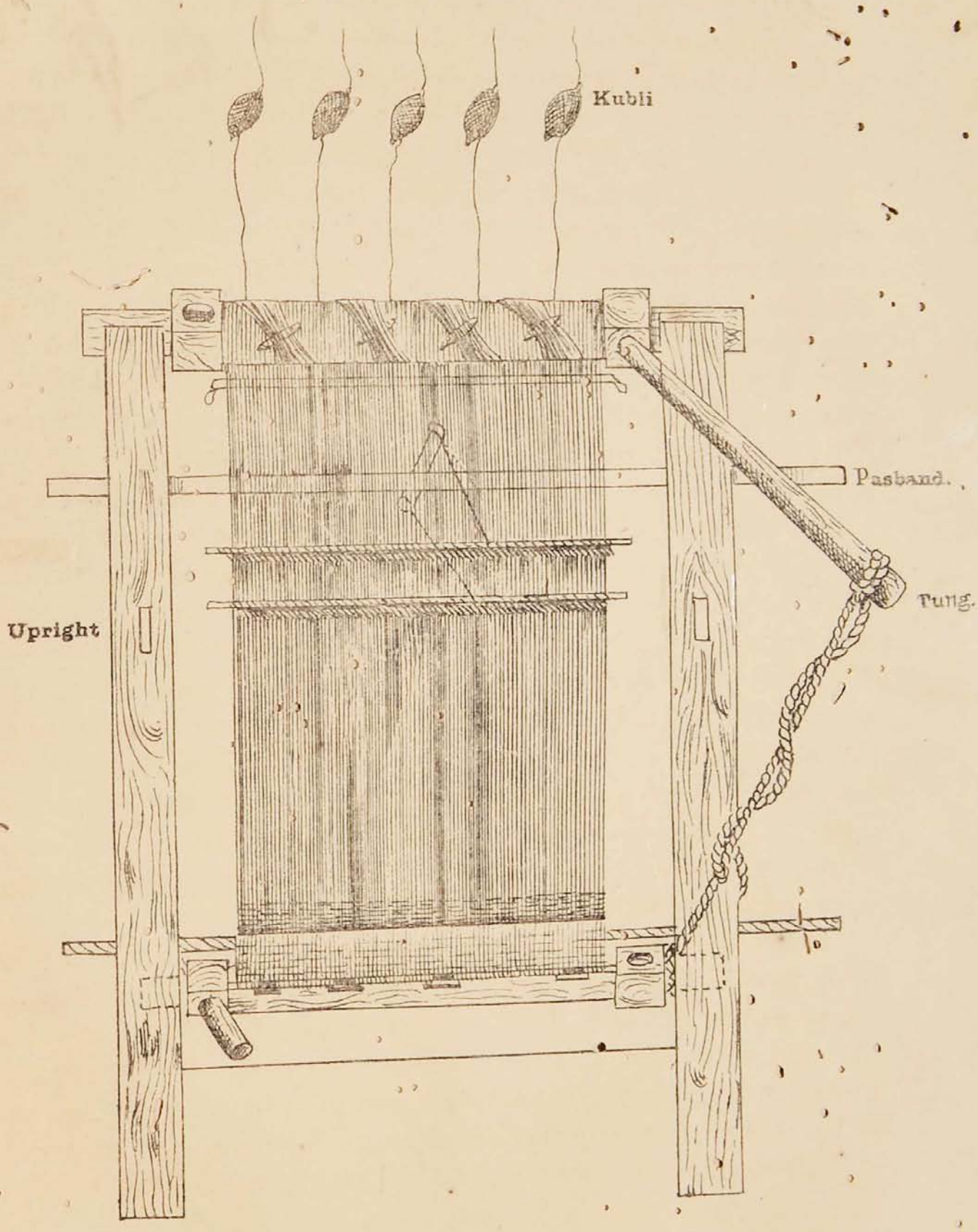
One bar is attached to the upper beam, while the lower remains unattached for the present. The way of fastening the bars to the horizontal beams is either by means of hooks or by small bits of string. The bits of string are attached to a number of perforations which run along the length of each beam. These are called *nathis* (see illustration). The warp is now in a vertical position and hanging loosely from the upper beam. To roll up the warp, the upper beam is turned round. After a sufficient amount of warp has been rolled along the upper beam, the lower rod is fastened to the beam underneath. Next, about twenty threads are taken up from the upper beam and twisted. This is called making *murris* or twists. Next, the threads on the lower beam are arranged. The warp now consists of a double row of threads, each thread having its companion. The ends of the *rassi* are next tied to the two uprights, and now the threads along the upper or warp beam are arranged. This operation is called *gard uthana*. Four pairs of thread are taken up and arranged in a vertical line, the ends at the top being slightly spread out. When twenty pairs are so arranged, a small bit of bamboo is inserted at the top and twisted. This helps to tighten the threads. The warp is in this way divided into compartments of twenty pairs of thread each.

The *rassi* is next loosened from the uprights and moved along towards the upper beam and the last process of arranging the threads begins, i.e. *tar bithana*. Each pair of threads is spread evenly across the *rassi*. The advantage of this is to secure an even distribution of threads, and to prevent threads being crowded in one part and scanty in the other. Similarly the threads along the lower beam are arranged.

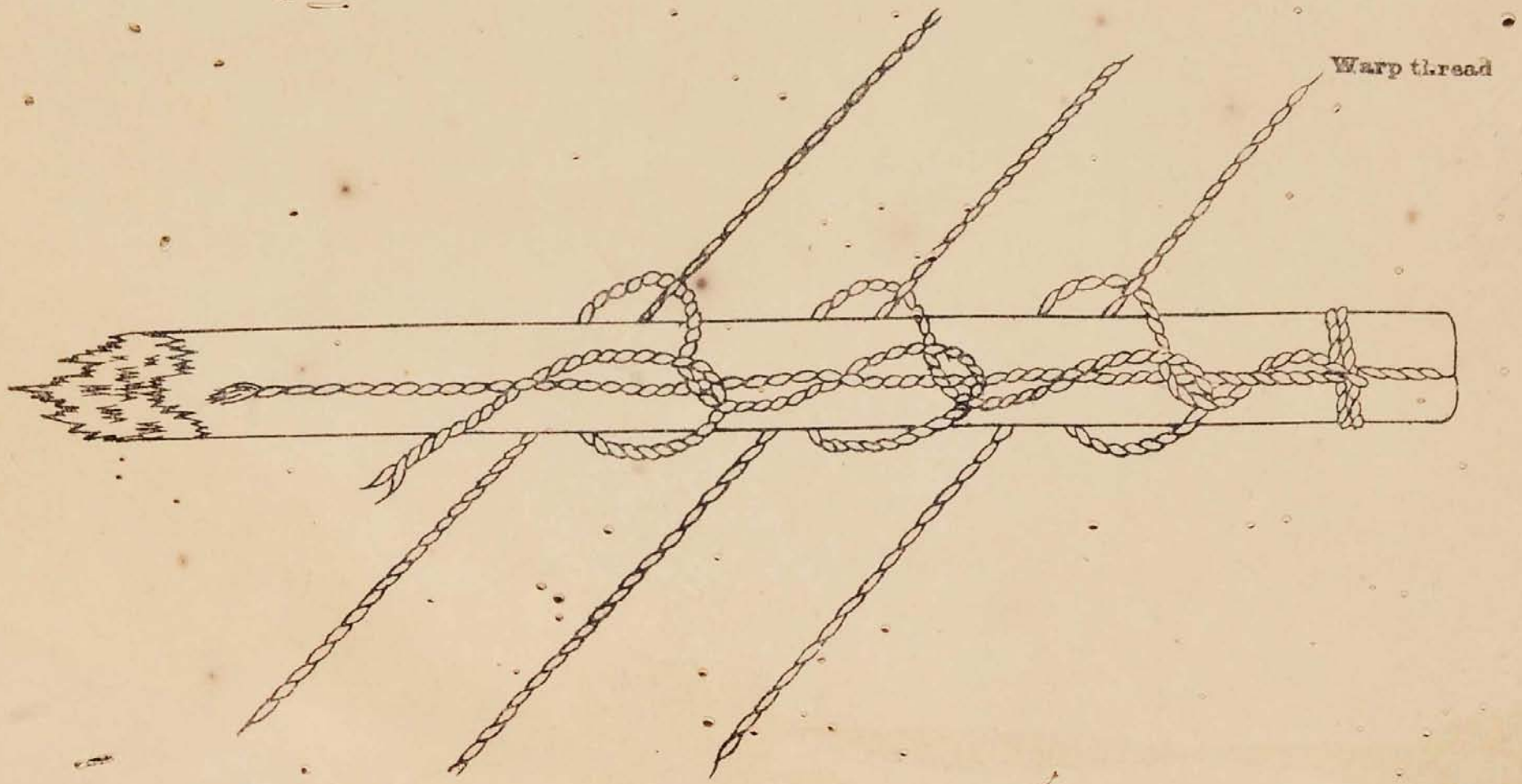
The heddles are then prepared. This process is called *bai bharna*.

Bai bharna.

A straight rod about a quarter of an inch in diameter is inserted in the warp. This rod is called a *baj*. The two ends of the *baj* are



Carpet Loom.



Gulla with loop.

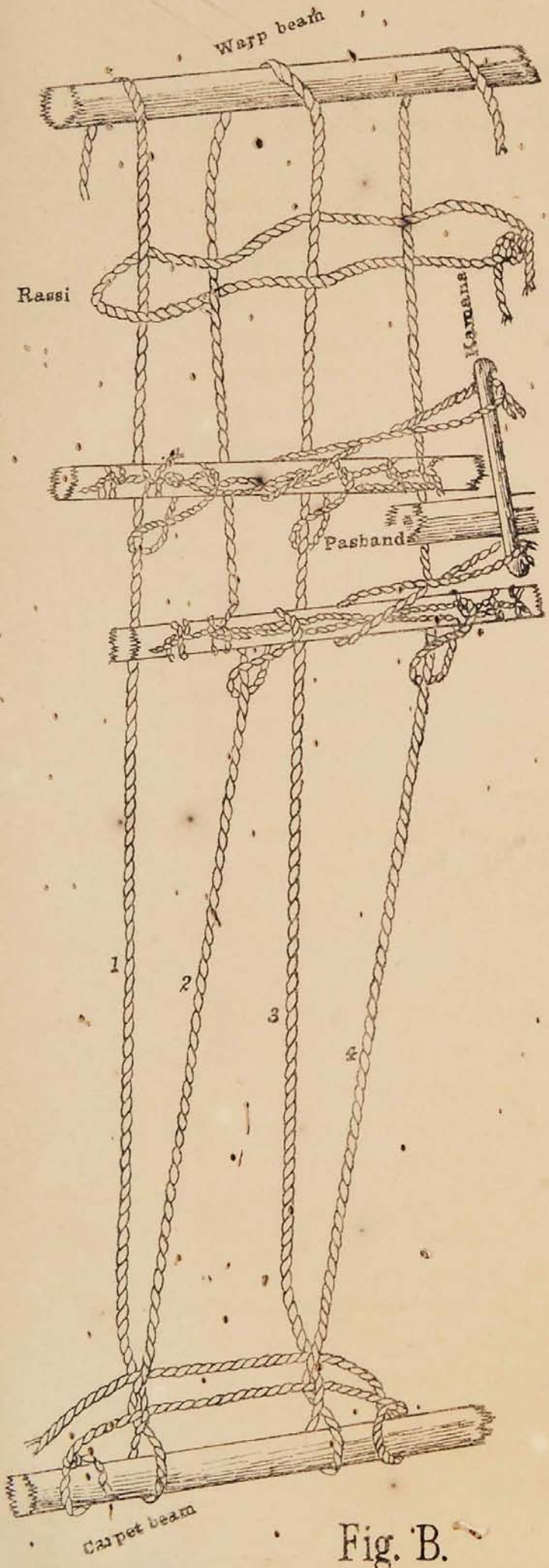


Fig. B.

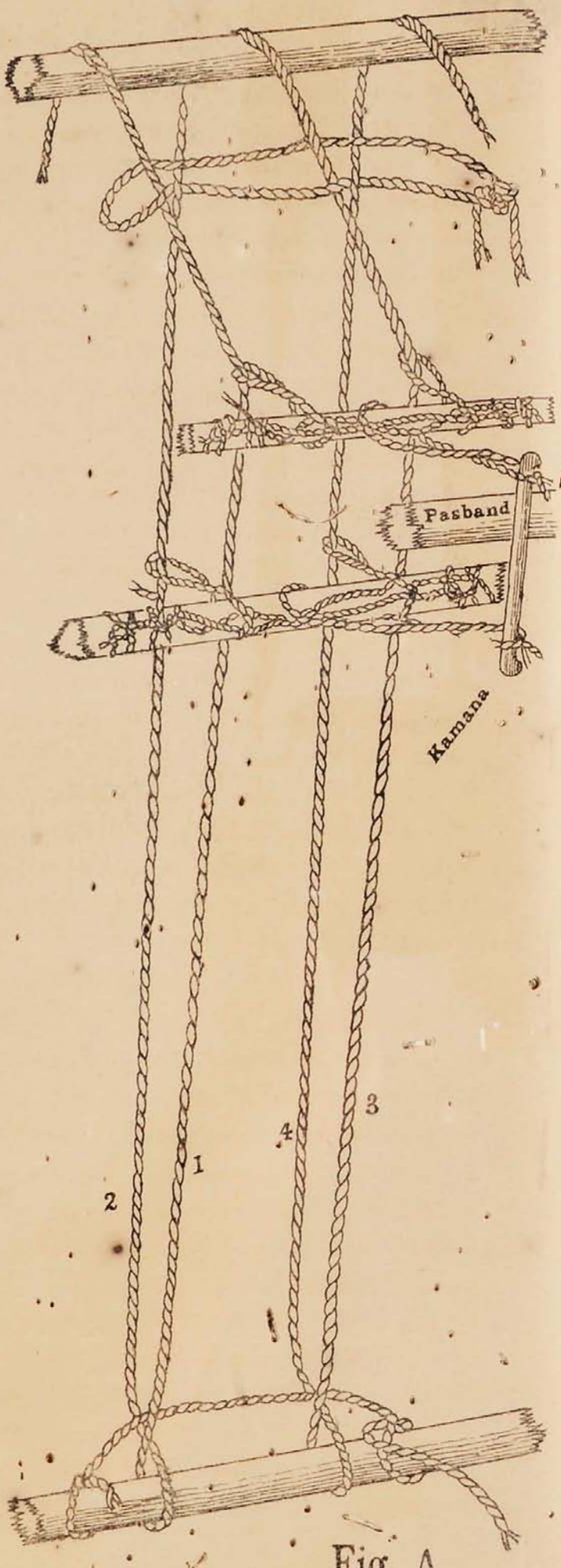


Fig. A.

Two positions of the heddles.

attached to a stout piece of bamboo, about one and a half inches in diameter. This is called the *gulla*.

The *baj* is useful in tying the loops on the *gulla* and in showing distinctly the back and front row of the warp threads. After the *baj* has been fastened, the *gulla* is tied by a piece of string to the *pasband* and the process of forming the loops of the *gulla* and of putting the threads of the warp through these loops begins. This is done simultaneously. A loop about two and a half inches in diameter is formed, and at the same time a thread from one of the two rows of warp is taken and enclosed in this loop (see illustration). The loops consist of stout cotton thread.

The threads in the front row pass through the loops of one *gulla* and the threads in the back row pass through the loops of the other. The two *gullas* hang parallel to each other, one above the other. The lower *gulla* contains the threads of the front row and is generally filled first. Next, the upper *gulla*, which contains the threads of the back row, is filled. It will be obvious from the way in which the warp is laid out that the threads in the front and back row are not parallel to each other, but intersect. (Figures A and B.)

If we then call the first thread 1, and count on the threads, it will be seen that the front row will consist of threads 2, 4, 6, &c., and the back row will consist of threads 1, 3, 5, &c. In this way alternate threads 1, 3, 5, &c., pass through the loops of one *gulla* and 2, 4, 6, &c., pass through those of the other.

The working of the heddles.

In describing the loom it has already been said that the two parallel pieces of bamboo *(gullas)* containing the loops through which the alternate threads of the warp pass, are attached to a small piece of wood *(kamana)*, which can be pushed upwards and downwards along a parallel beam *(pasband)*. If the *kamana* is pushed upwards, the threads of the front row are pulled out and form a clear alley through which the weft can be passed. Similarly, if the *kamana* is pushed downwards, the threads of the back row come to the front and form a passage for the weft. In figure B the position of the *kamana* is such that one end is projecting towards the warp beam. In this position the threads of the back row remain undisturbed, while those in the front row are pulled out. In figure A the projecting end of the *kamana* is towards the carpet beam. This means that the upper bamboo *(gulla)* is tightened and the threads of the back row come to the front.

