16. In India 12 and 14 respectively correspond to these ages in Europe." One simply gasps at such a statement. Can it be true that Lord Landsdowne has no knowledge of physiology? Does he not know that all animals of the same species require the same number of years and months to fully develop their osseous system and reach maturity in the equatorial as in the arctic regions? It is astonishing that a usually astute statesman like Lord Cross can sit like a callow bird in the India Office and have such trash crammed down his gorge and seemingly digest it with satisfaction. Lord Landsdowne might have said with equal veracity that a two-year-old child in Europe was the exact equivalent to a new-born babe in India. Lads over 14 are classed in the new Act as men, and, even in the largest factories, may work all round the clock, with one single rest of half an hour to take their meals in, and that rest is sanctioned only by factories not worked on the shift system. In factories worked on the shift system operatives of both sexes over the age of 14 may be worked in night and day sets.

All interested in the welfare of the working classes, all who have studied the subject of legislation for their benefit, cannot fail to know that night-work has been condemned for women and youths of both sexes under the age of 18 by the Berlin Labour Conference and prohibited by the general consent of the represented Powers to these classes. They must be aware that even Russia, which was not represented at the Conference by the law of 1885 has abolished night-work for women in textile and other factories. It is universally acknowledged that night-work for females in factories leads to the grossest immorality, and that no respectable person would willingly allow women, girls, and lads to be out late at night, particularly in the unlighted streets of the suburbs of towns, where dangerous characters abound and but meagre protection is afforded by the police. All factory inspectors and the many eminent physicians and surgeons examined before factory commissions and select committees in this country have urged that night-work is highly injurious to the health of all classes, and particularly to that of young persons of both sexes under the age of 18 and to women. It has been pointed out that daylight is as necessary to the health and growth of human beings as it is for plants, and that even beasts of prey only prowl about through the early and late hours of the night and sleep through the major part of it. Confronted with such evidence, it does appear surprising that the Viceroy of India, in his telegram to Lord Cross, dated March 7, 1891, could assert that "I see no reason to debar women from it. In hot weather it is less fatiguing, and natives are accustomed to sleep at any hour." Let us examine the two reasons thus set forth by the Viceroy for allowing women, who in this case include girls from 14 upwards, to work at night. In the discussion on the Bill in the Viceroy's Council the first reason was expounded by the Hon. Mr. Bliss as follows:—"The European idea of night is that it is a dark and cool and dreary time, when every one had much better go to bed. The Indian idea is that it is a cool and pleasant time, when all work which does not require a better light than can be easily and cheaply afforded can best be done." This statement, so far as India is concerned, is so palpably absurd that it hardly needs refutation. If it were true, Europeans and natives in India would, wherever possible, choose night instead of day for their period of labour, which certainly is not the case. Night work injures the eyesight, and has a most evil effect on the nervous system. Take the opinion of Mr. Robert Baker, one of her Majesty's senior Inspectors of Factories, given before the last Factory and Workshops Act Commission in this country. In reply to the remark of the Chairman, "I understood you to say the other day that your opinion as to the injurious effects of late working in the evening was so strong that at whatever hour they began you would not allow them to work after 7," he said "I did say so." This was in reference to his statement that "All night work for anybody is very injurious." This may be taken as a fair sample of the views held by each of her Majesty's Inspectors of Factories, and by every medical man who has been consulted on the subject. The evidence against all working at night is simply stupendous, and must be allowed to be conclusive.

