

the crop of a 50 acre plantation with one machine, or 30 days with 20 machines. The efficiency of a single machine, and the great cost of a plant of adequate capacity, removes the treatment of ramie by such methods from the plane of commercial success. The efforts of American inventors have not resulted in the production of a perfect machine. The Ramie Co. of Philadelphia, which was formed for the purpose of exploiting the Trevenet patents, is about to be wound up. Mr. Chas. Toppan, of Salem, Mass., has devised a method of degumming the ramie fibre when separated from the stalk, but a machine, at a low cost, to work in the green field just as the threshing machine works on wheat, is still wanting, and without it ramie must perforce remain, comparatively speaking, in the background.

The linen question still continues to agitate the minds of the commercial public. A "Linen Importer," who has been discussing the matter in the *Economist*, writes in reply to adverse criticisms, that "we do not object to an American linen industry if it can be done on a basis of fair competition, but we do object if it requires this greatly increased rate of duty. There is no comparison between the silk and woollen industries and linen, because the latter has been established here for nearly thirty years, during which it had a protection of 35 per cent. and yet has not grown, although one manufacturer has been able to exist and make some money on that basis. Now the advocates of domestic linen come forward and demand an increase of 40 to 60 per cent. In doing so they ask the United States Government to guarantee them a larger profit than the average business now pays. We object, therefore, to the attempt to establish and endow a domestic linen industry to this extent for the following reasons:—

"1st. Such a question was not submitted to the people at the last Presidential election. At that time many men who voted for Harrison believed that the tariff should be revised and reduced, but preferred that this should be done by its friends. A still larger number of Conservative men considered that the business of the country was fairly prosperous, and they did not want any change in the tariff because of the uncertainties it would bring. A large proportion of the members of our 'Linen Trade Association' were included in these two classes and the balance were apathetic; having accommodated their business to the tariff as it then existed, they made little or no effort to have it changed.

"2nd. A prohibitive duty on low grades as proposed would throw into confusion the business of importers and dealers in linen goods, and we claim that these men, if they bring into the country good value for the money expended, add quite as much to the wealth of the nation, and are just as desirable citizens, as the domestic manufacturers.

"3rd. The consumer has some rights which ought to be respected. If domestic manufacturers are going to sell their linens as low as the imported goods, where is the necessity for this increased duty? If, as they claim, 'it is only to establish the business,' can you point out any protected industry that is willing to have the tariff reduced when it is established? Is the domestic woollen manufacturer not as much afraid of imported woollens to-day as he was when the business was started, and does he not cry to the Government as feebly for help in the shape of increased tariff as he did when the infant industry was born?"

The expression, "we object," grates harshly on American ears. Have the citizens of this country no right to manage their own affairs, if foreign importers object to proposed tariff legislation? If Europe wishes to influence the mind of American a direction other than that towards which it now tends, it will have to adopt retaliation. If the positions were reversed, and it was United States products that were threatened with a prohibitive tariff wall in Europe, retaliation would be the first remedy that would suggest itself here. Germany and France have already expressed their views in a very forcible manner. England, which is more vitally concerned than any of the Continental nations in the tariff business is strangely silent, owing, no

doubt, to the influence which the doctrines of unrestricted free trade still possess in that "solitary citadel" of Cobdenism. We can stand this sort of thing just as long as anyone, and if England will go on buying our products in increasing quantities and allowing us to bar out her own it is all right. Nobody here will complain.

The bulk of our exports is composed of four items—cotton, wheat, meat, and petroleum. Our cotton seems to be firmly entrenched, but it is not beyond the possibility of danger from India, Egypt, and Central Asia, if those countries were encouraged by fiscal discriminations. Our meat products have already suffered heavily from hostile tariffs and pretended sanitary regulations. Our wheat and petroleum are fighting a doubtful battle against competitors that are crowding them closely, even in neutral markets. Suppose the British consumer were required to pay a duty of 30 cents a bushel on American wheat, when he could get Indian or Russian wheat free, which would he take? Or suppose the American farmer consented to deliver his grain, duty paid, at the same price at which the untaxed competitor delivered his, how much profit would he get out of the transaction?

## Designing.

### NEW DESIGNS.

#### SATEENS AND THEIR DERIVATIVES.

(Continued.)