In technical language, when the *kamana* is pushed upwards the threads are said to be in *dam bala*, and when it is pushed downwards the threads are said to be in *dam seo*. Every thread of the warp thus passes through the heddles. There are two or more sets of these heddles, according to the breadth of the warp—one set being allotted to two or three weavers. In the frontispiece there are four sets of heddles and eight weavers.

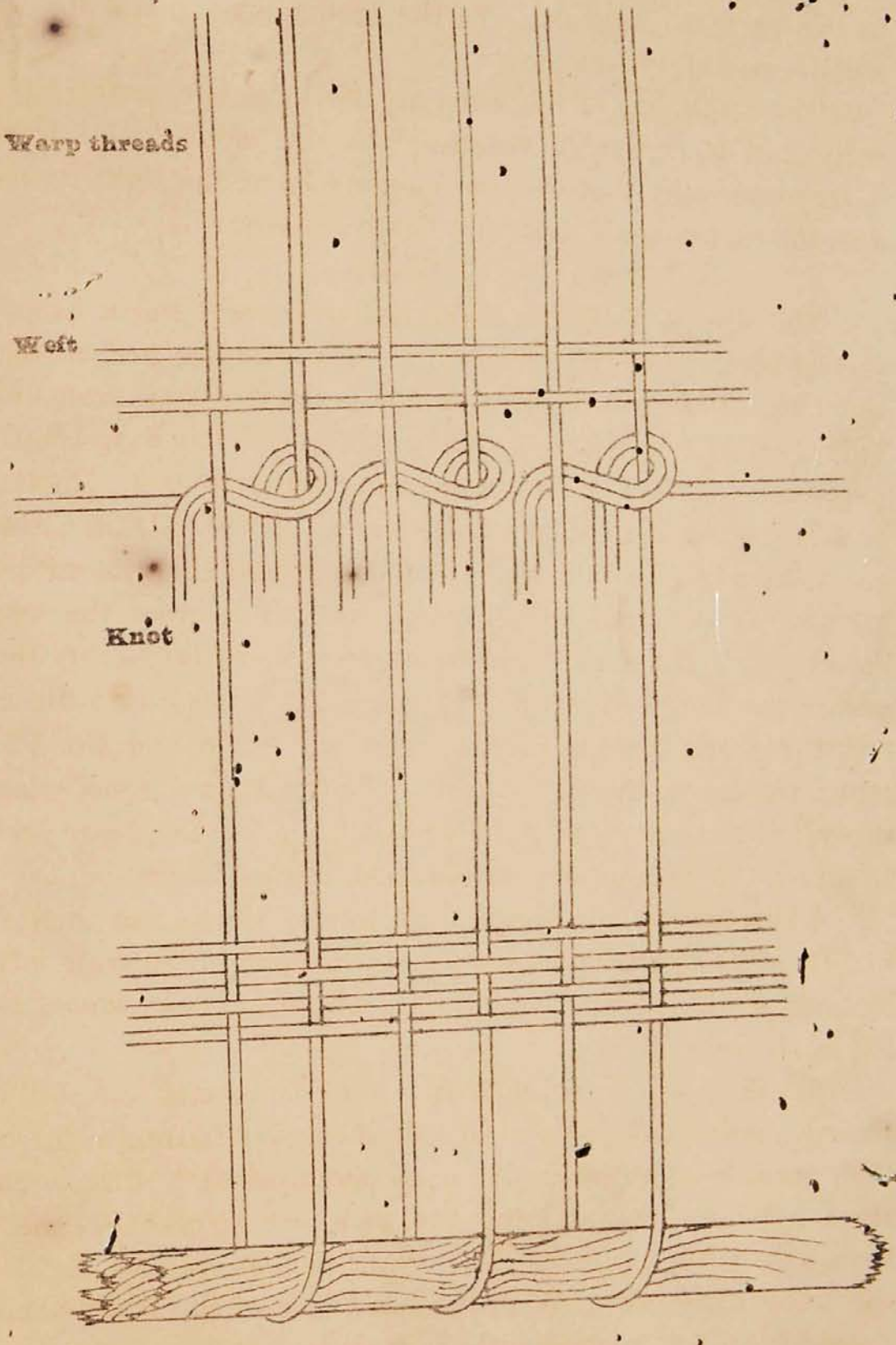
The arranging of the warp on the loom is a matter of some difficulty and is generally entrusted to the most skilful workman. It is very necessary that the warp should be at the right tension; otherwise the carpet has a loose and flabby appearance.

Weaving.

The upper heddle is tightened *(dam seo)* and a shoot of cotton yarn passed from right to left. The heddles are crossed, that is, the lower heddle is tightened and a shoot passed from left to right. This is called *tar khichna*. After the two shoots have been passed the warp-ends attached to the lower beam are arranged. Next, the *kinar pech* is tied on both sides of the warp. It consists of cotton twenty-one to twenty-four fold well twisted. Round this thread are tied bits of wool or coloured cotton yarn, and this forms the two sides of the carpet. The *kinar pech* is slightly more taut than the warp to ensure the ends being stiff. In tying the knots along the *kinar pech*, first three end-threads of the warp are taken and the yarn twisted round these and the *kinar pech*. The next knot consists of two end-threads of the warp and the *kinar pech*. After the *kinar pech* has been attached, the next process called *bodh khichna* begins.

A shoot of weft is passed from left to right, and then from right to left, after the heddles have been crossed. The weft is passed and repassed till about one inch of plain carpet has been woven. After this the knotting begins.

The diagram shows how the knot is formed. A bit of wool is passed under the front thread and then over it from right to left, and then passed underneath the corresponding back thread and over it from left to right, and the two ends are brought to the front and then cut with a knife. The knife is held in the right hand and the wool in the left. With the forefinger of the right hand the front thread is pulled forward and the wool is passed under and over it with the left forefinger and thumb. The companion thread in the back row is next pulled forward by the forefinger of the left hand and the



The form of the knot.

thread passed under and over it, and when the two ends are brought to the front, the engaged ends are cut to the required length of the pile with the knife in the right hand. The knotting begins when the projecting end of the *kamana* is towards the upper beam *(dam bala)*. When the first row of knots has been completed, a shoot of weft is passed in the same *dam* and pressed down. The heddles are crossed and the weft is passed from the other side and pressed again by the *panja*. The heddles are raised, and the projecting ends of the pile are straightened by pulling them with the finger and are then clipped with a pair of scissors. Row after row is thus woven.

The pattern is formed by tying the knots with different coloured wool, or other material of which the pile is formed. When the work is complicated, a man reads out the pattern from a piece of ruled paper, where each knot, coloured in the requisite colours, is shown separately. When the design is simple and well known the weavers work from memory, tying each knot in its proper place.

The skill of a weaver lies in the correct imitation of the pattern, in the evenness of the weaving, in the quick tying of knots, in the driving home of the *panja* or fork, and in the dexterous use of the knife and scissors. Considerable dexterity is required in trimming the pile evenly, and it is said that in America and Germany it was found impossible to train workmen to the use of the scissors, and the hand-made carpets had to be clipped by a machine. A clever weaver will waste very little wool in clipping, about 12 per cent., while an unskilful man may lose as much as 25 per cent.

In a well-made carpet the pile completely hides the warp and weft, and the way to judge it is to look at the reverse side of a carpet. In Mirzapur the weft can distinctly be seen, but in the better quality carpets made in Agra it is completely hidden. To secure this, it is necessary to hammer down the knots so that the shoot of the weft intervening between every two rows of knots cannot be seen.

The number of weavers varies with the breadth of the carpet, one to every two feet being the average. The best workmen are put at the ends or borders of a carpet, and they regulate the pace of those in the middle. It is generally the practice of a clever weaver to tie all the knots of one colour first. For example, if there are two reds then three greens, then four reds and so on, the weaver will not proceed to put the three greens after the two reds. He will leave the space for the green blank and will first tie up all the reds.

CHAPTER VIII.

Dyeing of wool.

It has not been possible to collect much new information on this subject. The processes are generally kept secret, and even the authorities at the Central Jail at Agra make no exception to this rule. However, a great deal of valuable and interesting information has already been brought together in a previous monograph by Mr. Hadi, and the reader is referred to it for further details.

The dyeing of wool used in carpet manufacture is always done in the yarn and never in the piece. The yarn, before being dyed, is made into a *latia* or hank. The following is one amongst other ways of producing the chief colours :—

Red.—The wool is first boiled in a solution of *reh*. Then the yarn is taken out and washed and dried. Barley flour is first cooked and put into an earthen jar. Lac ground into powder is well mixed with the flour and the mouth of the jar containing the mixture closed for two or three days. The jar is so placed as to face the sun. After the process of fermentation has begun, the hanks of yarn are put in and the jar again closed. The yarn is stirred every day and finally taken out after ten or twelve days. The yarn is next washed in the river and dried. It is then boiled in a solution of turmeric and a peculiar kind of acid for a short time and the wool is taken out and washed and dried. This produces a very fine and fast red colour. This method of dyeing red is no longer practised in Mirzapur on account of the length of time that the process takes.

To produce *gulabi* or claret colour the yarn, after being taken out of the fermenting flour and lac, is put into a solution of *lodh* and dried raw mangoes and boiled for two or three hours. Then the yarn is taken out and is washed and dried.

Malla (strawberry).—To dye *malla* the yarn after being washed is put into the spent solution of flour and lac which has previously been used for the red or *gulabi* colour. The yarn is taken out after two or three days and washed and dried in the same way as the *gulabi*. (Colour fast.)

Sona gehra (deep gold).—The wool is washed in water and immersed in an infusion of *tessu (butea frondosa)* flower. The wool is taken out after two or three days and beaten on a stone slab and left in the sun to dry. Then the yarn is boiled in a solution of *lodh* and immersed into a solution of *reh (reh ka khar)*.

FIG. 5.

Wool boiling.

Halka sona (light gold).—To produce this colour the yarn, instead of being put into the *reh ka khar*, is simply boiled in catechu and *lodh* and then dried.

Black.—Babul pods and *kasis* (ferrous sulphate) are put into water and the solution boiled. After an hour or so the hanks of wool are thrown into the solution and stirred for two or three hours. They are then taken out and put on the ground to allow the water to drip out. The yarn is washed the next day and dried in the sun. The colour is generally applied to black wool.

Another way of producing black is to boil the yarn in a solution of myrobalans, *babul* pods, *jhawan* (burnt clay), and *kasis*. Myrobalans and *jhawan* are rarely used in Mirzapur on account of the expense.

Halka surmai or *nafarman* (deep blue).—This colour is dyed by the professional dyer or *rangrez* in the indigo vat. The wool is washed in water and put into the indigo vat. (Dyeing charges in Mirzapur: three annas for a seer of wool.)

Surmai, nafarman gehra (dark blue).—The wool after being boiled in a solution of *reh* is washed in the river and immersed in the indigo vat. After two or three hours it is taken out, is wrung, and then dried in the sun for about two hours. It is again immersed in the vat and taken out after two or three hours. After being wrung it is laid on the ground to dry in the sun. When dried it is washed in the river and hung out in the open to dry. To give greater permanency to the colour the yarn, after being taken out of the indigo vat, is washed in a solution of alum and water. After being washed it is again immersed in the indigo vat and dried and washed. (Wages of dyeing: four annas a seer.)

Asmani (sky blue).—The yarn is washed and made over to the *rangrez*, who puts it into the indigo vat for about one hour. The wool is dried first and then washed and dried again. (Dyeing charges: five annas for four seers of wool.)

Sabz (green).—The wool is first boiled in a solution of *reh* and water. It is washed in the river and made over to the *rangrez*, who makes it into *halka nafarman*. It is then put into *pewar*, with which *haldi* and *tessu* flowers are also mixed. The wool remains immersed in the solution for a day or two. It is then taken out and dried in the shade. (The colour is not very fast. Will fade if exposed to the sun.)

Pistai (yellow-green).—A very light blue is first dyed by the *rangrez*. The hank of wool is then boiled in a solution of turmeric and

muriatic acid. The wool is dipped in cold water and taken out and wrung and dried in the shade.

Dhani (light green).—This is dyed in the same way as *sabz* and *pistai*.

Mor ka rang (peacock green).—The wool is boiled in a solution of *reh*. It is washed and given over to the *rangrez* to dye *gehra surmai*. Then the yarn is put into a solution of *pewar*, *harra*, and *haldi*. The wool remains immersed for a day or two. (Colour fast.)

Sabzi (olive green).—The wool is first washed in the river. It is then steeped in a solution of *tessu* flower for about two days. The wool is taken out and dried in the sun. It is then either boiled in *kasis* and *harra* (myrobalan) for three or four hours, or steeped in a compound of the same ingredients for two or three days. (Colour fast.)

Agrai (brown).—After being steeped in an infusion of *tessu* flower *(kalawa)* the yarn is boiled in *katha* (catechu) and *lodh* and then put into a *khar* of lime (solution of lime). The yarn remains in this solution for about twelve hours. It is then taken out, wrung, and put into an earthen jar, which is exposed to the sun for four or five days. The yarn is then taken out and washed and dried. (Colour fast.)

Pamba (yellow).—After being put into the *kalawa* it is boiled in turmeric. (Colour not fast.)

Malai.—The yarn is boiled in a solution of *reh* and washed and put into a solution of *pewri* and cold water, and taken out and beaten on a stone and dried.

Another way is:—dip the yarn in a solution of lime *(chune ka chap)*, wash it, and then put it into a solution of *pewri* and water. (Colour fast.)

Camel colour (Oont).—The yarn is boiled in a solution of *reh*; then washed in the river. It is next boiled in a solution of myrobalan and water; then washed and dried.

Khaira.—The yarn is first boiled in a solution of *khair*, *lac*, and acid. It is next washed and put into a solution of *lodh* and tamarind leaves or dried mangoes and then boiled. Then the yarn is dried.

Khaki.—The yarn is washed and put into a solution of *kasis*, *bakul*, and *tessu* flower and then taken out and dried in the sun. (Colour fast.)

Khatmali (dark brown).—The yarn is washed in water and is put into a mixture of *batti lac*, *lodh* acid, and dried mango. The yarn is taken out and washed in the river.

Aniline dyes.—These are now in universal use, and have gradually replaced the old Indian dyes. They are used either singly or in combination with native dyes. The colours are generally fleeting, and as only the cheapest dyes are used, the result is not very satisfactory. Allizarine dyes are not used. It may also be observed that all the colours, except those that require the use of the indigo vat, are dyed by the weavers themselves. For dyeing in the *mat* (indigo vat) the yarn is made over to a professional dyer *(rangrez)*. Indigo seems to be one of the few Indian dyes that has still maintained its ground. The way of preparing the *mat* has already been described by Mr. Hadi in his monograph on *Dyes and Dyeing in the North-Western Provinces and Oudh*, and it is unnecessary to describe it here.

The chief object of the dyer at present is not so much to obtain permanent and beautiful colours as to effect a saving of time and money. Since the import of cheap foreign dyes, the native art of dyeing is becoming extinct in these provinces.

CHAPTER IX.

The Carpet Industry of Mirzapur.

Mirzapur.

It is difficult to say exactly when the industry was established in this district. Carpets were made in Jaunpur and in Allahabad during the time of Akbar, and it is possible that weavers from these places migrated towards Mirzapur. However, there is no doubt that the industry has been in existence for more than a hundred years. There is a general tradition that the manufacture of carpets first started in a village called Ghosia, then spread to another adjacent village called Madho Singh. Both these villages lie on the old Grand Trunk Road. Pilgrims going to Allahabad or coming to Vindhiachal had to pass by these villages. There was a constant stream of traffic. Many of the pilgrims and wayfarers would naturally carry away with them prayer mats or *asans* and carpets suitable for beds. There was probably a very fair demand for cheap carpets. The district had further the advantage of producing wool.

Starting in a village across the Ganges, the manufacture has maintained its rural and popular character ever since.