Before Mr. Bliss made his statement that night in an Indian factory is "a cool and pleasant time" it would have been well for him to have visited an Indian cotton mill. In reporting on Indian factories in 1882, Mr. Meade-King, one of her Majesty's Inspectors of Factories, who was lent to the Government of Bombay to inspect for six months and report upon the working of the factories in that Presidency, stated: "The temperature is frequently higher than that required by any manufacturing process I have frequently observed it at 95 deg. In the spinning rooms I know a certain temperature must be maintained, and a strong current of air is apt to break the threads. . . . Roof ventilation and apertures between the windows and roof are very serviceable in dry weather, but have to be closed during the rainy season." Mr. Jones, her Majesty's Inspector of Factories, whose services were lent to the Government of Bombay for five years in 1883, remarked in his evidence before the Bombay Factory Commission of 1884, that "the temperature necessary for good spinning is, I should say, 75 deg. to 80° in England and 90° in Bombay for 20's; 82° to 85° is necessary in England for finer counts." As some of the Indian mills now spin as fine counts as 50's and 60's, the temperature required for these counts, whether by night or day, would be about 95°, the temperature which was observed by Mr. Meade-King. Turning to Mr. Jones's account of the details of Indian cotton manufacture, contained in the annual report of her Majesty's Chief Inspector of Factories and Workshops for 1887, I find that the cotton mills, whether working at night or not, have, as in this country, to be kept artificially heated. He says:—"Unless the premises be properly fitted with heating apparatus, a single night's rain will cause every atom of steel and polished iron to be coated with rust." Night in an Indian cotton mill heated by steam to a temperature of 95° can hardly be called "a cool and pleasant time."

In the same report Mr. Jones remarks:—

"With regard to the mill hands, there is no doubt in my mind that their hours of work are too protracted (a period of nearly 14 hours in the summer months), their meal hours too short, and their holidays too few. . . The average native will work any number of hours for a trifling increase of pay, and the conditions under which he is employed do not seem to be the matter of consideration to him, even though they may materially affect his health. . . . The native operative seems, whether from overwork or from natural aptitude, to be able to fall to sleep at a moment's notice. I have seen hands fall fast asleep on the mill floor directly they have thrown the strap off their machines and before some of their fellow-hands have been able to get out of the mill doors."

It is no wonder that operatives employed for such excessive hours are, as Lord Lansdowne asserts in his telegram, "accustomed to sleep at any hour." Such a feeble excuse for allowing not only overworked men and lads, but girls and women to work the night through in Indian mills should be scouted as execrable by every humane person in this and every other civilized country. Regarding the effects of factory labour on children, who then included all persons under the age of 18 years, the Factory Commissioners of 1883 reported that "the effects of factory labour on children are immediate and remote. The immediate effects are fatigue, sleepiness and pain. The remote effects are deterioration of physical constitution, deformity, disease, and deficient mental instruction and moral culture." As long as overwork in Indian factories is allowed to continue unchecked by legislation, so long will the operatives who remain unprotected and subject to the mill sweating system be open to the charges of sleepiness and listlessness in carrying on their work, and to the remote effects of overwork described by the Commissioners of 1833.

We will now consider what "all round the clock" work means for operatives in Indian factories. No one with the faintest knowledge of the first principles of sanitation can fail to be aware of the evils arising from breathing the deadly atmosphere of crowded rooms or theatres, however well ventilated, after being occupied for only a few hours, because the air has been breathed over and over again, and devitalized to such an extent as to be utterly unfit for respiratory purposes. Day work in the crowded mills, where fluff and cotton dust floating in the air add to its impurity, is acknowledged to be the source of three-fifths of the cases of consumption, chest diseases, and other disorders that make up the extra mortality of our manufacturing districts. What must be the condition of the disease-laden atmosphere in an Indian factory, working day and night shifts, where "the germs of the diseases generally contracted by the mill hands, such as fever, cough, dysentery, and consumption," prevail, and where much dustier cotton and twice and thrice as many operatives are employed than in an English Mill? Many of the hands in Goojerat, according to Mr. Jones, "are so exceedingly dirty in their habits that I have been obliged to ask the proprietors to order them out of the mill in batches, not allowing them to return until they were more decent and presentable. Washing seems to be actually a once-a-year business, and their hair is so matted that combing is out of question. These people belong to a gipsy tribe called Wagris, and are largely employed in reeling in the town of Ahmedabad, Broach, Surat, and Neriad. Skin diseases and ophthalmia are very prevalent amongst this class. I have seen as many as 30 sufferers at work in one room. Scores of cotton ginning and pressing factories are scattered over the cotton-growing districts, but do not come under inspection as 100 hands are not employed for more than three months in the year, the extremely busy season lasting only about seven weeks. Many of these places are a scandal as regards want of ventilation, awful dust, unprotected prime movers, and the protracted hours of work."

