

Letters from our Readers.

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

THE ENTIRE UTILISATION OF FLAX, I.E., LIN-FIBRE AND LIN-SEED.

(TO THE EDITOR OF *The Textile Mercury*.)

SIR,—It is well known that flax is grown, or rather cultivated, with two distinct objects: 1st, for the lin-fibre, and 2nd, for the lin-seed. If, for the former, the fibre is longer, but the seed is poorer, and therefore uncared for, and is allowed to pass away "down stream" during the retting process; if the lin-seed is cared for only, the "straw" and "ear" are thrashed, with the result of obtaining good lin-seed, whilst the lin-fibre, notably poorer, i.e., shorter, is cast aside as waste to the tune of 150,000 tons annually from one tract or district alone.

This statement is more fully given in detail by a correspondent in the March 1st, 1890, issue of *The Textile Mercury*.

Now I would ask a question in plain English, why has this waste of even poor lin-seed and short lin-fibre been allowed? and why is it still permitted to continue? Both are fit for something, as I hope to shew! The answer is obviously the usual one, that flax, as well as all other vegetable fibres, have never been known to "flock;" and also because flax has been spun hitherto only in long lengths, for, if shorter, it would not obtain enough "twist" to be sufficiently binding. Let me repeat that both the lin-seed lost in retting, and the fibre made waste—like the sample now before me—are worth something, however poor each may be in quality; by the due husbanding and utilisation of each, oil and oilcake on the one hand, and on the other, linen goods of various kinds might be obtained at a much lower price than at present.

This is no idea spoken at random, no raving by a biased or prejudiced enthusiast, but an unvarnished statement of facts. For, having obtained results which I have before described as to the "hooking" and constant flocking of home grown flax, I obtained some of the foreign flax fibre, in its "green state," as mentioned by the above correspondent, and have treated it by the Sutherland-Esdaile process, with the foregone conclusion that I have before arrived at, that it, as well as home grown flax fibre, can have a "hook" added to or developed in the fibre, thereby insuring "flocking" and what is more important, that it is in a state for spinning in its short staple, which is a natural consequence after treatment by the process mentioned. Further, the treated fibre will be found to be softer than if left untreated by this method; and also that it may be carded and spun on "coarse cotton machinery" as suggested; and that, without any trouble or care beyond that usually exercised with cotton.

Now for an extremely practical view of the question, and one that must commend itself to every manufacturer, capitalist, or political economist. According to your correspondent the cost of this flax waste laid down at Liverpool would be 2d. to 2½d. per lb., say the maximum £25 per ton, to which add 3d. per lb., or £30 per ton, as the cost of treatment by the Sutherland-Esdaile process thereby ensuring flocking and spinning; these amount to £55 per ton as the total cost of the fibre—prepared ready for carding—and which should then command £80 per ton. To summarise these figures, taking the 150,000 tons as the annual quantity, at £25 per ton, we have an item for freight of 3½ millions sterling. This, plus the cost of treatment by the Sutherland-Esdaile process, at £30 per ton, gives 4½ millions—8½ millions sterling. Deduct this 8½ millions from a sum representing the approximate increase in value after treatment, say 8d. per lb. for 120,000 tons (allowing ½ as waste for paper-making), but adding the value of this waste at £1 per ton, or £30,000 = £9,600,000 sterling, shewing a loss on this fibre, from this district alone, of £1,350,000 per annum.

Now, as this "green fibre"—but, in reality, harsh and dry fibre—is presumably at some

distance from England, for it is unshipped at Liverpool, why should not the freight on the waste be saved by the previous treatment of the bulk before trading, thereby adding £650,000 to the above amount, as well as preventing any deterioration of the lin-fibre, by any undue exposure in the fields during the rainy or inclement seasons, thus shewing a total profit of two millions sterling per annum?

The above-mentioned process can be applied to banded flax-strand from which the linseed has been thrashed, and it is immaterial whether such bundles have been dried in the field, the barn, or by artificial heat, or are treated in a fresh green state as soon as reaped; and so saving all loss and deterioration of either seed or fibre by the effete method of retting, which is avoided by this new process.

