

the rail and ocean trips, the Custom House delays, etc., on this side, so that even in favourable cases the goods remain under strong continuous pressure in their boxes for at least thirty days, and this pressure gives a permanence and beauty to the finish which apparently cannot be obtained in any other way.

Mr. Marshall Field, of Chicago, has come in for a fair share of attention on the part of American journals of late. They speak of him as the A. T. Stewart of Chicago; the most distinguished figure in the commercial life of that section of the country; and so on. In many respects Chicago occupies towards New York a position somewhat similar to that which Manchester occupies towards London. The North-Western 'hustler' says that New York has been trading on its reputation far too long, and that it is time now for a geographical position to be considered by buyers in selecting their distributing centre. When Manchester gets its canal the analogy between the two cities will be closer still, and it is probable that Cottonopolis, with the help of the district of which it is the geographical centre, will be able to make still greater onslaughts on the trade of London. Marshall Field early saw the advantages possessed by Chicago as a Government centre for distribution, and he has utilised that knowledge to such good effect that he is now said to be possessed of a fortune of £6,000,000. In 1856 Mr. Field entered the service of Messrs. Cooley, Wadsworth and Co., a Chicago dry goods house. Four years afterwards he became a partner, and in 1865, with Potter, Palmer, and L. Z. Leiter, he founded the firm of Field, Palmer, and Leiter, which subsequently became changed in title to Marshall Field and Co. Mr. Henry Field, who died recently, and had an interest in the concern, bought an estate valued at £400,000. In 1871, just before the great fire which laid Chicago in ashes, the turnover of Field, Leiter and Co. was £1,600,000 a year. That of Marshall Field and Co. is now £7,000,000.

Letters from our Readers.

The Editor does not necessarily endorse the opinions of his correspondents.

FLAX AND LINEN PROSPECTS IN AMERICA.

(To the Editor of *The Textile Mercury*.)

SIR,—I have frequently called the attention of your readers to the prospects of manufacturing linen in America, and that with the hope that we should find place here for a large part of the discarded appliances of Scotland, but that hope seems fading into the distant future. The Americans have no knowledge of the arts of producing flax for the fibre, and of spinning and weaving it when produced, and confidence in the practicability of establishing a flax and linen industry comes very slowly. The encouragement given by the passage of higher tariff taxes has since been neutralised by the election of an opposition Congress, and a large number of British linen men, who contemplated starting in business here, now express the determination of waiting to see what the next session of the U.S. Congress will do. As that Congress does not assemble until next December, and as the President and Upper House are in favour of the new tariff, low as it now stands, there is no possibility of any change in the tariff laws for the next three or five years at the earliest, while there is no kind of probability that the tariff laws will be changed under ten years. But the fear of a repeal has frightened capital away, and there is now great hesitation about entering new fields of industry. A million tons of flax straw, grown for the seed alone, is burned up upon the Western prairies each year for want of a market for the fibre, and for want of knowing how to turn the straw to practical use for linen or for proper stock. There is no difficulty in teaching the farmers to properly guard the flax for both seed and fibre, and they would do so at once were there demands for it. The present system is to sow half a bushel of seed to the acre for the seed alone, while it requires one and a half bushels of seed sown to the acre to grow good straw for fibre. When capital, or old flax and linen men shall come here from Europe and enter the business, it will be easily established, and big fortunes will be made in the business. A few new spindles have been put to work, and a few looms are ordered, but the industry lags. To a syndicate of sufficient capital to

handle the fibre industry of this country there is great promise. All the fibres of flax, hemp, jute, ramie, sisal, manila, pine apple, pita etc., etc., flourish here, and there are rapid processes, already demonstrated to be practicable, in abundance to treat all these fibres in a very economical manner, and furnish them for manufacture in a far better condition than by the old primitive processes. From half an hour to an hour is all the time now required to produce fibres from hemp, flax, ramie, jute, polmette, etc., in the best condition to spin, and such as to need not more than one-tenth the time and expense in bleaching. I still believe that your idle flax machinery will all be wanted here; but it requires time to inspire the confidence to induce capital to venture.—I am, etc., S. S. BOYCE.