He then quotes from the evidence given before the Bombay Factory Commission of 1884 statements proving that "five sevenths of these small ginning factories are in a dangerous condition," that "the same set of hands work both night and day, with half an hour's rest in the evening. The same set continue working day and night for about eight days. . . . The hands who work these long hours frequently die." It can hardly be credited that the Indian Government, a Government that boasts itself civilized, has purposely excluded women and children, as well as young persons of both sexes and men, working in these horrible dens from all protection by providing that the India Factory Act, lately sanctioned by Lord Cross, shall not apply to any factory working "less than four months in the whole in any one year." On March 3, at the annual meeting of the Associated Chambers of Commerce, a resolution was unanimously passed declaring that "the same protection that has been granted by the Factory and Workshops Act in this kingdom should be accorded to the working classes of India." The same protection has not been accorded, children under the new Act are allowed to work 42 hours a week in the large factories and 168 hours a week in the minor factories and workshops. Lads from 14 to 18 years of age are permitted to work 141 hours a week in the large factories, and 168 in the minor factories and workshops. Girls from 14 years of age upwards are classed as women and are permitted to work by night and day for 66 hours a week in the large factories and 168 hours a week in the minor factories and workshops. Such legislation is a slur upon the English name and a disgrace to this nation. It is to be hoped that the electorate will take this burning question up and determine that due protection from overwork shall be granted to the working classes in India, who, having no votes, can bring no pressure to bear on the Government, and are left powerless, to be mercilessly sweated by the moneyed classes in that country.

I am, Sir, your obedient servant,

1, Chilworth-street, W. HOLT S. HALLETT.

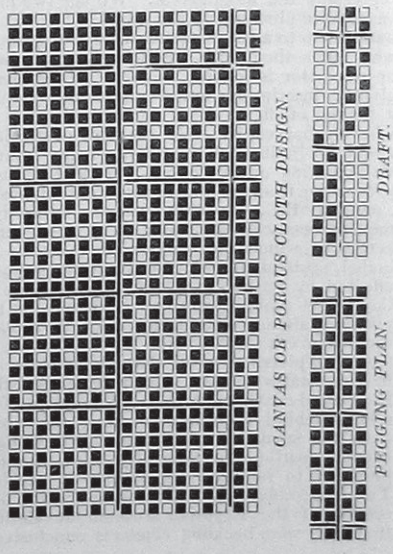
Designing.

NEW DESIGNS.

CANVAS OR POROUS CLOTH.

This fabric is becoming very fashionable; morning, afternoon and evening dresses are made from it, and it is likely to be worn all through the season. Embroidery worked either in wool or silk in gay colours is upon a great many costumes, while for evening ones the taste is for white and very light tones; also a beautiful new hue, partaking of both moss and olive tints, and known as the "Princess Green." It is a reproduction, with more of the moss shade in it than the one in vogue, patronised (in Irish poplin) by the Princess of Wales some time ago.

The design, draft, and pegging plan will make a canvas cloth, which may be used for many purposes—for tennis jackets, shirtings,



night suits, etc.—and can be produced in various materials; 18 end draft, 18 to the round, 36 reed, four in a dent, two in a heald, of 20's twist for warp; 40 picks per inch of 25's white linen weft; all bleached warp and weft. If woven in the grey, then bleached after leaving the loom, and beetle-finished; if dyed, all the lighter tints must be produced, such as light straw, light pink, light greens, blues, fawns, and drabs. It will be found a good foundation cloth for fancy embroidery.

DRESS LININGS.

Coarse canvas cloths for costumes will be lined with fancy twill and satin stripes. The best cotton must be used for the production of this class of goods, beetle finished, or dyed in fashionable colours. If woven all grey for autumn wear the fabric can be also used for ladies' vestings. The sudden changes of temperature have caused a demand for these textures, and we therefore give a few likely patterns that may be found suitable: 80 ends per inch of 30's cotton for warp, 60 picks per inch of 24's cotton weft, 5-shaft satin, 5 to the round, 1, 4, 5, 2, 3. Purity of colour is of the utmost importance, the linings being often more costly than the dress material; but in any case for vestings it is highly necessary that the shades and tints should be bright and clear, as they are the chief effect.