The industry is carried on in about a hundred different villages, lying mostly to the north of the Ganges; and its rural character will be further obvious from the fact that over 3,000 weavers are settled in villages, while only about 400 work in the city of Mirzapur. It is also

remarkable that twenty-three castes of Hindus and eighteen castes among Muhammadans are engaged in the industry. The details will be found in Appendix II. It will be noticed that some *Brahmans* and *Chhátris* are engaged in the industry, while the lowest castes, such as *Chamars*, *Pasis*, and sweepers are excluded. Amongst the Muhammadans *Kalinbafs* and *Julahas* form the majority of the workers. The *Kalinbafs* are the oldest weavers. The trade was confined to them exclusively until the pressure of demand forced them to admit the other castes.

A closer analysis of the figures will show that the industry is very popular with the agricultural castes of Hindus. *Ahirs*, *Kewats*, and *Koeris*, who form the bulk of the Hindu weavers, are essentially agriculturists. The same remark does not apply to the Muhammadan weavers. While the Hindu weaves, the other members of his family cultivate their field or follow their ordinary occupations. On the other hand, the Muhammadan weaver is, as a rule, engaged with his whole family in the industry. Regarding the family as an industrial group, it may be said generally that the Hindu weaver depends to a less extent on weaving for his subsistence than his Muhammadan fellow-worker. Among both classes a large proportion of the weavers are boys. They generally become apprentices at about eight or nine years of age. The period of apprenticeship lasts for a year or so, during which very small wages are paid. Boys as a rule are excellent weavers, and the rapidity with which their nimble fingers pass through the threads as each knot is tied, is astonishing.

The women generally assist in the preliminaries, but do not actually weave. The weaver is also a dyer. The services of a professional dyer are only engaged for dyeing in the indigo vat. Aniline dyes have come into general use since the last fifteen or twenty years. However, some of the larger firms when ordering carpets see that Indian dyes are used.

The wool is washed in the village tank, and if that happens to be dry the process is dispensed with. The dyed yarn is laid out on beds or hung up on strings to dry in the village street, which often presents a curious spectacle. From the low roofed mud huts comes the monotonous chant of the weavers as they repeat aloud the colour of each separate knot. Outside the women sit and spin on the old-fashioned spinning wheel so common in Indian villages. A little beyond, the *dhunia*, or cleaner of wool, all covered with dust, is busy with his bow

and string. Every now and then he takes his ease and starts again on his dreary task. In the open space near by, weavers are busy clipping and trimming the carpet after it has been finished and taken off the loom; others are laying out the warp, while some are content to sit idle and watch. Every home is a scene of patient industry, but the pity of it is that disease and hunger are not strangers here. The weavers are miserably paid. They receive wages according to the amount of work done. But besides weaving, a great deal of extra work is thrown on the weaver. He has to arrange the warp on the loom; he has to prepare the hanks of undyed yarn; he has to open them after they have been dyed and to make them into knops which are hung over the loom, to be used as the weaving proceeds. The weaver is also supposed to roll up the carpet on the loom, and to clean and scrub it before it is finally despatched. All this takes time and no wages are paid for it. It often happens that when a carpet is ready the owner of the loom has to spend a day in bringing it to Mirzapur, where he may have to wait before he receives a fresh order. Frequently the size or scheme of colour of a carpet is altered. The warp has to be arranged to suit the new size, and dyes have to be prepared before the requisite colour is ready. Meanwhile the weavers sit idle and get no wages. Generally no difference is made in the rate of wages whether the quality of the carpet is superior or inferior. If the weaver has not taken a heavy advance, he has to tie 6,000 knots before he can earn two annas. If he is largely indebted to his employer, he may have to tie as many as 7,500 knots before he can earn the same wage. On an average, having regard to the complicated designs now prevalent in Mirzapur, and also to the fact that a slow worker is always put beside a quick one, a weaver can tie about 9,000 knots in as many hours or 1,000 knots per hour. Assuming, then, that the work is continuous and that the weaver is employed solely on weaving, the average daily wage of a weaver would be about three annas per day of nine hours.

But neither of these assumptions can be made, and it would not be far from the mark if Rs. 4 to Rs. 5, be regarded as the monthly earnings of a weaver in Mirzapur.

The nominal wages have remained at this figure during the last ten or fifteen years, but the real wages have decreased owing to the enhanced price of corn.

Such is the position of the weaver. The position of the man who owns the loom is not very much better. A rough wooden loom, a pair

of scissors, an iron comb, and a few earthen jars in which the wool can be dyed, constitute his stock in trade, and the whole can be purchased for about Rs. 30. There are about 1,400 looms in the district, and on an average one person does not own more than two looms. This shows that a large number of men with small capital are engaged in the industry. It would be to the interest of these petty capitalists to own more looms, but that would require more capital. The only way of obtaining it is either by accumulation or by borrowing. That the chances of accumulation are extremely remote is shown by the fact that there is scarcely one man in the weaver class who possesses as many as six looms. The industry has been in existence for over a hundred years, generation after generation has been engaged in the trade, but there are scarcely any weavers who can be considered as men of even moderate means. The fact is that during the last twenty-five years the price of wool has increased almost 50 per cent., while the price of the Mirzapur carpets has gone down in the London market about 30 per cent. in the case of inferior carpets, and about 15 per cent. in the case of superior carpets. Five years ago what are known as first quality carpets were purchased wholesale at Rs. 4-12-0 per square yard; they now fetch only Rs. 4-4-0 per square yard. It is stated on reliable authority that about 1880 ordinary quality carpets were sold for 6*s.* per square yard, and that about 1894-5 carpets were sold for 2*s.* 9*d.* and 3*s.* per square yard. The rise in the price of wool, and the fall in the price of the finished article, leave a very small margin of profit to the *ustad* or owner of the loom. He has to look for capital outside his own class, and that is supplied by the various firms established in Mirzapur. These firms fall into two distinct classes: those that send their goods on consignment and those that supply to order. Originally the Indian firms either received orders direct from merchants in England and America or acted as contractors for European firms established in Mirzapur. The Indian firms failed to give satisfaction, and the foreign merchants broke off their business connection. The result is that at the present moment the European firms in Mirzapur act as agents to merchants abroad, while the Indian firms have to send their goods on consignment. This tends to make the position of the Indian firms very insecure. They do not receive the same advances on their goods as they did before. They have to take their chance in a market that is ever fluctuating. They are often forced to sell their goods at a disadvantage because every bale that is shipped to London and auctioned

there has to pay docking and other charges and delay would mean ruin. On the other hand, the European firms are more secure. They export goods to order, and violent fluctuations of the market do not spell ruin to them.

The precarious nature of the English market will be seen from the following figures:—

Exports from the Benares block, including Gorakhpur.

Year.	*Maunds.*
1898-9	6,895
1899-1900	9,117
1900-1	9,865
1901-2	9,114
1902-3	12,378
1903-4	13,451
1904-5	9,540

(Mirzapur is the only place of importance in this block which exports carpets, and the above figures may then be taken to represent the export trade of Mirzapur. Figures for the previous years are not available.)

Between 1897 and 1904 the output was almost doubled. However, the year 1898-9 cannot be taken as a typical year, because the people were then recovering from the great famine of 1897. During the three years 1899 to 1902 the output was steady. The next two years show an increase of nearly 33 per cent., and the year 1904-5 shows an equally rapid decline. It would be incorrect to draw any precise conclusion from the figures for the last six years, but as far as can be ascertained these violent fluctuations have become part of the trade. The years 1902-3 and 1903-4 were years of over-production, followed by a rapid fall in the next year. They were marked by the failure of one Indian firm and the serious decline of a second. The effects of this depression are gradually disappearing, and at the present moment the market in London appears very favourable to the trade. Judging from the past, it is more than probable that after a year or two of very brisk production there will again be a crisis. The speculative character of the trade tends to oust the Indian firms in favour of the European. The reduced profits of the Indian firms have further led to increased stringency on their part in dealing with the workmen and to consequent discontent on the other side. The European firms, through their assured position, can pay better wages, and give greater continuity of work, to the weavers. They have the further advantage, from a commercial point of view, of being up to date in their designs and of being able to satisfy

the modern craze for novelty. It is only a temporary advantage, for designs soon become common property, but it is none the less real. Every year sees the introduction of new designs, and the Indian firms are generally behindhand in their knowledge of the latest fashion. However, much confusion has resulted in the endeavour of European firms to suit oriental designs to the varying styles of decoration in Europe and America. The designs as well as samples of coloured yarn are sent out from Europe to be copied in Mirzapur. Persian, Turkish, Afghan patterns, as well as those specially invented by carpet firms, all find a place in the great variety of designs found in Mirzapur. It is difficult to say which are really Mirzapur designs and which are not. According to Mr. Vincent Robinson, the old Mirzapur designs were more Hindu in character. At present they are more cosmopolitan and afford great possibilities to the expert for the display of his ingenuity in tracing their identity. The curious will also note that the American love for the antique, for something which though modern has the make-believe appearance of being ancient, has led to the use of "greys and faded greens in the place of the bright, almost liquid, colours of the old masters." A dyer from Amritsar, on being questioned, answered with a smile that faded colours were much appreciated by *Sahibs*.

There is scarcely any local or provincial demand for Mirzapur carpets. Nearly 98 per cent. of the total production is exported to England. For this reason the kind of carpets manufactured in Mirzapur are generally such as are required in European households--floor carpets, small door-rugs, coverings for staircases, &c. A few bed carpets and Hindu prayer mats or *asans* are also made, but no Muhammadan prayer rugs are made for the simple reason that the pile of the *jainamaz* should be so close as not to cover the eyes of the devotee as he kneels in prayer, and this is not possible in Mirzapur rugs. Scarcely any cotton-pile carpets are manufactured.

The question is often asked why Mirzapur carpets are of such inferior quality. It may be mentioned that Mirzapur was never noted for the manufacture of very superior carpets. From the beginning it made rugs that were coarse in texture. Old weavers have a hazy recollection that once upon a time a carpet having 100 stitches to the square inch was made in the district. It is doubtful if it ever found a purchaser. In all probability it acted as a warning to the weaver that the best workmanship is not always the most marketable. The warning has

remained and the experiment has not been repeated. Dealers and workmen have to look to a ready market. Everything must yield to please that terrible master, the modern consumer, careless of everything save his pence. The efforts that are made to serve him and to deceive him have already been shown in a previous chapter.

A certain amount of wool is produced in the district, but a good deal of white wool is imported from Agra, Gwalior, Fatehpur, Jhansi, and Banda.

The best kind of carpet manufactured in the district generally contains about thirty-six knots to the square inch. The ordinary carpets contain from sixteen to twenty knots to the square inch. Three qualities are generally known in the market—ordinary, medium, and first quality. Technically they are known as 4 bis, $4\frac{1}{2}$ and 5 bis. A 4-bis carpet contains 160 warp threads to the yard, which gives 160 knots to the yard along the breadth, or slightly over four knots to the inch. Similarly a $4\frac{1}{2}$-bis contains 180 knots to the yard or five knots to the inch, and a 5-bis carpet contains about six knots to the inch along the breadth. Very few weavers in the district could make carpets of a finer quality, for example, 10×10 knots to the square inch.

The wholesale price of these carpets varies. A great many head weavers have contracts with the firms in Mirzapur and make exclusively to order. A carpet made to order fetches a better price than the one which is made for the ordinary market.

Mr. Crooke, writing in 1893 about the carpet industry of Mirzapur, says: "First class carpets cost Rs. 5 and sell for Rs. 6 per square yard, and for the lower grades known as 'middle,' 'ordinary,' and 'inferior' the cost will be respectively Rs. 4-8-0, Rs. 3-6-0, and Re. 1-9-6, and the selling price Rs. 5, Rs. 4, and Rs. 2 per square yard"—(*Journal of Indian Art and Industries, October* 1893).

At present the wholesale price for ordinary and superior carpets made to order is about Rs. 3 and Rs. 4-4-0 per square yard respectively: the Indian firms pay slightly less. When purchased wholesale in the market ordinary and superior carpets can be bought from Rs. 2-8-0 up to Rs. 3-8-0 a square yard. When a great many orders are given to the weavers, the rate of *bazar* carpets (or carpets which are not made to order) rises. On the other hand, when the number of carpets made to order decreases, the *bazar* rate also decreases.

It is the practice of carpet dealers to purchase carpets in the open market and bale them with the carpets made to order. A handsome

profit is realized in this way. They also make from four to eight annas profit for every square yard of carpet sold.

The varying rates in the same market are due to the system of advances. Each firm has a partial monopoly as long as its advances are outstanding. Labour contracts can be enforced in the criminal courts, and a workman can be sentenced to a term of imprisonment if he leaves his former employer without paying back his advance.

However, evasion is not unknown. When the demand for labour is pressing, questionable methods are used by employers to decoy each other's workmen and much indignation is felt on all sides.

In the subjoined table is shown the actual cost of making 12 square yards of a 4-bis (ordinary quality) carpet.

Cost of a 4-bis carpet 12×9 *feet* $=12$ *square yards.*

	Rs.	a.	p.
Woollen yarn, 10 seers 8 chhataks at Rs. 42 per maund ...	11	0	$4\frac{4}{5}$
Warp *(tana)*, 3 seers 10 chhataks at 13 annas a seer ...	2	15	$1\frac{1}{2}$
Bodh (weft), 7 seers 8 chhataks	3	0	0
Dyeing of *bodh*	0	4	0
Cost of dyeing materials at 10 annas for 4 seers ...	1	10	3
This carpet will be woven in about eleven days by four men. Wages of weaving at 8 *dihans* to the rupee ...	9	0	0
Total ...	27	13	$9\frac{3}{10}$

This carpet will be sold for about Rs. 31-8-0 at Rs. 2-10-0 per square yard. This leaves a balance of Rs. 3-10-2 only. The wages for opening the yarn and for dyeing, as well as the wages of the *ustad*, have not been included. The dyeing and the opening is done by the *ustad* and his family. The wages for opening and dyeing would come to about 10 annas 6 pies. The owner of the loom, who also reads and supervises, gets about 6 pies to 1 anna per square yard as profit, excluding his wages. Very often there is no profit if wages are excluded. Making the usual deduction for delays and for slack seasons, the average earnings of the head weaver are about 6 to 7 rupees a month. In this are included profits, wages for dyeing, for general supervision, and for reading out the pattern.

The annual outturn may be estimated at from five to six lakhs of rupees. Each maund of baled carpet costs about Rs. 55. Taking the figures for 1904-5, 9,540 maunds were exported; in other words, carpets costing Rs. 5,24,700 in Mirzapur were exported.

The figures for this year are not available, but from personal enquiries, the outturn this year has been more than in the previous year and may be estimated at about six lakhs of rupees. The annual production of each loom in the district is about 400 rupees, giving an average of about 35 rupees per month or nearly 14 square yards per month.

From October to March the production is largest. During the rains many looms have to be closed for want of work and the weavers take to agriculture or become daily labourers.

Summarizing what has been said before, there are about 1,400 looms in the district and about 5 to 6 thousand weavers. The annual outturn is between five and six lakhs of rupees per year. The wages of the head weaver average from 6 to 7 rupees and that of the weaver from 4 to 5 rupees per month. The profits of the firms are from 4 to 8 annas per square yard.

Production is on a very large scale, but the distribution of profits is uneven. Wages have not kept pace with the rise in the price of food stuffs.

The fall in prices, coupled with the rise in the cost of raw material, has led to a decline in the quality and colouring of carpets, but at no time were very superior carpets made in the district. The combination of agriculture with weaving makes the work less monotonous, and reduces the numbers of the unemployed. However, the Muhammadans, relying more exclusively on weaving, are likely to feel a crisis in the trade more acutely than the Hindus. Such crises have become possible by the fluctuating character of the trade and by speculation. The industry is chiefly dependent on its foreign trade and is gradually passing into the hands of Europeans.

CHAPTER X.

Other centres of woollen-pile carpet manufacture.

Jhansi.