973, Park Avenue, New York City,
March 28th, 1891.

AN Odessa correspondent says it is feared that a general advance of 20 per cent. in the duty of all the chief articles of import into Russia will be shortly announced.

SIR JAMES FERGUSSON has intimated to Mr. Leng, M.P., that it is in contemplation in the new Roumanian tariff to raise the duties on jute fabrics from 5f. to 10f. per 100 kilos. The ruling rate of the new tariff is proposed to be eight per cent., with certain exceptions; but this matter is still under consideration.

We have this year, writes a correspondent from Brusa, far more white eggs from Bagdad than yellow ones from France. It is impossible, however, to determine the proportion of the harvest, since there are more eggs available than are needed; and it cannot be foreseen whether the final arrangements will favour the white or the yellow. There are many people who wait until the last moment in the hope of getting the eggs almost gratis, or who take more eggs than they actually need in order, during the first days of rearing, to destroy those which seem to them inferior.

THE death is announced of Mr. Benjamin Walker, J.P., which took place at Moor Allerton Hall. He was a member of the Institute of Civil Engineers, a member of the Council of Mechanical Engineers, and of the Iron and Steel Institute. In 1862 he started the Goodman Steel Engineering Works in Leeds, which has since become one of the largest establishments of its kind in the world, and he was head of the firm well known in Europe and America as Messrs. Tannett, Walker, and Co. His earliest training as an engineer was undergone in Leeds, and subsequently he was engaged to start the large machine-making works of Messrs. Combe, Barbour, and Combe, in Belfast.

THE Calcutta *Englishman* concludes an article on the Indian Factories Bill by observing that "whatever may be said regarding Bombay, we defy Lancashire to shew any point in the management of the Calcutta mills in which Lancashire is superior. In reality, the boot is on the other leg: it is Lancashire that should take Calcutta as a model. At the same time, Lancashire is guilty of no active jealousy of the jute industry; but because that industry is carried on in buildings called factories, and because the Bombay cotton factories are a thorn in the flesh of Lancashire, therefore the vastly important jute interests of Bengal are to be hampered and harassed. It would be difficult in the whole history of petty, spiteful trade rivalries to find a parallel for such a cynical measure of mischievous intervention."

Designing.

NEW DESIGNS.

GINGHAM.

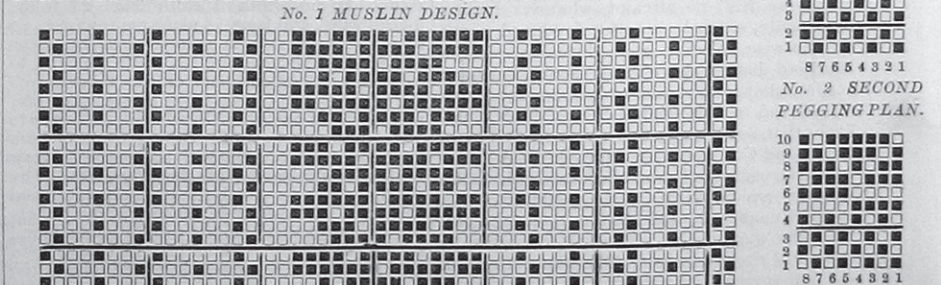
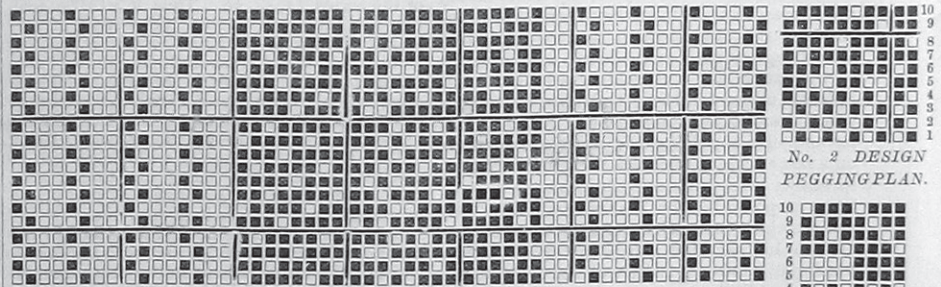
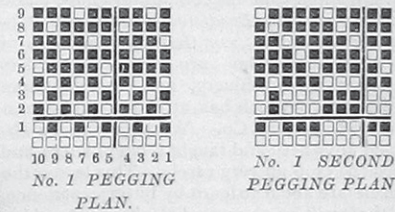
New Gingham summer patterns, in plain weave: 80 ends per inch, 40's warp twist, 80 picks per inch, 40's weft. *1st Pattern*:—Weft check the same, 120 very dark cardinal, 12 light green yellow tint, 36 white, 2 cardinal, 2 white, 4 cardinal, 4 white, 12 cardinal, 12 white, 12 cardinal, 8 white, 4 cardinal, 12 white, 2 cardinal, 36 white, 12 light green.