No. 1 *Pattern*: 36 cream, 4 bright red, 12 dark maroon, 8 light claret, 8 light giraffe, 8 dark sage; weft all cream, or may be woven in the grey, bleached or dyed.

No. 2: 60 dark cream, 5 dark buff, 5 mid green, 5 buff, 5 dark rose, 5 dark buff. 5 mid green, 5 dark buff, 5 dark rose, 5 dark buff, 5 mid green, 5 dark buff, 5 dark rose, 5 dark buff, 5 mid green, 5 dark buff; weft all dark cream.

No. 3: 40 dark cream, 5 yellow, 5 light red, 20 dark cream, 5 yellow, 5 purple, 20 dark cream, 5 yellow, 5 light red; weft all dark cream.

No. 4: 15 white, 5 light aventurine, 15 white, 5 light blue-green; weft all white.

No. 5: 30 white, 10 royal blue, 5 white, 5 gold; weft all white.

No. 6: 20 dark grenat, 3 white, 20 dark grenat, 10 gold, 3 crimson, 3 white, 3 crimson, 10 gold; weft all dark grenat.

No. 6: 15 black, 5 mid grass green organzine silk 36's, 15 tabac, 5 gold silk organzine, 36's; weft all tabac.

No. 7: A 5-shaft twill, 1, 2, 3, 4, 5 treads, four up, one down, all self or solid colours; warp and weft, as light pinks, greens, blues, buffs, fawns, drabs, creams, and lavenders.

No. 8: A 7-shaft satin, 1, 6, 4, 2, 7, 5, 3 treads; piece-dyed in faint straw, dark fawn drab, clear slate, greens, and light cinnamon browns.

WOOLLENS AND WORSTEDS.

Of the many types of design which have of late claimed the attention of those engaged in the trade, the most important have undoubtedly been what are usually termed "colour and weave effects." That these effects should be the prevailing style in woollens is not surprising, but with worsteds the case is different. That the many beautiful weave effects, with which the designer is already conversant, should be almost totally neglected for simple colour effects can only be attributed to the great advance made in the production of mixture, twist, etc., yarns. That this is so there is ample proof—the designer has lately been exercising his powers in the production of small weave effects simply to shew to the full advantage in the cloth the various beautiful mixture yarns now produced. Numerous patterns are made solely of the two-and-two or three-and-three twill, ornamented only with colour: thus the truth of the above statements is fully demonstrated. Now, though the patterns discussed are in most cases exceedingly beautiful, it would be folly to deny that much more charming effects may be obtained with a suitable selection of weaves to go along with the colours, and we are inclined to think that the development of such a system of design is retarded only by the difficulties which necessarily accompany the production of a more delicate type of pattern. The engineer knows that as a rule greater efficiency is obtainable only by greater complexity, and the designer realises that the same principle applies to his art; thus it is probable that in the future it will not only be desirable but necessary to systematise the abtruse art of textile design much more fully than is at present deemed necessary, in order to clear the way for the study of the greater intricacies involved in the higher types of effects. We would urge designers therefore to systematise as far as possible their observations on "colour" and "cloth structure" made under the favourable conditions that practice presents, for by so doing they will undoubtedly lay the foundations for future success.

In *Design* 44 is given a simple weave modification producible on twenty shafts suitable for delicate colouring, since by drafting the effect can be extended or if necessary contracted to suit the intensity of the colour combination to be employed. As given here it is suited only for fairly solid colouring, the following being a suitable example:

Warp.

16 threads 2/40's black worsted,
14 ,, ,, dark brown,
4 threads 2/40's black,
12 ,, ,, dark brown,
4 ,, ,, black,
14 ,, ,, dark brown.

15's reed 4's.

Weft.

Same as warp: 60 picks per inch.

Sage black, dark blue, or dark olive will also prove effective, but care should be taken not to render *too* indistinct the weave effect.

As a woollen, a good effect may also be obtained, since the effect is of fairly regular construction. Fine Saxony yarns will prove most suitable, the following being an example.

Warp.