There is a tradition among the weavers that their ancestors came from the village of Ghosia in the Mirzapur district. There is a remarkable similarity between the technical terms used in Mirzapur and Jhansi. The instruments used in weaving are precisely the same in the two places. It is very probable that the carpet weavers of Jhansi migrated from Mirzapur. There are about twenty-four families of Sheikhs, who call themselves *kalinbafs*. All the weavers belong to the *kalinbaf* caste, with one exception. A *bhisti* (water carrier) is supposed to have learnt the trade somewhere, and a protest was made

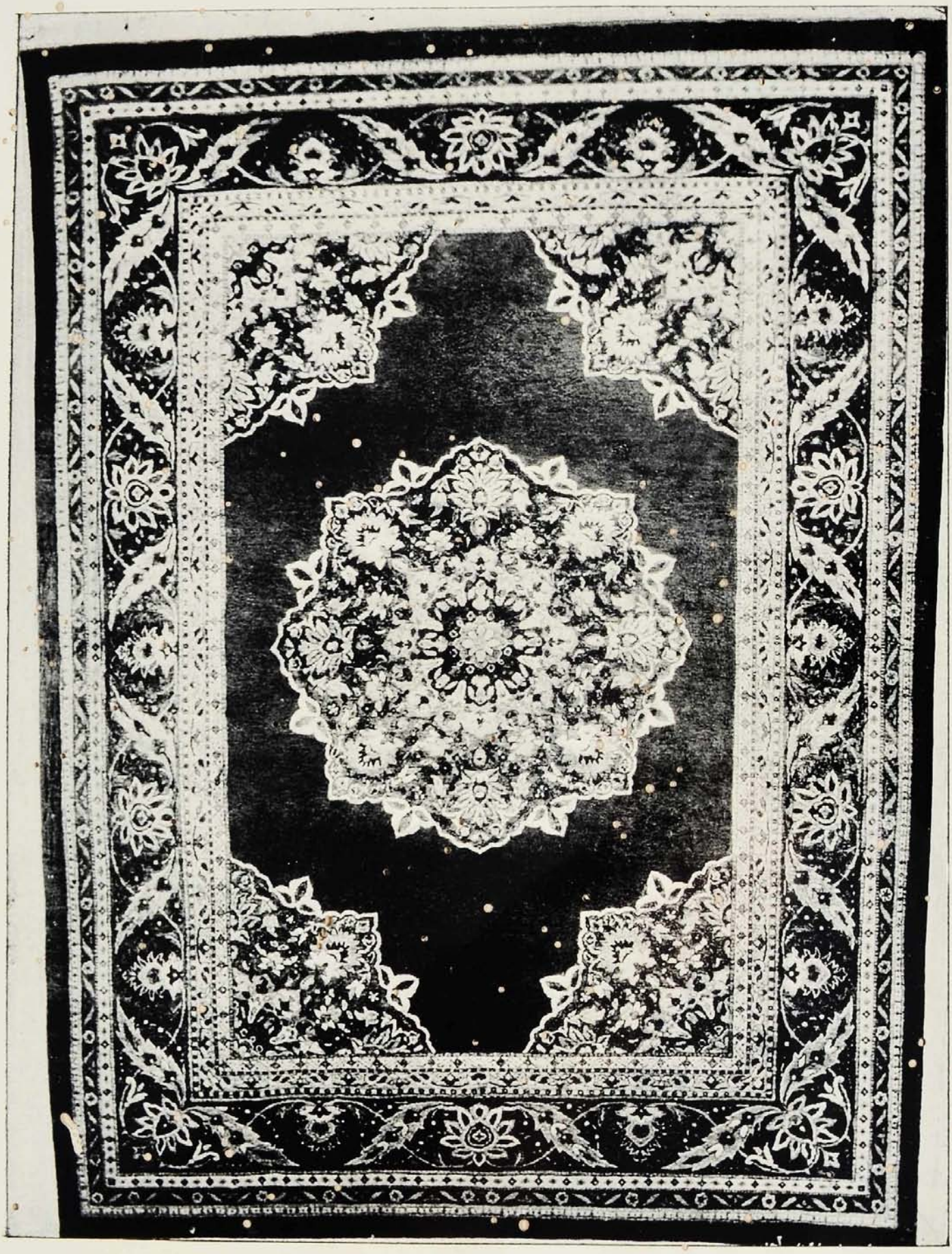
against the intruder by the *kalinbafs* in the times of Mahratta rule. Orders were passed that the *bhisti* should continue in the trade, but he was not to make any apprentices. This solitary family of *bhisti* weavers still continues.

The carpet weavers have made another rule to keep the trade closed to outsiders. No apprentices are made. Children learn the trade from their parents. This has helped to preserve the old designs. Its effect on wages has also been beneficial. The wages are higher than at Mirzapur, being from 6 to 7 *diharis* for the rupee. The trade has unfortunately declined. At one time Jhansi carpets were well known. Sleeman, writing about 1844, says: "The city of Jhánsi contains about 60,000 inhabitants and is celebrated for its manufacture of carpets."

Since the opening of railway communication a great quantity of local wool is exported and its price has rapidly increased, while there has not been a corresponding rise in the price of carpets. Consequently very inferior carpets are now made in Jhansi. No vegetable Indian dyes are used. Aniline dyes are used for all colours, and the weavers generally dye the yarn themselves. The wool is merely washed in cold water. Soap or *ritha* is not used. The warp is of thick, hand-spun, cotton thread, while the weft is of the same material but much coarser, old cotton yarn being used. For Hindu prayer mats or *asans* both the warp and weft are of wool, as cotton is regarded impure for religious purposes. The carpets contain about four to five knots to the inch. Coarse wool is used, and the pile is long and loose. Rs. 2-8-0 to Rs. 4 per square yard is the average price of Jhansi carpets.

The designs are simple and eastern; there is no trace of European influence. The *Dera* pattern—a centre medallion, with quarter medallions in the corners, and a border of flowers and creepers combined—is much used. Other patterns common in Jhansi are the *makhmal* (a field of one colour with a centre medallion), *phulwa*, *pachrangwa*, &c. The market for local carpets is very limited. A few are sent to Agra, Cawnpore, Indore, Benares. There are three shops of *baniás* in the city who purchase the carpets from the weavers and who also give them money advances. Two or three weavers have enough means to deal directly with the buyer, but the rest cannot do without a middleman.

The industry is languishing for want of an adequate demand. It has a formidable rival in Mirzapur, and in the jail at Gwalior where the manufacture of carpets has recently been started.



Woollen pile carpet (Otto, Weylandt and Co., Agra).

The industry has been established since eighteen years. The carpets are sent to Agra, Aligarh, and to exhibitions. Cotton, generally hand-spun, is used for warp and weft. The following are some of the patterns: *jaldar*, *jhardar*, *phandadar*, *multan*, *chau-halka*, *&c.* Aurangabad, district Bulandshahr.

Generally bed carpets are made. The industry is of small extent, the weavers selling their own goods.

Woollen-pile carpets are manufactured in the district jail at Bareilly and in the city. There is no great demand for woollen carpets. The carpets made in the city are much inferior to those made in the jail. The industry is not of much importance, Bareilly being chiefly known for its *daris*. Bareilly.

Agra was well-known for its carpets during the time of Akbar. "The best carpets are made at Agra, Fatehpur and Lahore. In the royal workshops a carpet in length 20 yards and 7 tessug, and 6 yards and a half tessug broad, is made for eighteen hundred and ten rupees, which those skilled in the business value at Rs. 2,715" (*Ayin Akbari*, Gladwin's translation, volume I, page 71). With the collapse of the Moghal Empire, the carpet manufacture of Agra declined. The district gazetteer written in 1883 says: "The local carpet makers are not thriving and produce only small, cotton carpets." Agra.

There are about twenty or thirty looms working in the city. Messrs. Otto Weylandt & Co. and the Agra Central Jail manufacture a large number of carpets. The local weavers are suffering from the same depression as was noticed in the case of Jhansi. They are too poor to manufacture carpets of good quality, for which there is no ready market. They content themselves with making very inferior carpets, which are sold in the bazar to the Hindu shopkeepers.

Three annas per 6,000 knots is the average rate of wages. The designs are oriental, but aniline dyes are generally used.

The process of manufacture is similar to that of Mirzapur, and it is believed that the industry was re-introduced into Agra by weavers from that city. The carpet makers are all Muhammadans. Superior carpets are made in the Central Jail and by Messrs. Otto Weylandt & Co. The rise of this firm is interesting. It began with jail labour. Released convicts, who had learnt the trade in the Central Jail, were engaged by the firm. Gradually a certain number of labourers were trained. There was, however, great difficulty in securing the required number of workmen. Weavers were sent for from Mirzapur, but they did not stay long. An interesting experiment of employing women as

weavers was also tried, but it failed. The women refused to work side by side with the men. The problem of securing cheap labour was ultimately solved by paying a commission to the headmen or *mistris* for every workman they supplied. A large number of small boys were brought in and trained as weavers. The factory started with about three looms twelve years ago. At the present moment there are about sixty looms, with over 500 weavers. Most of these are small boys of various castes,—*Kolis*, *Bhistis*, *Sheikhs*, *Pathans*, *&c.* The readers get fixed monthly wages. It is the business of each reader to read out the design, to supervise the work of the loom in his charge, and to see that each weaver ties a minimum of 6,000 knots per day. The weavers are paid on the contract system, but they are not expected to do any other work besides weaving.

Woollen yarn is imported from the Punjab and Rajputana. The dye house is in charge of an Amritsar dyer.

Carpets from 100 to 400 knots to the square inch are woven. These carpets are sold for from Rs. 15 to Rs. 75 per square yard, and are sent to Europe and America.

It is doubtful whether the tiny boys, with scarcely any clothes on their backs, who sit patiently on the loom for eight or nine hours per day ever appreciate the value of their work. They have the distinctive badge of weavers and of artists—an eternal want of means.

The Central Jail at Agra is also reputed to manufacture very fine carpets and to pay particular attention to its dyeing processes. However, these processes are guarded with jealous care. Perhaps they are unique, but the information at our disposal is very limited.

Amroha.

The manufacture of carpets was started after the Mutiny by a released convict. It is about forty years old. One of the weavers, named Sadiq Ali, claims to have introduced the manufacture of woollen-pile carpets in the city. He learnt the art in Bikaner from a Mirzapur weaver. There are about fifteen looms in the city and about thirty weavers. There are two small firms dealing in carpets. They own between them eight looms. The other weavers bring their carpets to these firms. There are no Hindu weavers, and the *julahas* are also excluded. The wool is produced locally, and the yarn is spun by the wives of the shepherds. Indigo blue is the only colour dyed by a professional dyer; the other colours are dyed by the weavers themselves. Aniline dyes are largely used, and have replaced the old vegetable dyes. The warp is of cotton thread of about six

strands. For the weft the yarn is spun from used cotton *(ruar)*. The knots are tied in the same way as in Mirzapur. The pile is closely clipped. The pile clippings are sold in the bazar, and are used for stuffing pillows and cushions. Two to three annas a day is the average wage. The system of advances to the weavers is prevalent, and there is a mutual understanding that an advance must be paid back before a weaver can leave his employer. The carpets are sold by weight. Good carpets are sold at Re. 1 annas 8 per seer, and carpets of inferior quality for 14 annas a seer. The price of carpets has gone down. Carpets are also sent to the Nauchandi fair in Meerut and to the great fair at Garhmuktesar.

It is the custom of poor weavers to pawn their carpets to *banias*, who advance about 12 annas for every rupee worth of carpet and charge 25 per cent. interest. The weaver carries on his work with the money so received, and the account is settled when the carpet is sold. One weaver had twenty-two carpets ready, out of which twelve had been pawned. These carpets were being made in anticipation of the Nauchandi fair. A few carpets are also sold locally to the officials and wealthy people.

The designs are very simple. The weavers weave them from memory and the services of a reader are not required. The *jal* pattern seems to be very common. Flowers and other objects are enclosed in geometric compartments, and the pattern takes its name from the object enclosed. The following patterns are common: *pan ka jal*, *jal bana rum*, *machli kante ka jal*. The borders consist of flowers and creepers, e.g. *pan ki bel*, *gulab ki bel*, *sharife ki bel*. Occasionally small, wavy lines *(laharias)* and creepers *(bel)* are used as connecting links between the border and the field. The use of aniline dyes gives a very harsh appearance to many of the patterns. In very superior carpets, and when special instructions are given, Indian vegetable dyes are used.

Though the industry is limited, very fair carpets are made. The knots are closely pressed down, and particular attention is paid to the clipping of the pile. The work is not marred by haste. The quality would no doubt improve if foreign dyes were either discarded or their use better understood. But with free competition and low prices, the reform can hardly come from the weavers.

Cawnpore.

The rapid rise in commercial importance of this town attracted some weavers from Mirzapur. The enterprise has so far proved a failure. The high price of wool has obliged the weavers to abandon the

manufacture of woollen carpets. To preserve themselves from outside competition the weavers have come to an understanding since four years that no outsiders are to be admitted into the trade. The present poor condition of the industry is chiefly due to the want of capital among the carpet manufacturers. It is said that one European firm has recently started the manufacture of woollen carpets. There is no reason why the carpet trade should not increase in the same way as the trade in *daris*.

The initial difficulties of starting a carpet industry are very much less in Cawnpore than in other places. The town is already a centre of the woollen industry of these provinces. The European firms have capital and an established business reputation, while the number of carpet weavers is adequate for present requirements.

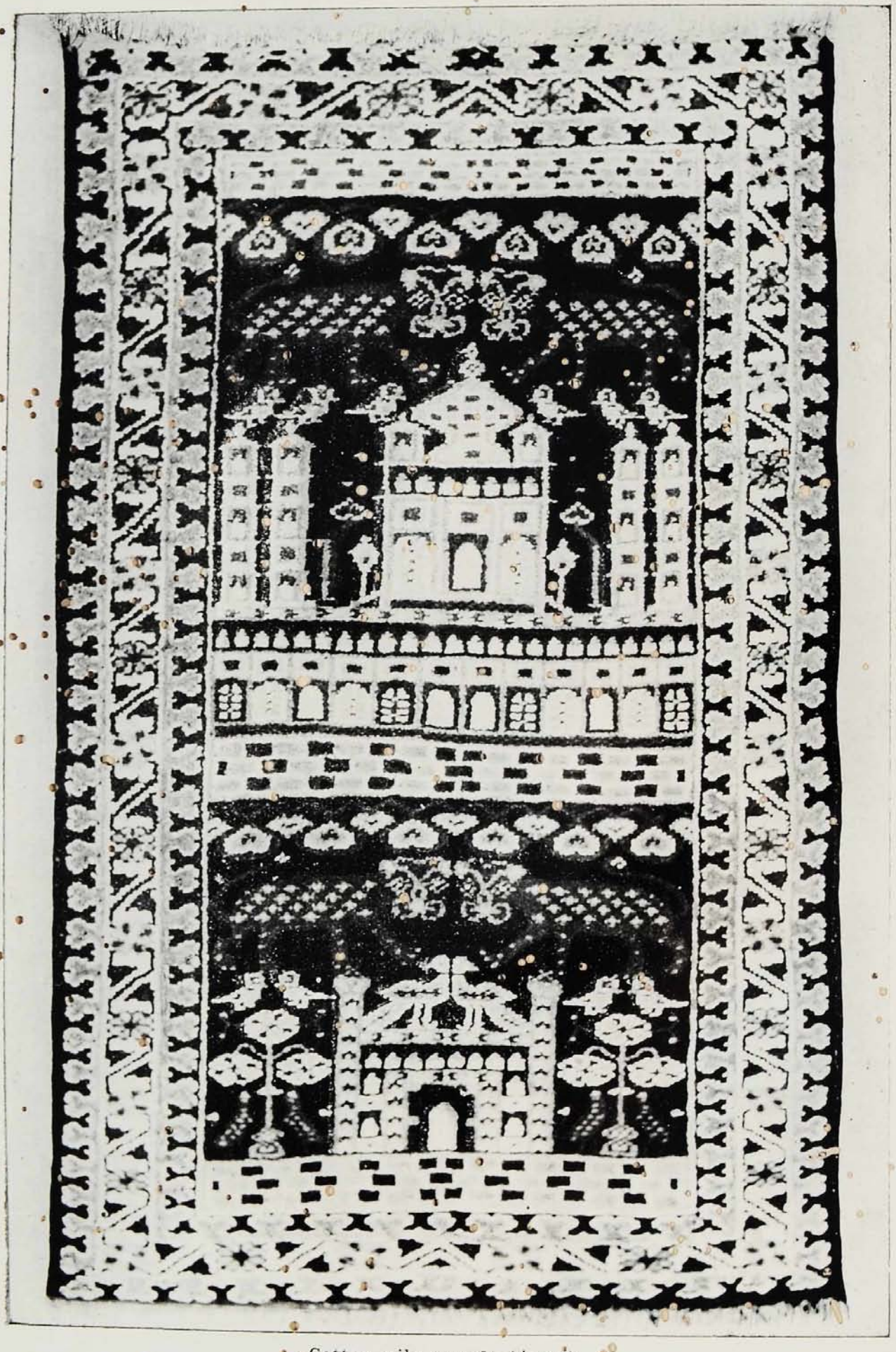
It would not be surprising if within a few years Cawnpore were to become a formidable rival to Mirzapur. The latter has the advantage of cheap labour, but the former with its central situation and abundant supply of raw material holds a very favourable position. What the effect will be on wages or on the condition of the weavers is a different question.