2nd Warp Pattern:—Weft check the same; 8 brown, 8 white, 8 brown, 8 white, 8 brown, 8 white, 8 brown, 8 white, 8 dark maroon, 8 cream, 8 dark maroon, 8 cream, 8 dark maroon, 8 Havanna, 8 light red drab, 8 Havanna, 8 light red drab, 8 Havanna, 8 light red drab; 96 dark buff.

MUSLIN DESIGNS AND PATTERNS IN STRIPES.

According to promise we give in this issue some examples in muslin patterns, which we trust will be acceptable to manufacturers of this class of fabric. The calculations for warp quantities will have to be carefully made; but we will simplify this in as clear and intelligible a manner as possible, for their better understanding by young students and others. *No. 1 Design* will convey some idea of its appearance in cloth; the pegging plan is numbered in draft and tread for ready reference; 60 reed, 40's warp twist, 40's weft, 26 inches in width.

1st Warp Pattern:—24 cream on 1, 2, 3, 4 shafts, two in a dent, one dent empty; 10 pure bleached white, five in a dent, on 5, 6, 7, 8, 9 shafts; 2 cream, two in a dent, on 1, 2 shafts; 10 pure bleached white, five in a dent, on 5, 6, 7, 8, 9 shafts; 2 cream, two in a dent, on 3, 4 shafts; 10 pure unbleached white, five in a dent, on 5, 6, 7, 8, 9 shafts; total number of ends in pattern 58; weft 36 picks per inch, all cream shade. The second pegging will give another variation in the



No. 1 DESIGN PEGGING PLAN.
10 9 8 7 6 5 4 3 2 1
87654321
No. 2 SECOND PEGGING PLAN.
10 9 8 7 6 5 4 3 2 1
87654321
No. 2 THIRD PEGGING PLAN.

weave for both ground and stripe; the 58 ends will cover 32 dents as follows: 24 in 12 dents, 12 dents empty, 10 ends in two dents, two ends in 1 dent, 10 ends in two dents, 2 ends in 1 dent, 10 ends in 2 dents. Now, in a 60 reed, 26 inches wide, there are 26x30=780 dents; this divided by 32 dents in pattern, gives 24 3/8 patterns; multiply this by number of ends in pattern 58=1,414 ends in width of reed, or say as 32 dents are to 58 ends, so are 780 dents to 1,414 ends. Any pattern, however intricate in denting, may be easily calculated by this rule.

2nd Warp Pattern:—36 light buff, two in a dent, one dent empty, 5 of china blue, 5 in a dent on 5, 6, 7, 8, 9 shafts; 2 of light buff 1 in a dent, 30 china blue, 5 in a dent on 5, 6, 7, 8, 9 shafts; 2 light buff 1 in a dent, 30 china blue 5 in a dent, 2 light buff 1 in a dent, 5 china blue, 5 in a dent on 5, 6, 7, 8, 9 shafts; total ends in pattern, 112 in 56 dents; then 780 ÷ 56 = 14 patterns; and for quantity of warp ends in breadth of reed, as 56 dents are to 112 ends, so are 780 dents to 1,560 ends. Weft, all buff.