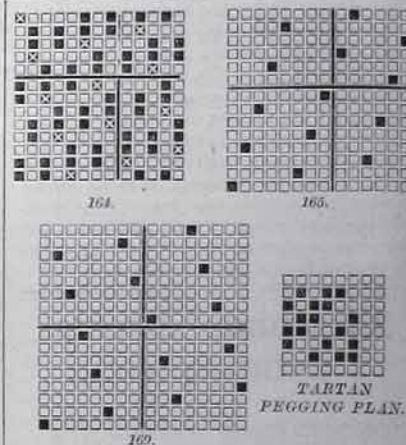
Before leaving the 10-end sateen makes, it may be well to point out what useful weaves they are, either for using alone or in weave combinations in conjunction with fine worsted yarns. *Design 144*, for example, gives a very nice fine twill with about  $2/56$ 's worsted finely set, and is also equally valuable for using with other 10-end derivatives in very much the same manner that the 8-end buckskin weave is used, so that altogether the 10-end sateen makes are exceedingly useful.

In *Designs 150* and *151* the 11-end sateen is shown. In *150*, 5, 6, 9, 2 may have been counted, and in *151*, 7, 4, 3, 8 may have been counted. In *Design 152* dots have been added to ascertain the direction of the twill, which it will be noticed is here evidently suited for warp, it being necessary to turn the plan round if a weft twill is required exactly the same as a warp twill. Notice should also be taken of the fact that *Design 152* proves that there is only one complete twill either from right to left or left to right. *Designs 153* and *154* are two derivatives of the 11-end sateen, the first being a broken-up make and the second a species of twilled hopsack.

*Designs 155–159* demonstrate the construction and use of the 12-end sateen. It will be found that *Design 155* contains all possible bases, since 12, being an even number, excludes the use of most of the numbers. *Design 156* demonstrates that there are two complete twills from right to left, and *Design 157* demonstrates the fact that there are three complete twills from left to right; thus it is very evident that a great variety of designs can be originated on this basis. Note also that taken either from right to left or left to right, the 12-end sateen coincides with regular twills running at an angle of 45 degrees. In *Design 158* four dots are filled in round every other sateen spot, while in *Design 159* two dots are filled in first on one side and then on the other of the sateen, dots forming one twill, thus shewing the variety of ways in which this sateen may be added to.

*Design 160* has been formed in a manner similar to *Design 141*, the 12-end sateen being put down for 48 threads and picks; then two sections of this have been left warp twill, and the two other sections have been converted into weft twill. Only 24 shafts have been required, and the checks may be enlarged as required without the addition of extra shafts. This system of figuring should be tried in the smaller sateen makes.

*Designs 161, 162, and 163* shew the various forms of the 13-end sateen, each of which is useful as a base to construct smaller makes on.



The well-known and much-used 13-shaft cork-screw is given in *Design 164*; the dots which shew how it has been obtained should be left out. Numerous modifications of this make similar to some we have already given in this journal will be suggested by the principles we have been endeavouring to explain, which should prove very useful. It will be noticed that in this make there is only one continuous twill, taken either way.

In *Design 165* the 14-end sateen is given; in *Designs 166* and *167* the 15-end sateen is shown, and in *Design 168* the 16-end sateen is shown.

These makes are, of course, too open for using in their unadulterated state, but they are exceedingly useful for the effective weaves which may be derived from them on the principles indicated.