Benares.

Carpets are manufactured in the outlying villages. It is said that the industry was "first introduced in Said-Raja of 'Chandauli' tahsil, about thirty years ago, by a *julaha* named Abdul, who went to Mirzapur as an apprentice. The industry carried on in Tari and Newada of Benares tahsil is of a more recent date."

There are thirteen looms and fifty-six weavers. A falling off in the number of looms is reported on account of the high price of wool. The weavers are mostly *julahas*, but one *kunbi* and a few *banias* have also taken up the work recently. Black wool is locally produced; white wool is imported from Bhadohi in the Family Domains of the Maharaja of Benares, and woollen yarn from Cawnpore, Calcutta, and Mirzapur. The carpets are sent to Bhadohi and Mirzapur. The designs are borrowed from those of Mirzapur, and the system of weaving is the same. The district report says that "the carpet weavers are given food only during the period they have to remain idle for want of raw materials."

Bed and floor carpets are manufactured, but no prayer rugs are made except to order. The prices vary from Rs. 2 to Rs. 4 per square yard. The wages are about 9 *diharis* to the rupee. Aniline dyes are largely used. When the work is slack, the weavers take to agriculture or begin to weave cloth. There is no trade guild, and the



Cotton pile carpet (Agra).

apprentices are only given food and clothing during the period of apprenticeship.

CHAPTER XI.

Cotton-pile carpets.

In cotton-pile carpets the warp, the weft, and the pile are all of cotton yarn. The warp consists of six or more strands of cotton yarn twisted together, the number of strands varying according to the fineness of the yarn used. For the weft and the pile the yarn is not twisted, but consists of cotton yarn six or seven fold or more. The method of weaving is exactly similar to that of woollen-pile carpets. It is generally the practice to employ old cotton for the weft and for the coloured yarn, unless a carpet is specially made to order. Cotton-pile carpets are extensively used throughout the provinces as bed covers and for sitting on the ground. They are generally sold by weight, the prices varying from 8 annas to Rs. 2-8-0 per seer. A very good bed carpet can be had for about Rs. 20.

Formerly blue and white were the two usual colours used in cotton-pile carpets, but now many colours dyed in aniline dyes are employed indifferently. The designs are bold and are very often geometric. The *jal* and *dera* (centre medallion, with quarter medallions in the corners) are the most common patterns.

The accompanying photograph shows a curious specimen of a cotton-pile carpet made in Agra. The building represents Itmad-ud-daulah's tomb in Agra, and the introduction of the parrot is significant. This bird is very common and is a great pet with all classes. Whether there is any symbolism attaching to this bird is not known, but its use in decoration is very frequent.

Shahjahanpur, Farrukhabad, Jewar in the Bulandshahr district, Amroha in the Moradabad district, are well known for the manufacture of cotton-pile carpets. The information received from various districts is summarized below :—

Shahjahanpur.

There are about thirty-four looms and sixty-eight weavers, and the looms are owned by about sixteen persons, giving an average of two weavers to each loom and two looms to each owner.

The weavers are all Muhammadans, and very curiously women also weave. The ordinary size of carpets woven in the district is six and a half by four feet. The carpets are sold by weight, the prices varying from about 15 annas a seer to about Re. 1-9-0 a seer.

The warp and weft is of hand-spun cotton yarn. The thread of the warp consists of about six to eight strands. Aniline dyes are generally used, and the dyeing is done by the weavers themselves. Dyeing in the indigo vat is done by the *rangrez*.

The output is estimated at about 150 carpets a month, which are exported to all parts of India.

As regards the organization of labour, the district report says that there is no guild or *panchayat*, and what seems extraordinary is that a workman is not bound to pay back the money advanced to him, before he can leave his employer. The carpets are sold either retail or occasionally to merchants who come from outside to make purchases.

The weavers have retained their old designs, which consist of conventional representations of well-known Indian flowers and creepers. Some of the names are given below :—

Phul suraj mukhi, gulab ki bel, bel sharife ki (a creeper conventionally formed, representing the leaf and the fruit of the custardapple tree).

Guldasta qism qism. (This consists of a number of flowers placed in a vase. This form of decoration is also seen on the Moghal buildings in Agra.)

Jal of several kinds, for example *mahi jal, jal gulab ka*, &c.

The weavers are reported as generally poor.

Bareilly — Carpets are also manufactured to a small extent in Bareilly, but there is no feature that calls for remark. The quality is inferior, and bed carpets 6′ 6″ by 3′ 6″ can be purchased from Rs. 3 to Rs. 6.

Muttra. — A few carpets are also made here. There is nothing of note, except that "there are 400 strands of warp and 900 strands of weft in a yard," which is rather puzzling.

Etah. — Some released prisoners have started making carpets in tahsil Kasganj since two or three years. The cotton is locally produced and the yarn, both for warp and weft, is hand-spun. The thread for the warp consists of about six strands, and the weft is of cotton yarn eight to twelve fold. "In ordinary carpets 400 shoots of weft are used between two rows of knots." This must leave a very considerable gap between the rows of knots, but perhaps there is some mistake in calculation here.

The designs are "striped, margined, flowery, and *chaupar*."

Budaun. — There are five carpet looms and ten weavers in the district. The industry is urban and is said to be about a hundred years old. Some

of the weavers, in addition to their ordinary occupation, sell "fuel wood, string, and shoes." Cotton is produced locally. The warp and weft are of hand-spun cotton yarn, and the warp thread consists of six strands. The number of knots to the inch is said to vary from six to nine. The pile is clipped after each completed row of knots, and there are six shoots of weft between every two rows.

The ordinary size of carpets prepared is 6′ 9″ by 3′ 9″. The wages for carpets are seven annas a seer, and the average daily earnings of a weaver are said to be four annas for a working day of nine or ten hours. The weavers are all Muhammadans. There are no regular carpet firms, but cloth merchants also sell carpets. There seems to be no system of advances, all transactions being paid on the spot.

Aniline dyes are largely used, but the old designs are still preserved. *Chiria ki bel wa hauz* is considered the best design in the district. The annual output is estimated at fifty carpets, which are consumed locally. A large number of these carpets are sold at the Kakora fair which is held in the district. There is no trade guild or *panchayat*. Apprentices are paid one anna a day during the period of apprenticeship, which usually lasts one year.

Ghazipur.

There are only four looms in the city where carpets are made. A Mirzapur weaver is said to have started the industry about ten or twelve years ago. The cotton yarn is hand-spun and coarse. The carpets are mostly bed carpets, and generally contain ten knots to the square inch. The average price is Re. 1 per square yard. Aniline dyes are used. Women do not weave "on account of a superstition that their work will bring misfortune."

Cawnpore.

Some Muhammadan carpet weavers of Mirzapur have settled in Cawnpore. Owing to the high price of wool they have taken to making cotton-pile carpets. The industry is said to be about fifty years old. "There are about thirty looms, and the tendency of the *qalin* makers is to go back to Mirzapur." The competition of the *daris* made in the mills is said to have retarded the development of the carpet industry. Only cheap carpets are made and are sold in the city. The more expensive carpets are imported from Shahjahanpur, Mirzapur, and other places. It is estimated that two men can generally weave a carpet worth Rs. 2 in a day. This would require raw material worth about Re. 1-4-0, and the wages paid for spinning, dyeing, cleaning, &c., exclusive of weaving charges, would come to about five annas, leaving the two weavers about seven annas as remuneration for

their labour. The average earnings of the weaver are said to be less than those of unskilled labour in Cawnpore. The rate of wages is from 4 to 5 *diharis* per rupee. (A *dihari* is equal to 6,000 knots.) There are no contractors, and the men who own the looms sell the carpets themselves.

Coarse, hand-spun yarn is used for inferior carpets, old cotton being used for the weft and for the coloured yarn. For better carpets machine-made yarn is used both for warp and weft and for making the pile.

The usual size of carpets manufactured is 6′ by 3′ 6″ and 7′ 6″ by 4′, and the price ranges from Re. 1-10-0 to Rs. 20 per piece. There is no guild, "but still all matters of dispute are referred to an old man, who settles them amicably."

Farrukhabad. The manufacture of carpets is carried on in the town of Farrukhabad since a very long time. The weavers are all Muhammadans. The number of looms has declined, owing to the rise in the price of raw material. Many weavers have migrated to Cawnpore. Aniline dyes are largely used. The average earnings of a weaver are calculated at two annas six pies for a working day of nine or ten hours. The rate of payment is two annas per square yard for ordinary carpets and three annas per square yard for a superior kind of carpet. Machine-spun cotton yarn is used in the manufacture. There are five firms who deal in carpets. The system of advances is largely prevalent, and the weavers buy the raw material from the firms mentioned above, who also give out the designs. There is no trade guild. Both prayer rugs and bed and floor carpets are made. The district report says that the ordinary carpet contains eight knots along the length and twenty along the breadth, making 160 knots to the square inch. The highest number of knots per square inch said to be woven in the city is ten along the length and twenty-five along the breadth, making 250 knots to the square inch. We are rather inclined to doubt the correctness of this statement on account of the glaring disproportion between the number of knots along the length and the number along the width of the carpet? The district report mentions a carpet which ought certainly to be unique: "the warp is of iron and wood, whilst the weft is of wood." It is not stated of what material the pile is made.

Bulandshahr, hsil Jewar. The industry has been established since about forty years. There are five looms. The weavers are Pathans and Faqirs. The owners of the looms themselves sell their carpets and employ their own capital. There is no system of advances. The names of the patterns woven are

jhardar, *jaldar*, *chaukona*, *chauhalka*, *yarkand*. The prices vary from 2 to 4 rupees per seer. Only bed carpets are made as a rule. Carpets are also made for the exhibitions held at Bulandshahr and Aligarh. The weavers are said to turn out very good carpets.

Oudh.

From nearly every district has come the disappointing answer that there is no carpet industry. Unfortunately no report has been received from Fatehpur in the Bara Banki district, which is about the only place in Oudh where carpets are manufactured.

In Rae Bareli there is one loom. The industry is said to have collapsed owing to the dearness of cotton yarn and the consequent low margin of profits.

Lucknow.

The following is taken from Mr. Hoey's monograph on *Trades and Manufactures in Northern India*: "The ordinary *kalinbaf* of Lucknow now weaves only small rugs of cotton. This trade has been seriously damaged by the Central Jail Factory." At present there is scarcely any industry worth the name in the city.

A large number of carpets are also manufactured in the various government jails in the province.

The industry is chiefly urban and is for the most part confined to the various sections of the Muhammadan population. The carpets are either sold locally or are exported to other provinces through business agencies *(araths)*, but the art of advertising is still in an elementary state. There is a general absence of *panchayats*. Hand-spun yarn is used in the manufacture of coarse carpets, but in better carpets machine-spun yarn is employed, as it costs comparatively less than equally fine hand-spun yarn. The art of spinning fine thread has greatly declined through the competition of the mills, and in future, as cotton mills increase, machine-spun yarn will be more extensively used in the manufacture of carpets. It is said that carpets made of hand-spun yarn last longer.

There is no great prospect that cotton rugs will be more largely used in the future. They cannot compete with woollen rugs in lustre or with *daris* in cheapness. However, in a hot climate there will always be a demand for cotton-pile carpets.

It remains to be seen how far the present small margin of profit, coupled with the increasing cost of raw material, will help to lower the quality of these carpets. The appalling increase in the use of aniline dyes and of inferior yarn does not hold out very bright hopes for the future of the industry.

CHAPTER XII.

COTTON CARPETS.

COTTON carpets are made in almost every district of these provinces. They are called *shatranji* or *dari* according to the size: the word *dari* being used for a bed carpet, and the word *shatranji* for a large carpet. However, this distinction of terms is not always observed, and cotton carpets are generally known as *daris*, whatever their size.

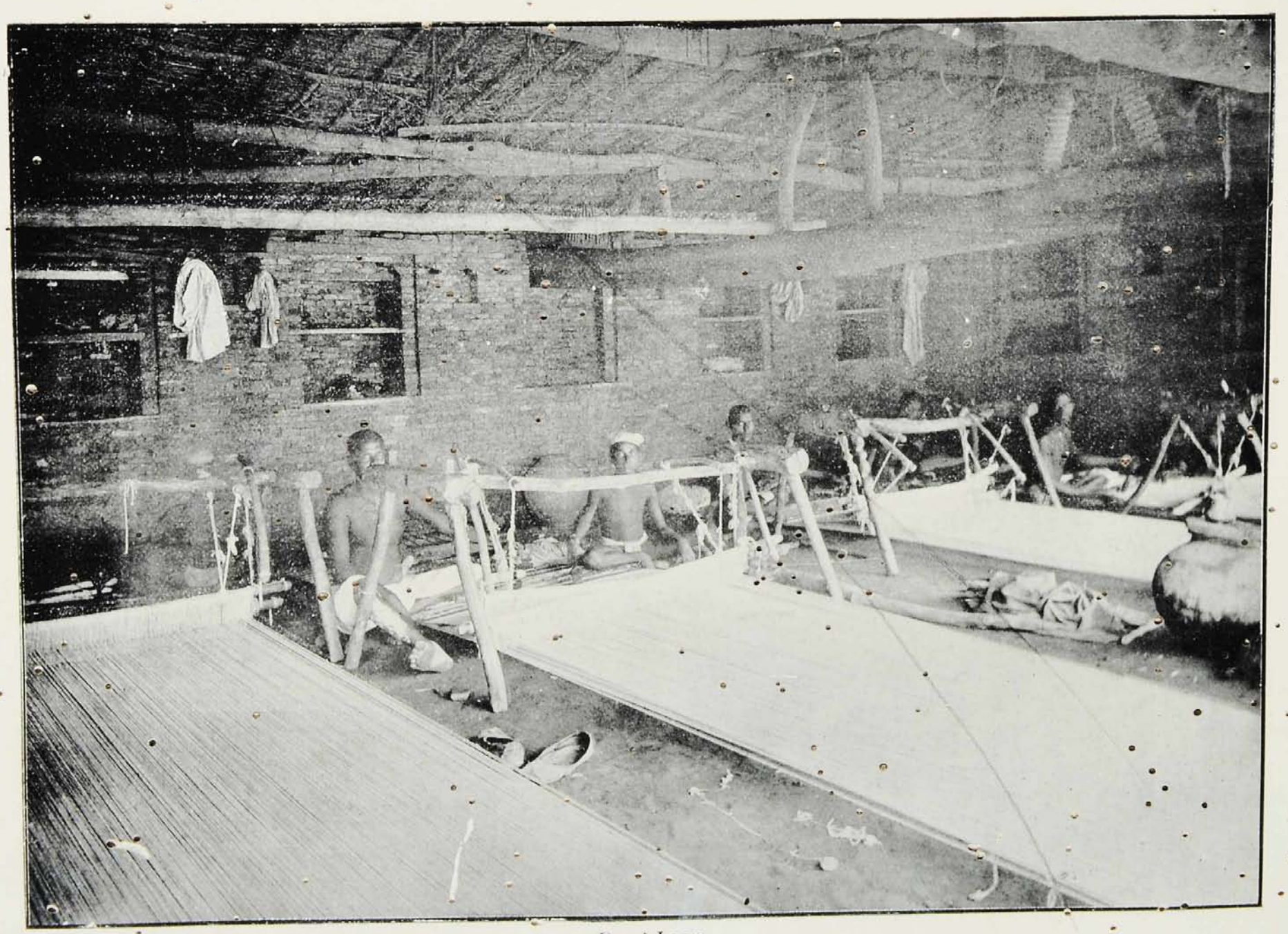
Besides *daris*, a great many prayer mats or *jainamaz* are also made *(vide* photograph, page 48). The loom for weaving *daris* has already been described by Mr. Silberrad. It consists of a few ropes and bamboos, which can be conveniently laid down anywhere, and of a simple arrangement for crossing and recrossing the warp threads as the thread of the weft is passed across and across. The weavers sit in a row on the woven portion of the *dari*. The weft is passed from hand to hand along the lines of the warp, and is wound in a long egg shape on an iron skewer or needle *(teri)* for plain *dari*-weaving.

For a *dari* of ordinary size $2\frac{1}{2}$ by $1\frac{1}{2}$ yards, two weavers are employed, the number varying according to the width of the *dari*.