3rd Warp Pattern: All unbleached, bleached in the piece, or dyed in light fashionable tints and well finished; 4 one in a dent, 10 five in a dent on 5, 6, 7, 8, 9 shafts; 4 one in a dent, 5 five in a dent on 5, 6, 7, 8, 9 shafts; one dent empty, 1 one in a dent, one dent empty, 5 five in a dent on 5, 6, 7, 8, 9 shafts; one dent empty, 1 one in a dent, one dent empty, 1 one in a dent, one dent empty, 5 five in a dent; total ends in pattern, 36 in 21 dents; 780 ÷ 21 = 37 1/3 patterns x 36 ends in pattern = 1,337 ends total breadth. Weft, all grey cop.

It is obvious that numbers of patterns may be produced by the reeding, draft, and colour combinations; in fact, an almost unlimited variety can be obtained by simple means. We will, however, note from time to time any that may become prominent for summer or autumn wear, as it would be a great improvement to our cotton industry if these beautiful tissues became once more popular.

No 2 Design, with pegging plan numbered, in the same reed, counts, width, and picks as No. 1.

1st Warp Pattern: All bleached white yarns, warp and weft, 5 one dent on 6, 7, 8, 9, 10 shafts; one dent empty, 1 one in a dent, one dent empty, 2 royal blue, two in a head, one dent on 5th shaft; 20 four dents on 6, 7, 8, 9, 10 shafts; 6 one in a dent, 20 four dents on 6, 7, 8, 9, 10 shafts; 2 pink, two in a head, one dent on 5th shaft; one dent empty, 1 one dent, one dent empty, 5 one dent on 6, 7, 8, 9, 10 shafts; two dents empty, 1 one dent, two dents empty, 5 one dent on 6, 7, 8, 9, 10 shafts; two dents empty, 1 one dent, two dents empty, 5

one dent, two dents empty, 1 one dent, two dents empty, 5 one dent, two dents empty, 1 one dent, two dents empty. Total ends in pattern 81 in 47 dents, or 1,344 ends in width of reed. Bleached white weft. All these stripe patterns must be on two beams to make perfect cloth; the satin stripe on one and the ground on a second beam. The royal blue and pink may be varied, deep green and chocolate, brown and scarlet, fawn and myrtle, dark dahlia, and red fawn or Chartreuse.

2nd Warp Pattern is on 10 shafts, 8 to the round; see the second (No. 2) pegging plan. All unbleached warp and weft. Can be pieced or bleached when woven; 8, four in a dent, on 7, 8, 9, 10 shafts; 4, one in a dent, on 1, 2, 3, 4 shafts; 24 four in a dent as follows: 7, 10, 9, 8, 7, 8, 9, 10, 7, 10, 9, 8, 7, 10, 9, 8, 7, 10, 9, 8 shafts, four ends, four in a dent, on 5, 6 shafts; 24, four in a dent, on 7, 8, 9, 10 shafts; straight over 4, one in a dent on 1, 2, 3, 4 shafts; 8, four in a dent, on 7, 8, 9, 10 shafts; one dent empty, 1 one in a dent, one dent empty, 8, four in a dent, on 7, 8, 9, 10 shafts; one dent empty, 1 one in a dent, 8, four in a dent, on 7, 8, 9, 10 shafts; one dent empty, 1 one in a dent, one dent empty; 95 ends in 38 dents; and, by rule given, 1,950 ends on 26 inches in the reed. Weft, all grey cop; sateen finish.