Further, the waste above-named could be made into paper on the spot and used locally, or be shipped to Liverpool.

Again, why should not the fibre when treated by the new process above-mentioned, be not only worked as suggested by your correspondent on coarse cotton machinery; but also worked in the district where grown, thereby effecting a further saving in freight of three millions sterling, bringing up the annual profit in the district mentioned to a total of £5,000,000?

I beg to return some of the flax fibre received, and which I have treated by the foregoing process, with the result that some will be seen to be flocked, the rest ready for the carding engine.—Yours, &c.,

Manchester, GEORGE ESDAILE, C.E.

THE RATING OF MACHINERY BILL.

(TO THE EDITOR OF *The Textile Mercury*.)

SIR,—May I ask for space in your columns to return the thanks of this association to the many friends in your district who have assisted us in the struggle which was brought to so successful an issue yesterday. It was very noteworthy that at the moment the hon. members who opposed the Bill were pleading for postponement on the ground that although a technical injustice might exist there was no substantial grievance, the notorious Chard cases were before the Court of Queen's Bench and that in deciding that light machinery used in lace making was ratable Mr. Justice Grantham observed "It is difficult to see how in fact that was not a rating of chattels." The valuations of twenty-three mills in the Chard Union alone depended on this decision, while in many other unions the authorities have only been holding their hands till the decision was given in this case. I could have supplied the hon. members who opposed the Bill with numerous cases of the greatest hardship which have come before me in the course of my experience as a rating surveyor—cases in which not the wealthy manufacturers who were referred to, but artisans struggling to establish or maintain little home industries have been taxed in respect of machines with which Mr. Heneage's cook would decline to light his kitchen fire. The majority, however, clearly shewed the House believed there not only was a substantial grievance, but that it required immediate attention. The Chard decision, therefore, became practically obsolete before it was an hour old. The machinery users and operatives of the country owe their best thanks to Mr. Winterbotham and the hon. members who supported the Bill for thus redressing an injustice which had existed too long. I may add that this association will be pleased to give any information or assistance to any of your readers who may be interested in the subject.—Yours, etc.,

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Designing.

NEW DESIGNS.

THE ARRANGEMENT OF FIGURES.

In our last article on this subject (March 22nd) we briefly touched on "reversed figures." One of the figures (Fig. 13) supplied as an example was inadvertently omitted. This figure we now give, supplementing the subject with another illustration, Fig. 17. This latter figure should claim our best attention, since it illustrates in a maximum degree the principle under consideration. In the first place the two insects—practically enlarged examples of the little

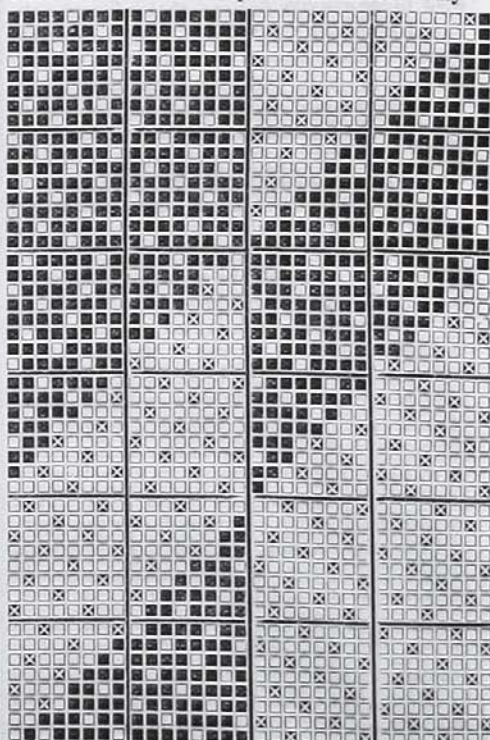
black gnats, so plentiful in the summer time—are arranged to oppose one another, being placed in such relationship that neither at the top nor side do they over-lap, and yet they just verge upon each other; thus no technical difficulty respecting unequal distribution of strain need prevent the production of this design. On the proper allotment of space to the insects being decided upon, the next difficulty to overcome is the insertion of the branch portion of the design, which, like the insects, consists of one figure reversed. In each case the design commences just at the end of the body of the insect, and proceeds in one case to the right, and in the other to the left, each figure being exactly the same.