Both hand-spun and machine-made yarn is used for warp and weft. The pattern is formed entirely of weft threads, the warp threads being completely hidden. The warp threads are, as a rule, of undyed yarn, but they are occasionally dyed in Cawnpore. The pattern generally consists of stripes of various colours. White and blue stripes *(nili chitti)*, blue and light blue *(nil abi)*, &c., are common patterns. Besides these, a very fine kind of *dari* called *phuldar*, is made in Agra. Instead of stripes, flowers and other shapes are woven. In weaving the *phuldar daris* yarn of various colours and of the requisite length is passed under the warp threads in such a way as to produce the pattern. This form of weaving is called *moia ka kam*, in contrast to the ordinary weaving, where the weft is passed across the warp from one end to the other.

Another form of weaving is the *chas*. A bamboo rod is placed in the warp, and a number of threads—for example two from the top row and one from the bottom row—is taken up and placed on the bamboo, and then the *dari* is woven in the ordinary way. This form of weaving is employed to produce wavy lines.

The skill in *dari*-weaving lies in copying the pattern correctly, in driving home the *panja (thok)*, and in allowing sufficient weft to evenly cover the warp threads *(chutki)*. The weft thread, after it is passed under the warp, is held at the two ends under the thumb, and as



Dari Loom.

it is struck with the *panja*, it is gradually allowed to slip from between the fingers and driven home. It requires considerable practice to judge correctly how much of it should be allowed to slip. Unless the thumb responds to the beat of the *panja*, the weaving will be uneven, and the warp threads will not be completely covered. Another point worth noticing is that the workman who sits on the right is generally more skilful than the one on the left. The reason for this is that the right-hand side man has to hold the *panja* in his left hand, and consequently requires more skill in its use, while the left side man can use his right hand in driving home the weft.

Either after the *dari* has been woven or as the process of weaving proceeds, the *dari* is first scraped with a knife and then scrubbed with a porous bit of stone. It is then gently rubbed with a piece of cloth soaked in indigo solution. The object of this is to give an additional polish to the *dari (abdar karna)*, but the process reduces its durability.

It is often the practice to lay out warp sufficient for three or four *daris* at once. A boy, who is usually paid one pice, runs up and down with the warp thread, while two men sit at either end and prepare the heddles.

A *dari* loom costs about 12 annas or a rupee.

The chief centres of *dari*-weaving in these provinces are Bareilly, Aligarh, Agra, Cawnpore, Moradabad, Farrukhabad, and Etawah. The weavers are almost all Muhammadans, but the merchants who deal in *daris* are practically all Hindus. There is no Muhammadan firm of cotton carpets in Agra. Aligarh and Bareilly have one Muhammadan firm each.

The carpets are either made to order or for sale in the market. It is usual to finish an ordinary bed *dari* in the course of the day and take it in the evening for sale to one of the firms. Bed *daris* are generally purchased in the piece, while floor carpets are either sold by the yard or by weight.

The weavers either buy the cotton yarn from the firms or purchase it locally on market days. Such markets are held two or three times a week, very often on Wednesdays and Sundays. They are called *penth*, *Budh ki penth*, &c.

In contrast with carpet-weaving, it is not unusual to find women and girls weaving *daris*. However, it is regarded as a mark of poverty, and only the poorest weavers allow their women to weave.

The work is not remunerative. About 2½ annas is the average wage for a working day of ten hours. On the other hand, the profits of the firms are considerable, varying from two to eight annas per square yard. The system of advances is very common. In certain districts, the *panchayat* is active in confining the trade exclusively to Muhammadans, but it has no influence in regulating wages or prices. The period of apprenticeship lasts from six months to one year. Boys of about twelve or thirteen become apprentices.

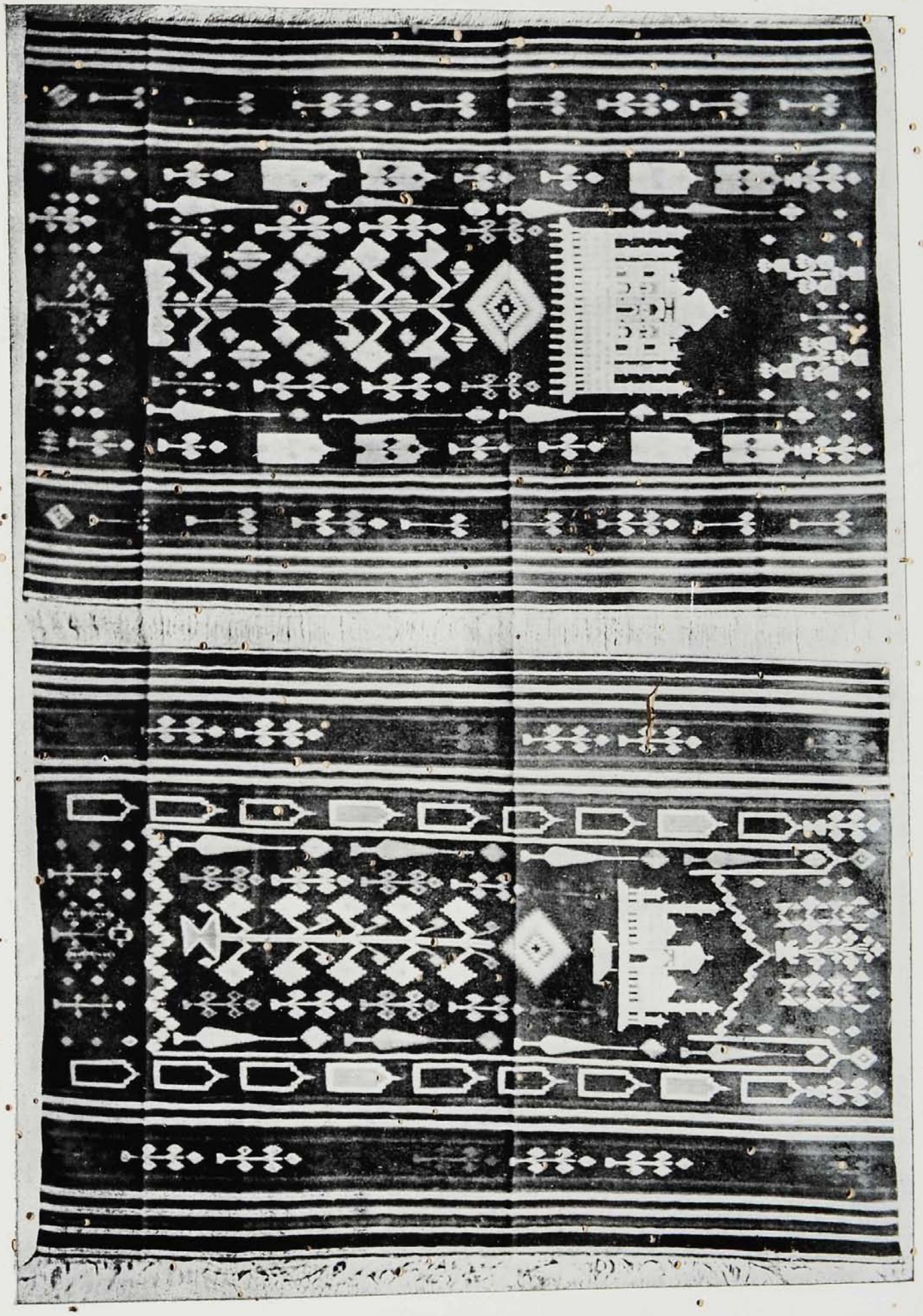
The following notes on the *dari* manufacture of the various districts have been compiled from district reports and from personal observation:—

No report has been received from this district. The manufacture of cotton rugs seems to be of ancient date. Agra, besides being the seat of government, was a great centre of the cotton trade. The weavers are all Muhammadans, but the carpet merchants are Hindus of the *Khattri* and *Bania* castes. There are about fifteen or sixteen firms, all situated in the Kinari Bazar. There are said to be about 500 looms and 1,000 weavers in the city of Agra. *Daris* are [illegible]anufactured at Fatehpur-Sikri. For the warp machine-made yarn is used, and for the weft both machine and hand-spun yarn is employed. The average rate of wages is about 2½ to 3 annas a day, and the general condition of the weavers is not flourishing. Since the decline in the manufacture of country cloth a great many *nurbafs* have taken to *dari*-weaving. A *panchayat*, at the head of which is a *chaudhri*, exercises a certain amount of influence and makes it binding on the workmen to repay their advances before making a fresh engagement with a new employer.

The *daris* of Agra are noted for their neat workmanship and are sent to all parts of India. Chiefly bed carpets and prayer mats are manufactured.

The accompanying photograph shows two prayer mats, worth about Rs. 15 each.

The piece on the right contains a representation of the Juma Masjid, while that on the left contains an imitation of the Taj Mahal. To fill up the space in the middle a *jhar* is introduced, while on the sides are niches and small cypress trees *(sarv)*. It will be noticed with what minute care the details are worked out. However, the whole effect was almost spoilt by the flaring colours in which the yarn was dyed. Each of these mats took about one month to weave, and two men, who were paid about 2½ annas per day, were engaged on it. A very good *dari* suitable for beds can be had for 6 or 7 rupees.



Cotton prayer rugs (Agra).

Besides the *phuldar daris*, there are *daris* with stripes, thin blue and white bands being a very common pattern *(gilas dar patti)*. Other patterns are *machhlidar*, *kantedar*, *mehrabdar patti*, &c., &c.

Business is done in the evening. Weavers throng to the shops in the Kinari Bazar with their bundle of carpets tucked under the arm. The shopkeeper, who is either a *Bania* or *Khattri*, sits cross-legged, and handles the goods with the assured prospect of driving a good bargain. The weaver must either sell or go without his dinner. The shopkeeper can afford to wait, and his patience is amply rewarded.

Moradabad.

There are nearly two or three hundred looms in the city of Moradabad. The industry has been in existence for nearly a hundred years. The weavers are Sheikhs, Saiyids, Moghals, and Pathans. *Julahas* and Hindus are not allowed to weave, as the *panchayat* is sufficiently active. A few women who are poor weave in their houses with their husbands or with other relatives. There are about seven firms of carpet dealers, who are all Hindus. Tuesdays and Saturdays are the chief days when *daris* are brought in for sale, and cotton yarn is bought by the weavers on Wednesdays and Sundays, which are market days.

Palang (bed) and *farshi* (floor) *daris* and prayer mats are made. The yarn is hand-spun and the quality of the *daris* is coarse. *Khaki farshi daris* are mostly exported to Bombay, while the bed *daris* are sent to Bareilly, Delhi, Budaun, Nepalganj, and Umballa.

The wages are about two to three annas per day. Aniline dyes are largely used. Moradabad produces a good deal of cotton yarn. It is becoming an important railway centre, and with the opening of new lines the trade in *daris* ought to expand. At present it is overshadowed by Bareilly, and the condition of the weavers is far from prosperous.

Bareilly.

It is not known since when the industry has been established. It is chiefly carried on in the city of Bareilly, and to some extent in the smaller towns of Aonla, Sirauli, and Faridpur.

According to the district report about 96,000 *daris* are manufactured in a year. The majority of *daris* are *farshi* (floor carpets), and are sent to Calcutta, Bombay, and the Punjab. A certain number are also sold at the fairs of Kakora and Soron. There are three big firms dealing in carpets in the city—two Hindus, one Muhammadan. They also act as commission agents for outside merchants.

A market is held every Friday at Killa Bazar for the sale of hand-spun cotton yarn, which is brought either by rail or on ponies from Moradabad, Rampur, Sambhal, and other places. On some market days as much as 50 maunds of yarn is brought for sale. The yarn is purchased for the most part by the three firms who deal in carpets and is sold to the weavers at a profit of about one rupee per maund. The prices of cotton yarn vary from Rs. 30 to 32 per maund.

The warp consists of cotton thread containing three or four strands, and the weft is of cotton yarn three-fold. A better class of yarn is used for the warp than for the weft. The bed carpets *(palang ki dari)*, $2\frac{1}{2}$ by $1\frac{1}{2}$ yards, are sold in the piece, the prices running from Rs. 2-8-0 to Rs. 5. The floor carpets are sold by the square yard, 8 annas to 10 annas per square yard being the usual price. In a square yard there are generally 6 chhataks of cotton yarn ($\frac{3}{4}$lb.). The number of warp threads to the inch is about ten in *daris* which sell for ten annas per square yard. The best quality of *dari*, which is only made to order, can be had for 1 rupee per square yard.

The weavers are all Muhammadans,—Sheikh, Saiyid, Moghal, Pathan. Wages are paid at the rate of 6, 5, and 4 square yards to the rupee for floor carpets. A weaver on an average can weave about $1\frac{1}{2}$ square yards in about ten hours and can earn from 2 to 3 annas per day.

For opening the skeins and for spinning the thread for the warp, payment is made at the rate of about 1 anna 6 pies per seer and the average daily wage is 1 anna 6 pies per day. For laying out the warp, boys are paid at the rate of 1 anna 3 pies per 20 square yards, and the average daily wage is 1 anna 3 pies per day. The charges for dyeing by the *rangrez* are—

One rupee for 8 seers of cotton yarn dyed *abi* (light blue).

One rupee for 4 seers of cotton yarn dyed *nila* (dark blue).

Two weavers are employed for a *dari* 2 to 3 yards wide; three weavers are employed for a *dari* 4 to 5 yards wide; four weavers are employed for a *dari* 5 to 7 yards wide, and so on.

Bareilly *daris* are chiefly known for their cheapness and durability. No elaborate patterns are used. The pattern consists usually of stripes with a hook-shaped object placed between the stripes as an ornament *(kantedar)*. The best *dari* is supposed to be the *nil abi*, a light blue ground traversed by dark blue stripes. The apprentices

get no wages and the *panchayat* is not very influential. The general condition of the weavers is not very satisfactory. They cannot subsist without taking advances from the carpet firms, who take the lion's share of the profits.

Aligarh.

There are about 300 looms in the town of Aligarh and about 600 weavers. Bed carpets are largely manufactured, the output being estimated at about Rs. 400 per day. About half the *daris* are sent to the Punjab and the remainder to Allahabad, Cawnpore, Calcutta, and other places.

The *daris* of Aligarh are noted for their compactness. The weft is well driven home and this gives a crispness to the *daris*. The yarn is hand-spun. The yarn for the warp is finer than that for the weft. The warp thread contains about four strands and the weft is of four-fold cotton yarn.

The weavers are all Muhammadans, including *Julahas*, *Nais* (barbers), and *Rangrez* (dyers). Some Hindus of the *Koli* caste also started work, but failed. Women do not weave, but assist in the preliminary process of spinning the yarn, &c. The weavers are dependent solely on weaving for their subsistence. There are eight firms dealing in carpets, of which seven are Hindus (six Banias, one Gujrati) and one Muhammadan, who use their own capital.

The following are the rates of wages :—

5 square yards per rupee, floor carpet.

2½ square yards per rupee, *phuldar dari* for beds.

The wages for weaving striped bed *daris*, such as *nili chitti*, &c., are about two annas per day.

Some of the patterns are *phuldar*, *machhlidar* (fish pattern), *nili pattidar*, *nili chitti* (blue and white stripes), *chitti* (plain, white).

Cawnpore.

This town has become an important centre for the manufacture of *daris* since the rise of the European mills. The number of looms is said to have doubled during the Coronation Darbar. At present there are about 110 looms and about 300 weavers in Cawnpore. The industry is gradually expanding, and weavers have migrated from Fatehgarh, Fatehpur, Etawah, Agra, Shahjahanpur and Meerut. The great majority, about 60 per cent., come from Fatehgarh, where the industry has declined since the rise of Cawnpore. The weavers are all Muhammadans.

Besides the Elgin, Muir, and Victoria Mills and the firm of J. J. Bell & Co., there are some Indian firms in the city which manufacture *daris*.

The work is done on the contract system. The mills deal with contractors directly. The contractors are supplied with the raw material at certain fixed rates, but they have to set up the looms inside the enclosures of the mills and have to find the workmen. The price of the finished *dari* is credited to the contractor, and there is a monthly settlement of accounts. The contractors are paid at the following rates, from which the price of the raw material is deducted :—

	Rs.	a.	p.
Dari, per square yard of no. 10 yarn	1	0	6
	1	1	0
„ „ „ „ „ „ 6 „	0	15	0
„ „ „ „ „ „ 4 „	0	13	0
„ „ „ „ „ *phuldar*	2	4	0
	2	8	0

The contractor makes a profit of about 1 anna per square yard. The following table shows the average cost for every rupee worth of *dari* :—

	Rs.	a.	p.
Warp no. 10 yarn	0	7	3
Weft „ 10 „	0	1	3
Opening and spinning	0	0	6
Dyeing charges	0	1	6
Loss in cleaning *dari* and repairs to loom *(chilbel)* ...	0	0	6
Weaving	0	4	3
Total ...	0	15	3

This will be sold for 1 rupee. Profit 9 pies.