3rd Warp Pattern on the third (No. 2) pegging plan, 36 very light pink, one in a dent, on 1, 2, 3, 4 shafts; 1 Napoleon, 1 mid coral, 1 Napoleon, 1 mid coral, 1 Napoleon, 1 mid coral, 1 Napoleon, 1 mid coral, two in a dent, on 5 and 6 shafts; 36 cream, four in a dent, on 7, 8, 9, 10 shafts; 8 Havanna brown, two in a dent, on 5 and 6 shafts; 36 cream, four in a dent, on 7, 8, 9, 10 shafts; 1 mid coral, 1 Napoleon, 1 mid coral, 1 Napoleon, 1 mid coral, 1 Napoleon, 1 mid coral, 1 Napoleon, two in a dent, on 5 and 6 shafts; or for change of colours, begin this second fancy stitch pattern with 1 Napoleon, 1 light orange, 1 Napoleon, 1 light orange, 1 Napoleon, 1 light orange, 1 Napoleon, 1 light orange. Weft, all light pink. In our next issue we may furnish a few leading examples of small diagonal figures for these muslin fabrics.

DRESS CLOTHS.

There are certain classes of goods of which it may be said with truth that they are never entirely out of fashion, though at certain times and seasons they are undoubtedly in fashion. Of this class are what ladies term "cloth" dress fabrics—fabrics usually made of fine woollen yarn of the best quality, and the 5-end sateen make. They merit, however, a fuller description than the above, since their true beauty

depends not upon such general particulars, but upon the apparently insignificant detail, to which we would briefly direct the attention of our readers.

The characteristic feature of these cloths may be said to lie in their softness of handle and appearance, perfect structure, and purity of colour and tone, and it is worthy of note that each one of these necessities depends largely on the selection of the raw materials. Again, since the sateen make is used evidently with the idea of making a felt-like fabric with all traces of "threadiness" subdued, the importance of selecting a good milling wool is very apparent, as is also good colour. Thus say for the best type Saxony or Sydney wool might be used, while good Botany noils will prove a useful cheapening agent, with little detriment to the cloth. Bearing these particulars in mind, little difficulty will be experienced in obtaining the desired results.

In Design 29 is shewn an effect consisting practically of a checked twill on a 5-end sateen ground, which we insert as a suggestion for modifying the above-mentioned cloths. The type of yarn used, however, should be of a rougher class, since weft ribs in combination with warp weaves have a tendency to give an irregular fabric in the case of medium or coarse yarns; therefore we recommend the trial of such designs as the above in semi-rough yarns, between the botany and cheviot or cross-bred class. Purity of colour should be made a special feature, though probably more neutral colours than those used in the true dress cloths will be found more suitable.

In Design 30 is supplied an effect similar in some respects to the above, but constructed with the idea of using fine worsted yarns in place of the comparatively coarse woollen yarns. The 3-and-1 weft twill gives an opportunity of obtaining a colour contrast by means of warp and weft, while to soften such contrast two or three weft dots may be added to the pure sateen. The following sett should prove suitable:—

Warp.
All 2/60's dark brown and blue mixture (blue predominating).
20's reed 4's.
Weft.
All 40's dark brown and light yellow mixture.
80 picks per inch.

WORSTED COATINGS AND TROUSERINGS.

When colour combinations are preferred to weave combinations, as is sometimes the case, small weave effects—producing a firmly-balanced cloth and at the same time suitably modifying the colours combined—are much sought after. Since it is often very desirable to use fine worsted yarns and at the same time to produce fairly heavy cloths, either backing with warp or weft or the practice of weaving two cloths together must be resorted to. In Design 31 is given a small ordinary twill on 12 ends. In Design 32 we have modified this twill, extending it to 16 ends, in order to back it two of face to one of back, thus obtaining eight backing threads in the repeat, which are tied in 8-end sateen order.

In Design 33 is given a 16-end twill, to which in Design 34 is applied another cloth working plan. The system here of tying the back cloth to the face is interesting. If the design be examined, it will be found that in one case a backing thread is brought over a face pick, being entirely hid by the face threads on either side; in the other case a backing pick is brought over a face thread, being hid by the face picks on either side. To resort to such a method as this is not usual, but it may at times furnish the only means of obtaining anything like perfection.

