Designing.

INTRODUCTORY.

The commencement of a series of designs for textile fabrics naturally calls for a brief description of the principles upon which we were engaged, and since this journal is issued under very different circumstances from any other textile journal in circulation, we would ask all manufacturers, merchants, designers, &c., to carefully consider the plan upon which we are intending to base these articles, and when they have done so, we think they will agree with us that this is the only one which can be thoroughly useful to those engaged in any of the textile trades.

We hope to put before our readers the highest class of original designs; whilst frequent opportunity will be given of denoting changes in style, colouring, &c., minutely and definitely, a great advantage in these changeable times. We shall also consult every textile journal issued, and denote in these columns any styles of design or colouring as we think will be serviceable to our subscribers.

Our designs will include the following classes of fabrics—The various makes of woolen and worsted trousers, coattings and overcoatings, woolens and worsteds, dress fabrics, cotton dress fabrics, cotton warp cloths and cotton worsteds, yarn dress fabrics, silk dress fabrics, pearlshakes, and any other styles of fabric which come into use.

With regard to the system upon which we shall base our articles:

Designs given in textile journals, as a rule, cannot be utilised by individual firms directly; they must be modified to a considerable extent in most cases before being put into the loom; therefore we are right in saying that “textile journals are serviceable to individual firms, not through the designs they contain, but through the ideas they communicate.”

Design 1.

Recognising this fact, we intend giving ideas for new fabrics in preference to definite designs, thus, though we shall give definite designs in the classes of fabrics previously enumerated, we shall also suggest various modifications in set, yarns, colour scheme, &c., which individual firms can select according to their requirements. In addition to this, we also intend, when the opportunity offers, to give a series of articles on the more intricate textiles, which will be acceptable to firms changing or extending their business. The greatest care will be taken to render the articles trustworthy and useful, and the author will be glad, through the columns of this journal, to assist, if possible, any firm who experience any difficulty in obtaining desired effects.

COATINGS.—Since coatings possessing more or less texture and presence of fibres still remain in fashion, we furnish three examples of this class of designs:

Design 2.

Various modifications of this design will yield good results. Various sizes of yarn may be used according to the class of fabric required. A close set is requisite.

Design 3.

In Design 3 we give a twilled rib effect. The introduction of twisted yarns such as mohair into overcoatings and coatings is now prevalent. There are many ways of effecting this, and Design 3 is one of these. If we set it one pick mohair and one pick wool we shall have a two-ply twilled rib where the thirlook square contains a non-twilled rib where the mohair. Either cotton or mohair warp may be used, in fact, this design will yield a great variety of useful cloths according to the yarns used. Employed to make a firm fabric it would probably be well to tie the warp when it goes to the back of the fabric.

Dress Fabric—Design 4 is for a rough striped fabric composed of yarns of a cheviot nature.

Warp.

12 threads 30s. black 2  2  2
12 threads dark grey  4  4
8  medium grey  8
8  light grey  16
8  white  16
And a broad stripe of medium grey say 30 threads 200
12 ends per inch, 4 threads in a dent.

Ref. 30s. medium grey.
40 picks per inch.

Reference will be made to this next week.

Machinery.

IMPROVED PATENT DOUBLING WINDING MACHINE.

Mr. Joseph Stubbs, Mill Street Works. Ahearts, Manchester.

On a first glance the invention, an apparatus that has been devoted to the process of yarn winding—the simplest of all the processes of manufacture—would appear to have been in excess of the requirements. In ordinary single thread winding a very simple machine, with the commonest care on the part of the attendant, amply suffices for all requirements. In the more complex form of double winding, the winding of more than one thread at a time, the trade for a long period had to depend solely upon the skill and carefulness of the winders—a dependence seldom justified by the results. About twenty years ago a well-known firm made the first attempt to obviate the difficulties arising from the condition of things then existing by the introduction of a stop-motion winding frame. This was only a qualified success, yet sufficiently good to encourage other inventors to attempt improvements.

Amongst the earliest to score distinguished successes in this field was the firm of Mr. Joseph Stubbs, which has since occupied a prominent position in the front rank of makers of this class of machinery. It is to a recently patented improvement of this firm, that we now desire to draw the attention of our readers.
The frame is of the well-known type usually constructed by this firm. The improvement to which we refer consists mainly in improved arrangements for promptly arresting the movement of the bobbin when a thread breaks or becomes exhausted. As might naturally be expected from this statement the modification will mainly be found in the construction of the drop wire box and its intermediate connections with the bobbin upon which the yarn is to be wound, so that the latter may be more quickly stopped than before; that greater facilities may be given for effecting the connection of the thread with the bobbin whether in supplying fresh material or re-connecting broken threads.