Bad work is either entirely rejected or the contractor is fined heavily.

The weaver is also expected to lay out the warp, to open the dyed yarn, to fill the *teri*, and to clean the *dari* after it is finished. In large *daris* these operations take time. In a month a weaver has to spend five or six days on extra work, for which no wages are paid. About 1 to $1\frac{1}{2}$ square yards can be woven in a day of about nine hours, and about 3 to 4 annas a day is the average wage of a weaver, that is, about the same as the wages for unskilled labour in Cawnpore.

The wages earned in large *daris* are more than those in ordinary bed *daris*, as will be obvious from the following illustration :—

Suppose two weavers have to weave in one case a *dari* twelve feet broad and in the other a *dari* four feet broad. Suppose they each weave three feet along the length in a day. Then in the first case

the weavers weave three by twelve square feet equal to 4 square yards and in the second they weave three by four equal to $1\frac{1}{3}$ square yards.

Very frequently two weavers are set down to weave a *dari* eleven feet broad. This method causes much fatigue and leads to loose weaving.

Both the warp and the weft is of machine-spun yarn. There are fifteen warp threads to the inch in *daris* of the best quality. The second and third quality *daris* contain eleven and eight warp threads to the inch. The firms generally see that one square yard of *dari* weighs 12 chhataks ($\frac{3}{4}$lb.). This is done to ensure the proper beating down of the weft. The warp is occasionally dyed when the *dari* is of one colour.

Aniline dyes are extensively used and the dyeing is done by machinery, to save time and to ensure uniformity of colouring.

The *daris* are woven either plain or striped. A favourite pattern is a ground of one colour with a large border of a deeper shade, for example, a light green field with a large border in dark green. No effort is made to introduce those decorative details, such as the cypress, the fish, the *kanta*, &c., found in *daris* which are in use among the common people.

Cawnpore *daris* suitable for tents, rooms, beds, &c., are sent to many parts of India, including Bombay and Calcutta. They are also sent to England and America. There is a large demand during the winter months.

Owing to the competition of the firms and to the demand for labour the system of advances is largely prevalent. Advances up to Rs. 70 or Rs. 100 are given to individual weavers. It is needless to discuss any further this undesirable state of affairs.

The industry has very good prospects of expansion before it. The European firms have sufficient capital. Within their extensive grounds, sufficient space is available for the manufacture of large carpets. Besides this, cotton factories turn out the yarn used in the manufacture of carpets.

Their methods of advertisement are excellent. Beautifully printed patterns are sent out to intending purchasers. A large stock of samples is kept. The native firms, on the other hand, choose the most obscure places for carrying on the manufacture. They have no notion of advertising goods, and they are further hampered by the want of capital and accommodation.

It is estimated that the carpet firms make from 6 to 8 annas profit per square yard.

Great facilities were offered in the compilation of the district report by the managers of the European mills, especially those of the Elgin Mills and of the firm of J. J. Bell & Co. The manager of the Muir Mills vindicated the principle of commercial independence, or rather of commercial secrecy, by refusing to give any information on the subject.

There are about 250 looms in the district. The industry is mainly rural and dates back to pre-Mutiny days. It is said that "a man employed in one of the factories of the Begam of Sardhana learnt the carpet industry there, and on his dismissal started to weave on his own account in Sardhana. One of his sons removed to Baghpat and started the industry in that part of the district." The weavers are chiefly Pathans, Sheikhs, Kasais (butchers), Telis, and Shakas.

Weavers also turn to agriculture and manual labour to supplement their wages. The average earnings of a weaver are estimated at three to four annas a day.

The following are the rates of payment to the weavers:—

"White *daris*, 4 annas per seer.

Mixed colours, 6 annas per seer.

Two-colour stripes, 8 annas per seer."

"Blue and *abi* (light blue) striped *daris* appear to be the finest quality and are sold at Re. 1 per yard."

Bed *daris* of fine quality are sold from Rs. 2-4-0 to Rs. 4-8-0 each.

Hand-spun yarn is used both for warp and weft. The number of warp threads per yard is 150. The usual size of bed *daris* is $2\frac{1}{2}$ by $1\frac{1}{2}$ square yards. The floor carpets vary in length from 5 by 4 to 7 by 4 square yards. The size of the prayer mat is $1\frac{1}{4}$ by 1 square yard. Most of the *daris* are made for local consumption and a few are exported to the Punjab.

There are about fifteen or twenty carpet dealers, who purchase most of the *daris* woven in the district. Advances are commonly given to the weavers. There are no trade guilds. Workmen get no wages during the period of apprenticeship, which lasts about two years.

There are about twenty-five looms. Both men and women weave. The industry is said to have declined on account of the dearness of yarn and the outbreak of the plague. Machine-spun yarn imported

from Cawnpore is used in the warp and local yarn in the weft. Aniline dyes are largely used.

"The *dari* makers say the industry has been established here about eighty or a hundred years, and one of their ancestors learnt the trade at Lucknow. There are ten looms in the city. The number of looms is said to have greatly decreased in recent years (by half or more), and the reason is said to be a falling off of demand, probably due to the generally impoverished condition of the district." Banda.

"The unit of measurement is the ordinary *dari*, viz. six feet long and three feet broad, and the pay is 4 annas per unit. Two men can make one such *dari* in a day, starting before sunrise and working up to 2 p.m."

The ordinary *dari* is sold for 1 rupee 4 annas. The cost of manufacture is roughly as follows:—

	Rs.	a.	p.
White cotton, $\frac{3}{8}$ seer at 8 annas a seer ...	0	5	0
Spinning cotton at 2 annas a seer ...	0	1	3
Dyed cotton $\frac{5}{8}$ seer at 4 annas a seer ...	0	2	6
Spinning cotton at 2 annas a seer ...	0	1	3
Dyeing $\frac{5}{16}$ seer with indigo at 4 annas a seer ...	0	1	3
Dyeing $\frac{5}{16}$ seer with red at 1 anna 6 pie a seer ...	0	0	6
Weaving	0	4	0
Profit	0	4	3
Total ...	1	4	0

The weavers are Sheikhs and Pathans. The yarn is hand-spun cotton yarn both for warp and weft. There are about 420 warp threads to the yard. Red and indigo are the only colours used. For red, aniline dye is used on account of its cheapness. Indigo dyeing costs 4 annas a seer, and aniline red dye costs 1 anna 6 pies a seer. The best *dari* 7′ by 4′ costs Rs. 2-8-0. The ordinary *dari* 6′ by 3′ costs Re. 1-4-0.

There is no trade guild.

There is no regular carpet industry, but an interesting experiment in dealing with criminal tribes is being made in tahsil Maharajganj. A *Domra-khana* has been established since 1905 and *Doms* are taught *dari*-weaving. There are three looms and ten weavers. Gorakhpur.

Besides the above-mentioned districts, *daris* are manufactured in the following places:—

	Number of looms.	*Number of weavers.*
Farrukhabad	30	250
Benares	56	138

	Number of looms.	*Number of weavers.*
Budaun	38	76
Ghazipur	4	8
Fyzabad	6	12
Bijnor	20	40
Mainpuri	6	12
Tahsil Etah	12	About 24

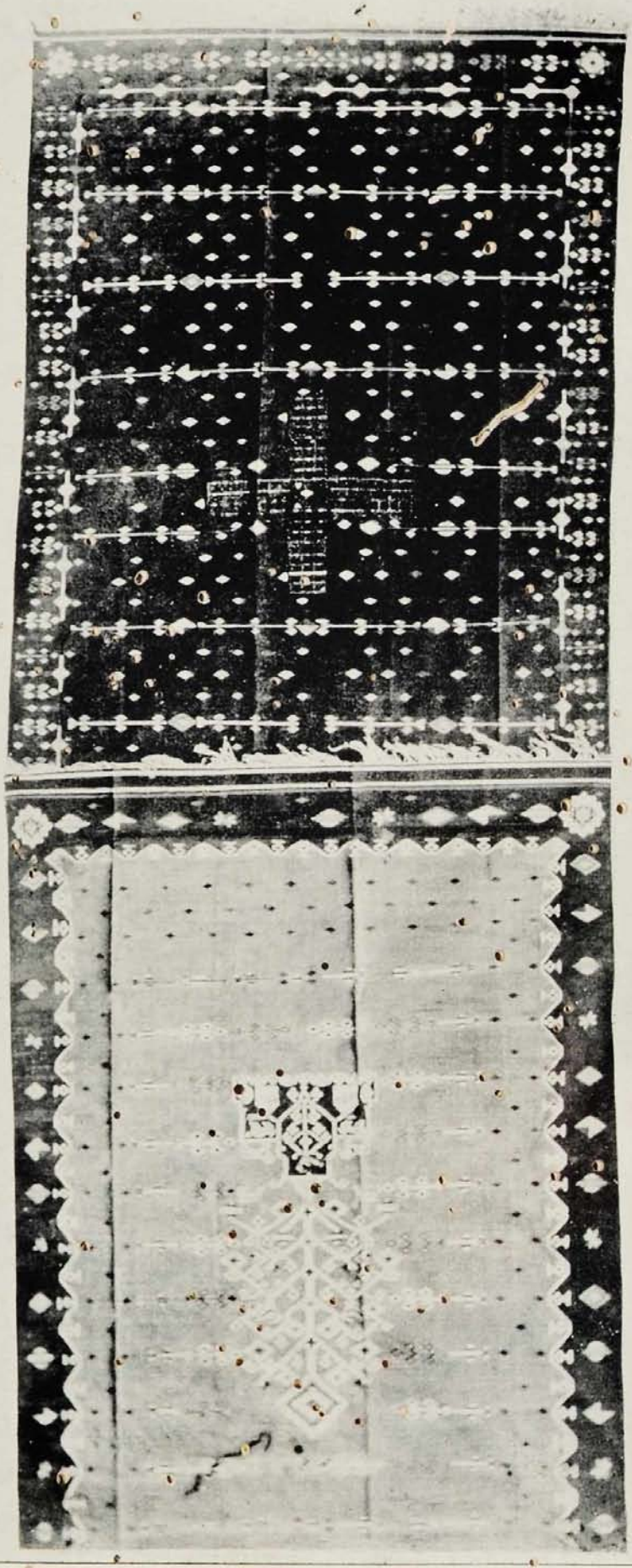
CHAPTER XIII.

Design.

It is not intended to treat here of the origin of design and its mystic and religious significance. Sir George Birdwood has already admirably described the development of the pine or "tree of life" and of the "knop and flower" patterns and the symbolical meaning attaching to the lion, the antelope, and unicorn, and other figures. It is sufficient to note that much of the "complicated symbolism" of oriental carpets has been forgotten, except in the case of prayer mats, by the present day weavers of these provinces. The forms, whether floral or animal, are used purely as ornaments without any ulterior meaning. The Muhammadan law prohibiting the use of animal representation, while it has had great influence on the history of design, seems no longer to be strictly observed in these parts. It is common to find the lion, the deer, the fish, the parrot, and even the cat figure in carpets, while in the Museum at Lucknow will be found a specimen of so-called "tapestry *dari*," woven in the Lucknow Central Jail. Fantastically dressed artillerymen and pieces of cannon are represented in this *dari*, and it will not be surprising if this innovation comes to be largely followed by the weavers. Hitherto they have drawn their inspiration from the various Indian flowers, trees, and creepers, besides the animal forms already mentioned. The treatment has been strictly conventional. The shape of the flower or creeper is merely suggested, without any attempt at light and shade.

In the opinion of many experts this is the supreme merit of oriental and Indian surface decoration. The flatness of the surface is not disturbed by representing objects in full relief. Added to this conventional treatment is the love of symmetry. If a lion is figured on one side, it must have its counterpart *(jawab)* on the other (see photograph, page 57).

Similarly the leaves and flowers of a plant are symmetrically arranged about the central stem.



Two cotton *daris* (Agra).

Of the flowers used in carpet designs, the rose and the *suraj mukhi* (sunflower) are the most common. Among plants, the cypress is a favourite.

For borders and edgings many creeper forms are used, the most common being the *pan ki bel* (creeper formed of the betel leaf), *anguria bel* (the vine creeper), *gulab ki bel* (creeper formed of the rose leaf).

The designs in pile-carpets are generally floral. However, the *jal* pattern seems to be a compromise between the geometric and the floral styles. A floral pattern is enclosed within a geometrical one. This pattern is to be met with frequently in the pile-carpets made outside of Mirzapur, and it is possible that the stone *jali* work of Agra and Fatehpur-Sikri has popularized this form of decoration. Besides animal and floral forms, articles of common use are frequently copied into the fabric; for example, suchpatterns as *dabbedar*, *charkhedar*, &c., take their names from the *dabba* or small box, and the *charkha* or spinning wheel.

According to Mr. Vincent Robinson, "the dried seed-vessels of plants afford an endless variety of suggestive forms and outlines, such for example, as the poppy-head in profile or in section."

The pattern of the ordinary cotton carpet is formed of stripes, but also squares and diamond shapes, indiscriminately called *phul* (flower) by the weavers, are also introduced. Besides these the cypress, the fish, the hook, and the *jhar* or candelabrum shaped tree, with outspread leaves and branches, are frequently used for ornamentation.

In prayer mats or *jainamaz* the symbolism of design is fully understood. The *mehrab* or niche of a mosque is represented, always pointing towards one end, namely towards Mecca.

The Indian designs are, as a rule, bolder than the Persian and are suited to the thick, coarse wool of the Indian plains. The mistake is often made of imitating the delicate and minute patterns of Persia, regardless of the fact that Indian wool is often unsuitable for such designs.

It may be observed that there are no regular designers, whose business it is to invent new designs. In places unaffected by Western influence, the workman is still content to copy the same designs which his fathers copied and preserved.

However, slight variations are introduced by successive weavers, and the process of change depends on the method of weaving. When the designs are worked from memory, the slow, leisurely pace of the weaver gives him many opportunities of introducing slight

modifications. But in many places where the old designs have entirely disappeared and are now scarcely remembered, the complexity of the new patterns supplied from Europe makes it difficult to work in the old way. The design is therefore carefully mapped out on ruled paper, and then read out to the weavers. In this manner the individuality of the weaver is suppressed by a rigid mechanism. Manual dexterity is cultivated, there is a saving of time, but the peculiar genius of the oriental craftsman of elaborating details is wasted, and he is reduced to the position of a skilful copyist. The artist-weaver, working from hereditary designs, is gradually losing his place under the altered conditions of modern commerce, when new patterns are being constantly introduced, and when the making of a carpet in the shortest possible time is of such supreme importance.

CHAPTER XIV.

Traditions and customs.

The information received from the various districts as regards the traditions and customs connected with the carpet industry does not throw much light on the history or origin of the subject of this monograph. However, it is abundantly clear that the native craftsman regards his work as something more than merely mechanical. He looks upon it with a certain mystic reverence, which is not merely the ready superstition of the ignorant mind, but which is probably due to the early association of the craft with religion.

Luqman Hakim is said to have invented the art of carpet-weaving. It is difficult to say exactly who he was. One account says that he was a Nubian slave. In any case he was not a native of India. He is regarded by the weavers in most districts as their patron saint. When an apprentice is made, *niaz* is said on the sweetmeats in the name of God and of Luqman and then the sweetmeats are distributed to the other weavers. (Amroha.)

"Luqman is, as it were, the patron saint of weavers, and they celebrate one day in the year, namely, the third (last) Wednesday in the month following the Muharram, in his honour. They make offering of sweetened rice, and employers give a dinner to their employés. Also whenever an apprentice is advanced to the status of a fully paid workman, he must perform the ceremony of offering some sweetmeats to Luqman's soul."

"In every year the last Wednesday of Saffar of the Muhammadan calendar is set aside as a holiday, and they (the weavers) have a feast among themselves, the idea being that the industry of weaving began on that day of the year. On that day apprentices are taken on and go through the ceremony of initiation." Meerut.

"A '*chela*' (apprentice) coming to learn the work brings with him sweetmeats, which are first consecrated by the name of 'Luqman *ustad*' being uttered over it, and then distributed among those present." Benares.