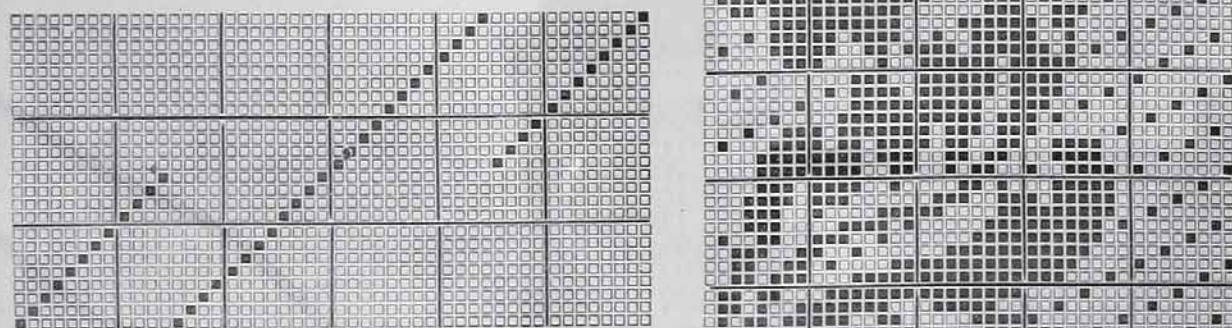
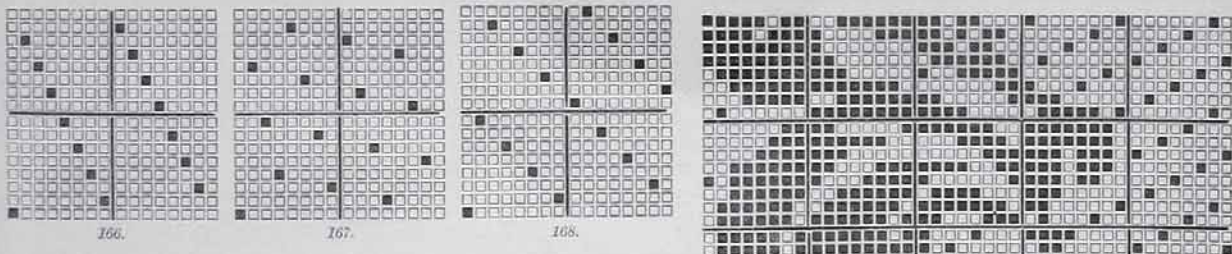
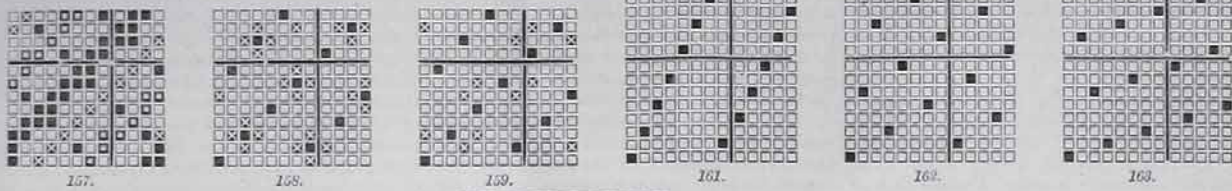
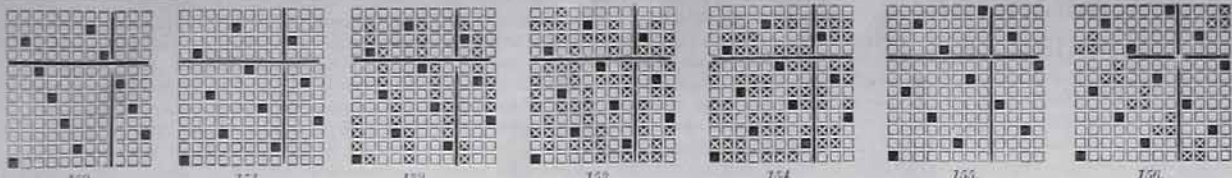
#### FANCY DRESS STRIPE.

This design gives a figured stripe on a seven-shaft satin ground *A*, and a smaller stripe *B*, a seven-shaft satin only. The patterns are merely suggestive. Both stripes may be of an equal number of ends, and both bleached white, or one white and the other (or figure) dark blue; the weft white or a very light tint of primrose, pink, or maize; the weft forming the figure should either be spun silk or 40's two-fold highly polished cotton; the warp very close set, 40's twist, the main object being to conceal the weft as much as possible on the *B* stripe and to freely exhibit it on the *A* stripe, because a good sharp contrast of figure and colour is needed to create a proper effect for drapery or the clinging folds of a dress or skirt. It is quite evident that this make of cloth permits of any amount of changes in warp and weft counts, reed, picks, and colourings; linen, silk, worsted, and cotton may be used as warp and weft, or warp all cotton and weft any of the other materials. The ground need not be confined to a seven-shaft satin; a five, eight, or nine-shaft can be used with advantage. We have given a few of the satin ground dots under the figure to shew that the angle is the same as the *B* stripe.

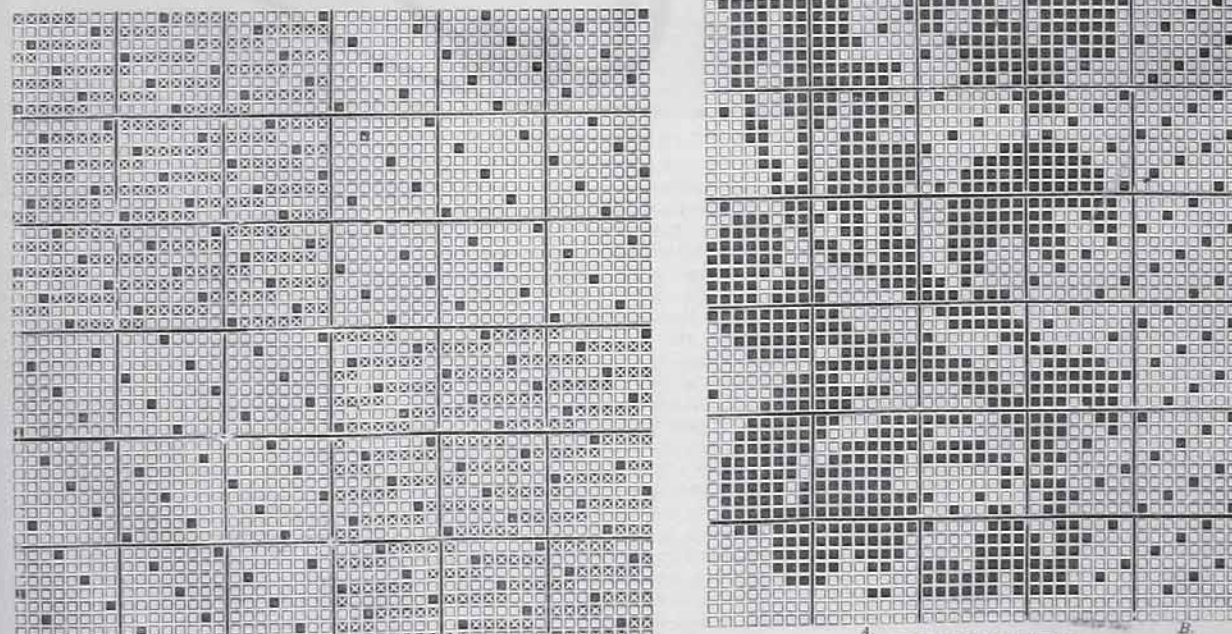
#### ZEPHYR TARTAN.