As a rule it will be found advisable first to ascertain what space is at disposal previous to running in the second figure. Then commence to run in the first figure in the most convenient position. After having roughly defined this figure, then commence reversing it in its second position, and thus prevent any possibility of running one figure into the ground which the reversed figure will eventually occupy, and which is already defined by the figure already run in.

Bearing these facts in mind, little difficulty should be experienced in working out designs on this principle, and this system of arranging figures once mastered will clear the way to the higher studies of design, which all designers should endeavour to master.

This figure (17) may claim attention in another direction also. The result is very novel and effective, differing considerably from the vast majority of designs applied to textiles. It owes its origin to "Japanese Art," and thus should claim attention on this score alone, since the favour with which anything "Japanese" is regarded should not be overlooked by manufacturers. In looking over collections of designs from Englishmen and Japanese, one thing will strike the observant very forcibly, and that is that in Japanese designs, as a rule, there is life, and in English designs deadness. The Japanese has studied nature in relation to his art thoroughly, while the Englishman has not, though he has had quite as good, if not better opportunities. In microscopical research, for example, there is a wide field both for colour and form. Sections of the vegetable fibres, leaves, crystalline forms of minerals, and animal tissues are all capable of suggesting design, and this field has probably not been open to the Japanese until comparatively recent years.

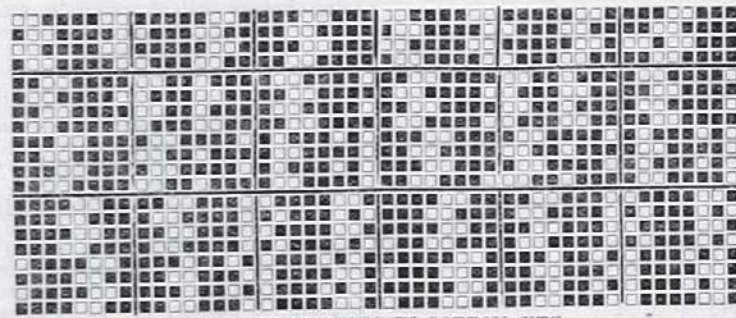
Thus he has had to depend upon what his own eyes could tell him, and yet has found deeper inspiration than we with all our science and art. The smallness of the part that nature truly



DESIGN 79.



FIGURE 13.



SUMMER VESTING IN COTTON, ETC.

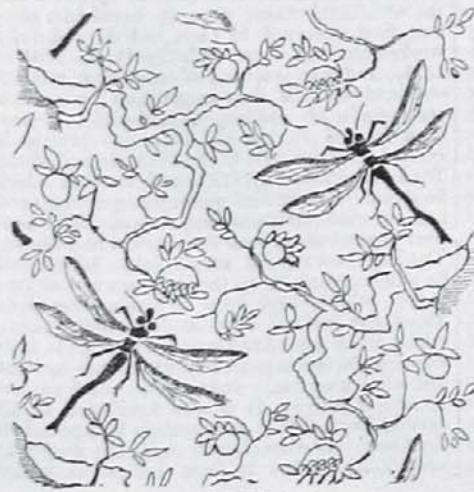
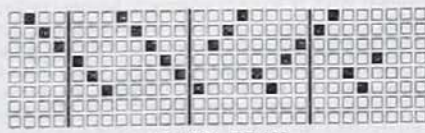
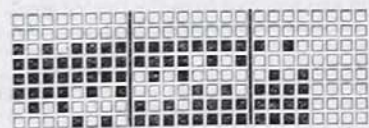


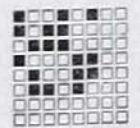
FIGURE 17.