"Work is closed on every Friday, when sweetmeats are sent for and the weaver prays that Hakim Luqman may reap the benefit of this." Bijnor,

"In this district there seems to be a slight departure from the usual custom of distributing sweetmeats when an apprentice is taken on. According to the district report, a little thread is given to the *chela* together with some sweetmeats, and the apprentice 'at once swallows down both of them on the spot.' The rest of the sweetmeats are distributed among the weavers." Muttra.

It is also usual to distribute sweetmeats at the close of the period of apprenticeship. In some districts the *ustad* or master is also given clothes and a turban. However, in other districts there seem to be no ceremonies at all either of initiation or when an apprentice finishes his course of training.

The custom of taking off shoes and of either kissing the instruments of weaving or of saying "Bismillah" [(I begin) with the name of God] before beginning work is reported from several districts. In some districts, for example, in Muttra, Aligarh, even incense is burnt before the implements before commencing work, while in a few districts the weavers touch their right ear in recollection of their *ustad*, and then commence work.

No work is done during the Muhammadan religious festivals, such as the Id, Baqr Id, Muharram, and the Akhri Chahar Shamba (the last Wednesday in the month following Muharram). It is often the practice of the owners of looms to entertain their workmen during these festivals, or to give them small money presents *(tihwari)*.

Thursday is regarded as an unlucky day in many districts for starting new carpets. In Mirzapur no work is done on Thursday nights, and, if a weaver is forced to work at night, he must make an offering of sweetmeats to the soul of Luqman.

In Etawah, Bareilly, and in Aurangabad, district Bulandshahr, the patron saint of the weavers is said to be "Bare Pir Sahib." No details

are given, and it is not possible to give any further information than merely indicate the name of the saint.

The ceremonies connected with the admission of apprentices are interesting inasmuch as they show the almost spiritual relationship that is supposed to exist between the teacher *(ustad)* and the pupil *(shagird)*. The teacher is there not only to impart technical knowledge, but he makes the pupil an associate in his craft, a matter of sufficient importance to demand much ceremony. The pupil is no longer an independent unit, but is admitted to the brotherhood of fellow-artisans, and the fact is publicly announced by the distribution of gifts or by a public feast.

Reverence for the master, and reverence for the art which has been handed down by the master, are some of the most pleasing traits of the artisan of the old school. This will be sadly missed in modern technical institutes.

CHAPTER XV.

Conclusion.

It has been shown in previous chapters that woollen-pile carpets are manufactured mainly for export. About 2 per cent. of the carpets made in these provinces are sold in India, while the rest find their way to Europe.

The loom and the implements are the same as they were hundreds of years ago, but the West has exercised its powerful influence over the design, shape, and colouring of carpets. The change in the organization of industry has been no less marked. Custom has given way to competition, tradition has been undermined by the fickleness and uncertainty of modern taste. The old order of things is gradually disappearing.

Of the two chief problems in carpet-making, one is industrial and the other pertains to Art.

Looking at the industrial aspect of carpet manufacture, the most alarming feature is the rapid rise in the price of raw material.

Sheep-breeding is steadily decreasing with the spread of agriculture and the consequent diminution in the area available for pasturage. The demand of the mills for wool is increasing, while a certain amount is exported to Europe. If the rise in prices is maintained, the weavers will find it more and more difficult to continue in the trade, as their profits are already very small. More attention must be paid to the

preservation of grazing grounds, and efforts should be made to increase the provincial supply of wool. An Agricultural Research Institute has been established at Pusa, and improvement in this direction may be looked for in the future.

The second important point that arrests attention is the want of capital among the weavers. What is required is some system by which money can be borrowed at easy rates. Agricultural banks have been recently started to help the peasantry. The need for an organization which embraces the artisan class is equally pressing. The system of advances, though long-established, and helped by the Labourers' Act of 1859, is against the interest of the weavers. It may be possible to replace it by extending the scope of the agricultural banks, so as to include artisans in towns.

Some State control should also be exercised on the management of carpet factories. There is a danger of the hours of labour being excessive in the case of small boys. State interference has become all the more necessary since the decline of the *panchayats*. Sooner or later some form of trade union will replace the guilds, as it has done in Europe. The present position of the weavers is one of passive despair. Their general poverty, and the inadequate rewards they obtain for their patience and skill, are some of the necessary evils of a transitional stage in the industry. The outlook is not very bright, but it seems certain that a more equitable distribution of profits will be demanded as soon as the workmen have learnt the value and force of combined action.

Closely allied to the industrial problem is the question of Trade *versus* Art. The serious decline in the artistic qualities of Indian carpets is now generally recognized. How far Government can restore the old standard of excellence is a point on which opinions must differ. The State has been intimately associated with Art and Letters in Moghal times. Even recently Persia, Afghanistan, and the Kashmir Darbar have recognized the responsibility of the State in regard to art manufactures by prohibiting the use of aniline dyes in carpets. An absolute prohibition of this kind by Government is likely to cause temporary hardship to the poorer class of weavers, and may at first check production. Ultimately it will be of immense service to the carpet industry. However, the remedy may appear too drastic, and other means can be suggested to preserve the older traditions of carpet-making. There is a fair demand for carpets in State buildings. The Government may with advantage employ some good weavers from Mirzapur and some from

Agra, who should be paid monthly salaries. This would be reviving the State *karkhanas* of the Moghals. The expense would not be too great, but it may be objected that if a State factory is established for carpets, why should not similar factories be started for the other industrial arts of India? Why should a distinction be made in the case of carpet manufacture? The answer to this is that in many of the other handicrafts there is a certain Indian demand, and the influence of the West is not so aggressive. On the other hand, carpets are made for export. Private enterprise, if left to itself, will look more to increased production and to the cheapening of cost than to artistic finish. The Government through its State *karkhanas* may help to save this manufacture from the levelling influence of modern commercialism. This policy has been eminently successful in the past. To it we owe the best examples of Indian carpets. The State factories have not only been excellent schools of art for the workmen, but they have made it possible for the Indian craftsman to display his hereditary sense of colour and his unrivalled skill in surface decoration. The revival of the institutions, while not financially burdensome to the State, would remove the sense of neglect under which the weavers labour, and would establish that personal relation between them and the Government which had existed throughout the Muhammadan period. Skilled workmen are not wanting. Under State patronage there is every reason to hope that merit will be recognized and an incentive given to the weavers to produce something worthy of the name of oriental carpets. The alternate policy of leaving the regeneration of the handicraft to the wealthy and aristocrat is under present circumstances of very doubtful promise. Injudicious aping of foreign manners is a characteristic of this class. They cannot safely be entrusted with the guardianship of the Industrial Arts of India.

The State must interfere and give the lead, and the crowd of imitators will follow. We may then hope that higher Indian society will once more learn to appreciate the charm and simplicity of oriental art.

The time may come when, in addition to the Directors of Commerce and Agriculture, there will be a Director of the Fine Arts, who will jealously guard the handicrafts of India, and preserve them from the ruin with which they are at present threatened.

APPENDIX I.

Statement showing imports and exports of woollen carpets and rugs in the United Provinces from the year 1898-9 *to* 1904-5.

Ports and places.	Years.*	*Imports into the United Provinces.*						
		To Meerut block.	To Agra block.	To Allahabad block.	To Benares block (includes Gorakhpur division).	To Rohilkhand block (includes Kumaun division).	To Oudh block.	Total.
		Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Calcutta ...	1898-9 ...	...	4	...	24	67	67	162
	1899-1900 ...	...	6	...	9	4	9	28
	1900-1 ...	...	65	...	69	2	4	140
	1901-2 ...	20	...	21	19	5	9	74
	1902-3 ...	4	16	...	5	8	...	33
	1903-4 ...	32	...	425	...	...	...	457
	1904-5 ...	2	4	8	12	94	...	120
Bombay ...	1898-9 ...	39	6	4	14	...	...	63
	1899-1900 ...	7	2	...	12	15	...	36
	1900-1 ...	6	1	...	8	10	1	26
	1901-2 ...	10	1	4	3	...	...	18
	1902-3 ...	3	6	9	5	14	...	37
	1903-4 ...	44	2	21	3	...	...	70
	1904-5 ...	4	1	2	8	...	...	75
Karachi ...	1898-9 ...	...	...	...	...	...	...	...
	1899-1900 ...	...	...	...	...	...	...	...
	1900-1 ...	...	...	...	...	...	...	...
	1901-2 ...	6	...	...	2	...	...	8
	1902-3 ...	...	...	...	...	...	...	...
	1903-4 ...	...	...	...	...	...	...	...
	1904-5 ...	...	...	...	...	...	...	...
Madras ...	1898-9 ...	...	...	...	...	...	...	...
	1899-1900 ...	...	...	...	...	...	...	...
	1900-1 ...	...	...	...	...	...	...	...
	1901-2 ...	...	...	...	...	...	...	...
	1902-3 ...	...	...	...	...	...	...	...
	1903-4 ...	...	...	...	...	...	...	...
	1904-5 ...	...	...	...	...	...	...	...
Other places ...	1898-9 ...	63	514	43	411	...	2	†1,035
	1899-1900 ...	116	802	67	583	...	...	1,568
	1900-1 ...	114	622	62	447	5	3	1,253
	1901-2 ...	23	211	3	1,594	3	1,449	3,283
	1902-3 ...	7	95	166	320	...	2,567	3,165
	1903-4 ...	6	29	8	93	...	388	521
	1904-5 ...	75	7	437	138	6	9	†673
Total ...	1898-9 ...	102	524	47	449	67	69	†1,260
	1899-1900 ...	123	810	67	604	19	9	1,632
	1900-1 ...	120	688	62	524	17	8	1,499
	1901-2 ...	59	212	28	1,618	8	1,458	3,383
	1902-3 ...	24	117	175	330	22	2,567	3,235
	1903-4 ...	82	31	451	96	...	388	1,048
	1904-5 ...	81	12	447	158	100	9	†808

* Ending 31st March.

Assam figures.

† In 1898-9 ... Mds. 2 } The totals include the Assam figures, of which the details by
„ 1904-5 ... 1 } blocks are not available.

APPENDIX I.

Statement showing imports and exports of woollen carpets and rugs in the United Provinces from the year 1898-9 to 1904-5—(concluded).

Ports and places.	Years.*	Exports from the United Provinces.						
		From Meerut block.	From Agra block.	From Allahabad block.	From Benares block (includes Gorakhpur division).	From Rohilkhand block (includes Kumaun division).	From Oudh block.	Total.
		Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Calcutta ...	1898-9 ...	3	36	23	6,486	15	24	6,587
	1899-1900 ...	...	27	14	8,716	...	39	8,796
	1900-1 ...	...	29	82	8,676	...	27	8,814
	1901-2 ...	...	20	41	8,046	...	...	8,107
	1902-3 ...	...	31	140	11,521	...	9	11,701
	1903-4 ...	...	76	17	12,312	...	...	12,405
	1904-5 ...	10	44	22	8,439	...	...	8,515
Bombay ...	1898-9 ...	13	9	...	...	10	...	32
	1899-1900 ...	21	54	...	149	...	2	226
	1900-1 ...	7	69	6	1,043	2	2	1,129
	1901-2 ...	6	157	2	853	3	2	1,023
	1902-3 ...	5	114	23	635	...	...	777
	1903-4 ...	1	75	5	938	3	1	1,023
	1904-5 ...	1	108	3	755	1	14	882
Karachi ...	1898-9 ...	...	...	...	...	...	...	...
	1899-1900 ...	...	1	...	...	...	...	1
	1900-1 ...	...	...	...	4	...	...	4
	1901-2 ...	...	...	2	11	...	...	13
	1902-3 ...	...	...	...	13	...	...	13
	1903-4 ...	7	...	...	3	...	...	10
	1904-5 ...	1	2	...	7	...	...	10
Madras ...	1898-9 ...	...	...	...	143	6	...	149
	1899-1900 ...	2	...	...	1	2	2	7
	1900-1 ...	...	...	...	...	...	...	...
	1901-2 ...	...	...	...	...	...	...	...
	1902-3 ...	...	...	...	...	8	...	8
	1903-4 ...	...	...	...	...	...	...	...
	1904-5 ...	...	...	...	2	...	...	2
Other places ...	1898-9 ...	68	156	477	266	9	32	†1,085
	1899-1900 ...	650	256	1,390	251	10	42	†2,528
	1900-1 ...	605	118	102	142	13	7	987
	1901-2 ...	286	33	55	204	17	49	644
	1902-3 ...	16	105	95	205	10	10	445
	1903-4 ...	28	231	17	198	14	11	†510
	1904-5 ...	40	188	281	337	40	53	†960
Total ...	1898-9 ...	74	201	500	6,895	40	56	†7,853
	1899-1900 ...	683	338	1,404	9,117	12	85	†11,658
	1900-1 ...	612	216	190	9,865	15	36	10,934
	1901-2 ...	292	210	100	9,114	20	51	9,787
	1902-3 ...	21	250	258	12,378	18	19	12,944
	1903-4 ...	36	382	39	13,451	17	13	†13,948
	1904-5 ...	52	342	306	9,540	41	67	†10,369

*Ending 31st March.

Assam figures.

†In 1898-9 ... ... Mds. 77
,, 1899-1900 20
,, 1903-4 11
,, 1904-5 21

The totals include the Assam figures, of which the details by blocks are not available.

APPENDIX II.

List of carpet looms in different Mauzahs.

Number of villages.	Number of looms.	Number of weavers.	Caste of labourers.			
			Hindus.		Muhammadans.	
			1. Brahman	... 41	1. Kunjra	... 76
			2. Mali	... 18	2. Julaha	... 809
			3. Ahir	... 255	3. Behna	... 28
			4. Halwai	... 55	4. Dhunia	... 186
			5. Teli	... 107	5. Kalinbaf	... 365
			6. Kohar	... 26	6. Rangrez	... 6
			7. Kahar	... 33	7. Darzi	... 5
			8. Hajjam	... 9	8. Dafali	... 21
			9. Gondh	... 33	9. Churihar	... 16
			10. Kewat	... 265	10. Kengraha	... 20
			11. Gararia	... 4	11. Fakir	... 103
72	1,051	2,783	12. Bhunj	... 9	12. Mehtar	... 6
			13. Koeri	... 122	13. Asashbaz	... 2
			14. Kalwar	... 53	14. Pathan	... 15
			15. Agrahri	... 8	15. Hajjam	... 21
			16. Bandewar	... 14	16. Miraz	... 1
			17. Chhatri	... 11	17. Samir	... 2
			18. Lohar	... 14	18. Sheikh	... 7
			19. Barai	... 14		
			20. Thatera	... 4		
			21. Nonia	... 3		
			22. Kunbi	... 6		
			23. Gosain	... 22		
			Total	... 1,126	Total	... 1,656

APPENDIX II(a).

List of carpet manufacturers in Mirzapur city.

Number of looms.	Number of workmen.
124	392

APPENDIX III.

List showing the derivation of words commonly used in carpet-making.

To what Language it belongs.	Word.	زبان	الفاظ
Turkish	Qualin ...	ترکي	قالين
Do.	Qualicha ...	ترکي	قالیچه
Hindi	Dari ...	هندي	دري
Do.	Shatranji ...	بجاے نسبت معرب شترنگ	شطرنجي
Turkish	Jajam ...	ترکي	جاجم
Persian	Pasband ...	فارسي	پس بند
Do.	Kamana ...	فارسي	کمانه
Do.	Panja ...	فارسي	پنجه
Hindi	Kubli ...	هندي	کبلي
Persian	Charkha ...	فارسي	چرخه
Turkish	Quenchi ...	ترکي	قینچي
Hindi	Chhura ...	هندي	چھورا
Persian	Situn ...	فارسي	ستون
Do.	Surkh ...	فارسي	سرخ
Do.	Saped ...	فارسي	سپید
Do.	Zard ...	فارسي	زرد
Do.	Seah ...	فارسي	سیاه
Do.	Nila ...	فارسي	نیلا
Hindi	Tapka ...	هندي	ٹپکا
Do.	Phanda ...	هندي	پھندا
Persian	Kargah ...	فارسي	کرگه - مخفف کارگاه
Turko-Persian	Kalinbaf ...	مرکب - ترکي فارسي	قالین باف
Hindi	Gard charhana,	هندي	گرد چرھانه
Do.	Murri ...	هندي	مُرّي
Do.	Tana bana ...	هندي	تانه - بانه
Do.	Bodh ...	هندي	بودھه
Persian	Kenar pech,	فارسي	کنار پیچ