To a parallel rail of the machine frame a bracket is attached carrying a lever-frame, which in turn at one end carries the drop wire box swinging upon pivots, and at the other a bobbin cradle, which rises sufficiently high from its connection with the lever frame to bring the bobbin it is carrying into contact with the drum from which it will receive its motion. A projection from the bottom of the bobbin cradle extends downwards, and to the bottom of this a chain is attached, which passes over loose carrier pulleys, and is weighted at its extremity. It will be obvious that the action of this will be to constantly keep the periphery of the bobbin in the cradle in contact with that of its driving drum, and so maintain a uniform pressure between the two. This action is free, easy, and sensitive. Coming back to the drop wire box we may remark that beneath it is the usual wing or wiper shaft, which when a wire drops puts the train of mechanism into operation. To the front rail of the frame, and immediately in front of the drop wire box, is attached an angular plate, a form, the horizontal projection being uppermost, and in the direction of the drop wire box. The wire box is provided with a projection whichrotating in working position the setting-on handle. When a wire drops and the drop wire box is oscillated, the parts above mentioned are released, thus allowing the bobbin to come into contact with the break by which it is stopped. The use or function of these parts we will now describe. The drop wire box is hung upon pivots, its heavier side being the back one, or that away from the front rail. Evolved there is a constant tendency for its lower part to swing forward towards the front rail in order to establish an equilibrium. These are the positions maintained during the winding process, the drop wire being held clear of the wing shaft by the tension of the yarn on its passage upon which they are suspended.

The breakage or the exhaustion of a thread drops the wire it carried so that its lower extremity falls into the path of the shaft, one of the wings of which instantly stopping it releases the catching part; the drop wire box is then lifted out of the way of the wiper shaft, and so prevents the damage that is liable to arise when the wires are left to be struck every time a wire comes up. While this has been going on there has, of course, been a corresponding descent of the opposite end of the lever frame—that carrying the bobbin cradle—which at once brings the periphery of the bobbin into contact with a fixed brake, by which its further revolution is instantly arrested. As all these movements are almost perfectly simultaneous it will be clear that they begin and end in an instant, and assure that the end of the broken or exhausted thread shall not have travelled many inches from the point at which the breakage occurred.

The frame in its entirety seems to be a combination of every good and desirable point in a machine of this kind, and these reduce to the ultimate of simplicity. The drop-wire box is of improved construction, the plates of which it is composed being first cast solid, after which the wire grooves are milled. This gives them a straight, clear and easy course through which to drop.

The firm has been making this improved form for twelve months past, and has now a considerable number at work, which are giving the greatest satisfaction. Counts from 1 ½ to 200 are being worked, and the yarn is taken up at from 3000 to 6000 inches a minute. Notwithstanding this high speed the ends of the broken threads are in nearly all cases found between the overhead rollers and the traverse guide wires. A detail we have omitted to mention is that the overhead rollers are fixed beneath the top board, thus leaving the latter entirely free for the storing of yarn.

In conclusion, we may mention that the growing demands of Messrs. Stubbs' trade has necessitated a considerable extension of premises which has recently been opened, enabling them to execute orders with greater facility for both machines and the high class both of soft and of malleable iron which constitute a considerable branch of their trade. Any further information that may be desired will be recorded on application to the firm as above.

We understand that Messrs. J. and F. Coats and Co., of Paisley, are erecting a new spining cotton mill in Russia, and that the order for the largest portion of the machinery has been given to Messrs. Howard and Ballagh, of Accrington.
IMPROVED DOUBLING-WINDING
AND TWISTING AUTOMATIC
STOP-MOTION MACHINE.

MESSRS. JOHN SYKES AND SONS, TEENEBIDGE WORKS, HUDSERSFIELD.