On six shafts, straight over draft (see pegging plan), 50 ends per inch of 36's twist for warp, 12's for weft, 40 picks on an inch. Pattern of warp: 6 dark brown, 14 lichen green, 4 dark brown, 14 lichen green, 8 dark brown, 14 imperial blue, 2 dark brown, 2 white, 10 dark brown, 2 white, 2 dark brown, 14 imperial blue; total ends in pattern 92. The weft being coarser by  $\frac{1}{2}$  than the warp material and the picks less in number per inch than the warp ends, the checking will not be in union with the pattern now given, but a more or less square effect will be obtained by 4 dark brown, 10 lichen green, 4 dark brown, 10 lichen green, 4 dark brown, 10 imperial blue, 2 dark brown, 2 white, 6 dark brown, 2 white, 2 dark brown, 10 imperial blue. Total picks in checking 66. It is not positively necessary that this order of checking should be followed, because blue may take the place of green, and green the place of blue, and yellow that of white.

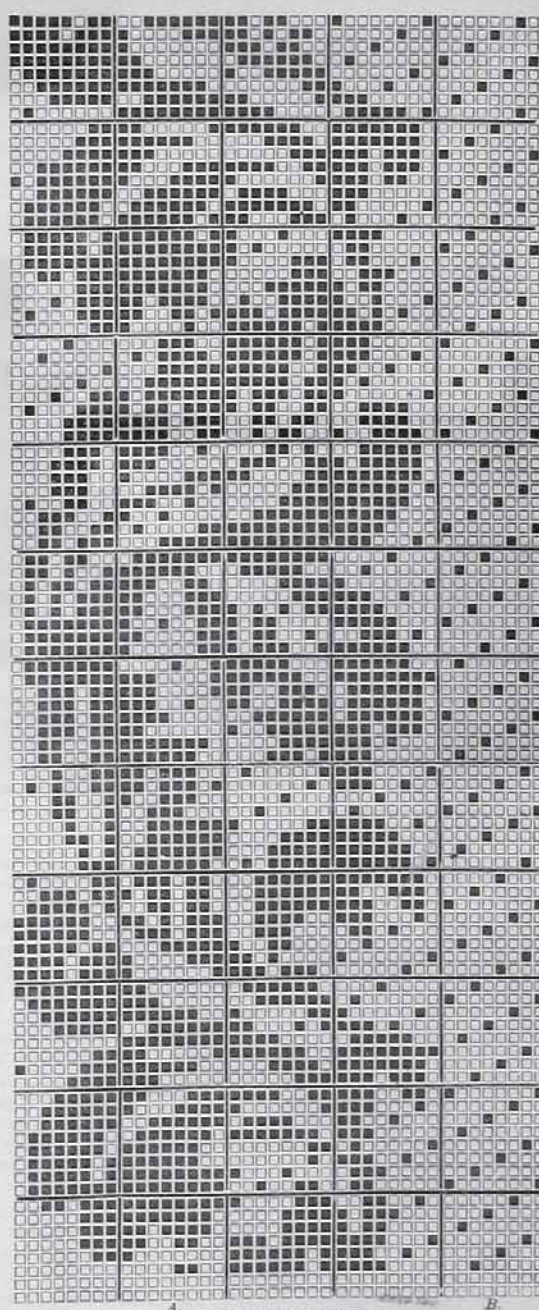




DRAFT FOR DESIGN 169.



DESIGN 169.



FANCY DRESS DESIGN.

A. B.