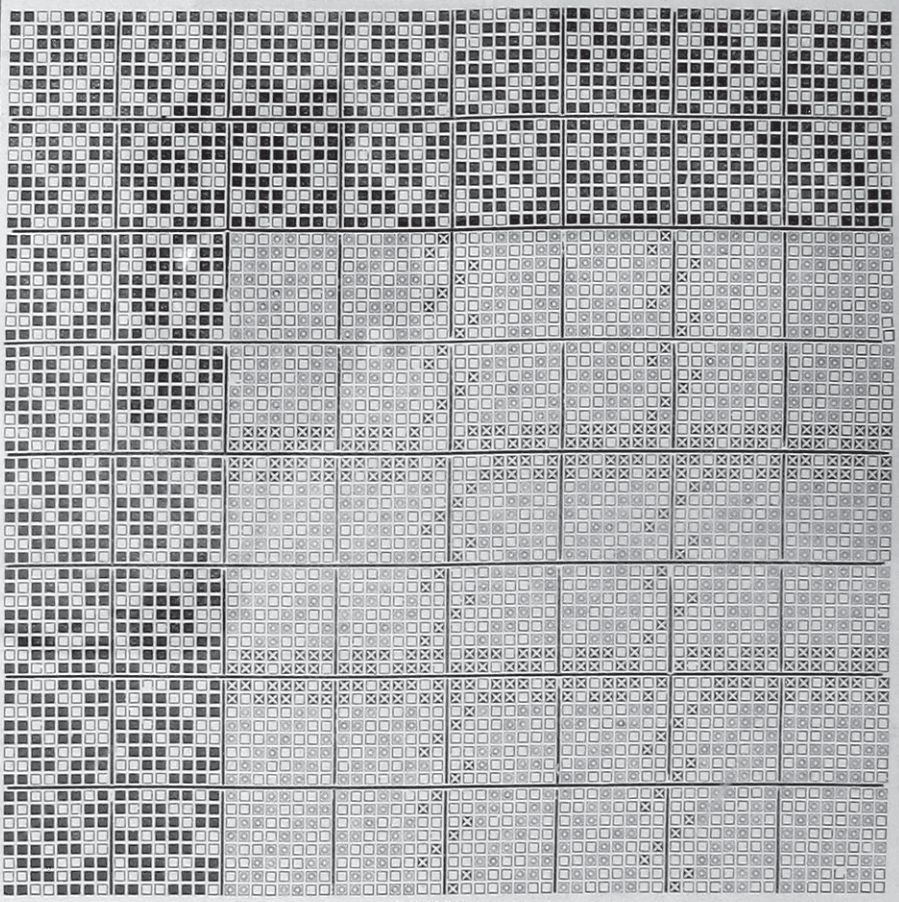
16 threads 20 sk. black,
14 ,, ,, dark blue,
4 ,, ,, black and white mixture,
12 ,, ,, dark blue,
4 ,, ,, black and white mixture,
14 ,, ,, dark blue.

10's reed 4's.

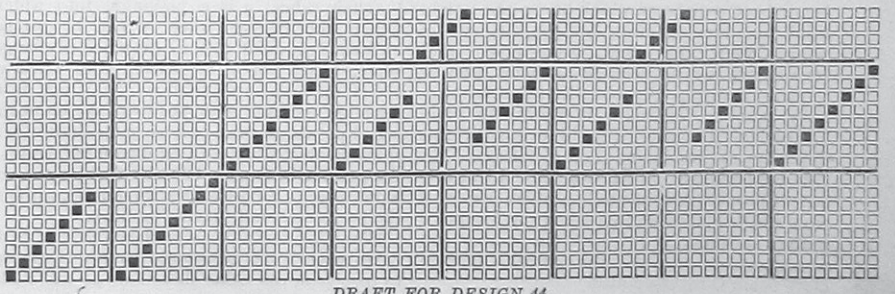
Weft.

Same as warp: 40 picks per inch.

Very dark brown in the place of the black, medium dark brown in the place of the dark blue, and brown and white mixture in the place of the black and white mixture will also prove suitable.



DESIGN 44.



DRAFT FOR DESIGN 44.