The winding of yarn is a process common to all the textile industries. It is, perhaps, the simplest of all the series, yet it varies considerably according to requirement, and is modified also by the differences of material. Single thread winding is its simplest form, this being for the purpose only of facilitating the attainment of a parallel arrangement of the threads, as seen in a warp. In doubling-winding much more care is required, and the process becomes more complex. This is for the purpose of obtaining a parallel arrangement of two or more threads, the tension being required to be perfectly alike in order to permit of their being twisted together in an even manner, that is, in which the threads shall be mutually twisted round each other; not “corkscrewed,” as when one serves a straight line and the other is wrapped around it. All practical men know how objectionable this is in the manufacture of any class of doubled yarn. Doubling-winding requires the nicest adjustment in the parts of the machine. It will be obvious, however, that in this class of winding, one thread may break or become exhausted, and the other continue to be wound. In single winding if such a case no harm is done; in doubling or manifold winding all the yarn wound after one thread has broken becomes waste, as it must be pulled off the bobbin; otherwise bad work will be the result. The prevention of both these defects was for a long period entirely dependent upon the skill and care of the operative in charge of the work, and as these qualities were mostly present in a minimum quantity, a large percentage of waste and much bad work were usually the outcome. These facts brought the inventors into the field, and there has since been a great race for the goal of absolute excellence, and this race it would be premature to say has as yet been won. Early adventurers keep improving upon their previous accomplishments, and new comers are frequently entering the field.

We have pleasure in bringing before our readers a new doubling winding, automatic stop-motion twisting frame, just being placed upon the market by Messrs. John Sykes and Sons, Turnbridge Ironworks, Huddersfield. It is the invention of Mr. Edwin Hargreaves, of Huddersfield, and has been devised principally for stopping the rotation of the spindle when a thread breaks, before it passes within the influence of the twisting spindle and is wound upon the bobbin, and so to prevent the waste occurring when twisted yarn deficient in a component thread has to be drawn off. A second object the inventor had in view was to stop the spindle when the yarn has broken after being twisted, and so to prevent the waste arising from this cause.

The following is the way in which the inventor accomplishes these results, and the means he
THE TEXTILE MERCURY.

As long as the position of the parts shown in Fig. 2 is maintained, the crank lever x will continue to oscillate upon the stud, connecting it with the grid or traversing plate. The threads have restored the attendant press down the handle y, which corrects the positions shown in Fig. 1, and works in the opposite direction, which has the same effect as before, stopping the several parts by bringing them into the position shown in Fig. 2.

The machine is a very ingenious piece of mechanical and excellently designed to accomplish its object. It is suited for use in all the several textile industries, requiring only the special adaptation of the different parts. The makers will be pleased to afford facilities for an inspection on application as a whole, where the machine can be seen at work.

At a meeting of the Dundee Chamber of Commerce for the election of representatives to the new General Assembly of the United Kingdom, Mr. W. G. Cochrane, Mr. W. M. Thomson, and Mr. W. L. M. Hunter, were appointed to the committee and made the following statement regarding the relative cost of electric and gas lighting. He had had two years' experience of electric lighting in his own factory, and had installed 50 lamps of 1,000-candlepower, and had experienced to show that there was a difference of £5 per annum in favour of electric lighting, which he believed would be better, brighter, cheaper, and safer than the ordinary systems of gas lighting.

We have received the Journal of the London Geographical Society, issued during the past week, which still keeps up the general excellence that characterises the Society's publications. We leave our readers to judge for themselves from the more important contents of the number before us, which are as follows — "Tibet, and its Neighbours," by the Rev. Geo. Owen, of the London Missionary Society; "Greece," by M. J. D. C. F. P., of the British Museum; "Notes on Travel in the Mediterranean," by the Rev. Alfred T. Flockbe; and "Notes on Travel in the Mediterranean," by Mr. E. W. M. V. M.

THE AMERICAN COTTON CROP.

An official telegram from Washington on Monday is as follows — "The Agricultural Bureau, in its monthly reports, to the Department of Agriculture, for the month of September, concludes the cotton season has been very short and extremely wet, which has seriously injured the crop. Tennesses has experienced wet weather and early frost, and in these States the crop is much worse than last year. Elsewhere the crop is better, especially from South Carolina to Alabama, with a large growth of the type. In the South the early frost has injured the crop east of Mississippi, while the uplands in the southern States are still green west of Mississippi. In a large portion of the area there has been no frost. The weather for planting has been remarkably favourable, and the bumper harvest of last year promises a still more abundant and valuable crop. The indications of the yield per acre are about 90 per cent. higher than last year. Much depends on killing frosty or wet weather opening the fields for gathering, so that the crop cannot be known until after Christmas. The price of cotton has generally gone up, though the recent losses from caterpillars and bollworms, through disease and frost, have reduced them from these losses.

Several telegrams have been received giving summaries of the Washington Bureau in various States, and the yield of cotton, and the results of the various inspections of the yield per acre range from 75 to 85 per cent. in the Southern States, and from 70 to 80 per cent. in the Central States, and from 70 to 90 per cent. in the Northern States.

The crop is estimated at 7,000,000 bales, which is about the same as the yield indicated by last year’s report, which was given by the President in his State of the Union address of January 7, 1877.