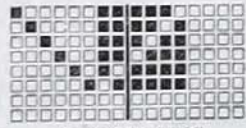
DRAFT PLAN.



No. 1 PEGGING PLAN.



No. 2 PEGGING PLAN.



No. 3 PEGGING PLAN.

plays in our textile designs is deeply to be deplored, and all who are in favourable positions will do well to try and influence the rising generations of designers towards a more pure and natural art; an art which shall not be dull and spiritless, but rendered bright and beautiful by true inspiration and life.

We need hardly suggest systems of working out the figure illustrated here, as very different means must be employed according to the fabrics to which the design is to be applied. Probably it is most suited for a silk fabric, in which case little difficulty will be experienced in bringing it to perfection, since large jacquards are constantly in use. If applied to coarser classes of stuff the design should be simplified as much as possible, as to attempt the development of too fine effects will only result in failure.

Design 79 represents the system of producing striped "figured cashmeres." In the 5-end sateen make (warp and weft face), large numbers of pieces are made simply in check or stripe form. Very often it is desirable to introduce a figure as well, either in stripes, check, or any other form. Then if the ground be warp face the figure will be weft face, except where the stripe of weft face comes. Then the figure and ground must change places as shewn, the ground being weft face and the figure warp face. In our next we intend to give some examples in stripes, and thus continue the subject as promised.

SUMMER VESTINGS IN COTTON, ETC.

This design is on six shafts, 24 end draft and 20 to the round, 72 reed, 3 in a dent, or 108 ends per inch; the same amount of picks per inch. We give this basis of warp and weft as suggestive rather than particular, and leave the application to the requirements of the market for this class of goods, which varies considerably in the demand for both heavy and light cloths. There are two-fold yarns glazed to imitate silk, which might be used with great advantage in this make as warp and weft. The warp: White and weft all blue, brown myrtle, chocolate and bronze; or the warp any of these shades and weft all white. The design would make a good shirting in 72 reed, 2 in a dent, 16's twist, all white, and 56 picks per inch of 20's weft, all Oxford blue.

No. 2.—This is also on 6 shafts, 6 to the round, straight over draft, two in a heald, and two on each tread, a catcher being used at the selvage where there are only drop boxes on one side; 56 reed, 4 in a dent, or 112 ends per inch, of 60's two-fold glazed cotton; the same number of picks per inch of weft with same counts of glazed cotton. Warp pattern: 12 white, 2 red, 10 myrtle, 12 white, 2 red, 10 myrtle, total 48; the checking same as warp pattern. As the myrtle is a very dark green, the red ought to be bright, if not actually a scarlet, both in warp and weft; many curious effects will take place in making this cloth if the treading and checking be not in touch with each other, that is, white upon white, myrtle upon myrtle and red on red. If this order be not observed a broken and disagreeable appearance will take place, which might perhaps suit some tastes, but would not be in accordance with harmony of colour.

No. 3 is another very simple make of summer vestings on 6 shafts, 12 to round, straight over draft, in a 60 reed, 3 in a dent, or 90 ends per inch, of 16's twist, 90 picks of 16's weft per inch; or a 48 reed, 4 in a dent may be used, 2 in a heald. Pattern of warp: 6 of white and 6 of blue, total 12 ends; checking same as warp. Any other colours or shades may be used, such as drab and white, duck-egg green and white, or brown and white. The remarks made in No. 2 also apply particularly to this pattern; the white must be upon white and the blue on blue, when a very pretty star effect will be produced. The glazed yarns warp and weft two-fold would be very appropriate for this pattern. The characteristic and distinctive features of these patterns are their extreme simplicity. As regards effect and the choice of shades in their composition, they cannot fail to be of some importance if properly treated. It is not possible on every occasion to make a design speak for itself, hence the necessity for minute details, which may appear tiresome repetition.