

throughout its width, with the crosses preserved in perfect diamond shapes throughout the skein.

Another advantage possessed by this style of a faller wire in connection with a stop motion is, that, since the thread is not restricted in the small eye of the present faller wire it does not cut, and consequently lasts as we might say, indefinitely.

It is also of the greatest of importance in a throwing plant that the bobbins used are the best that can be procured. All spinner bobbins should have the upper head at least of fibre, and all be kept in racks or on pins; the old method of throwing them all promiscuously into boxes or baskets and bruising the heads of the bobbins, should not be tolerated in a modern, well managed mill.

There is a great need for technically educated foremen and superintendents of throwing plants. The hardest thing in these days is for the manager to find a foreman who really knows silk and how to handle it. Mills are willing to pay high salaries to men who can handle their machines and silk understandingly and properly, but are unable to find them. It is no uncommon thing for the owner of a plant to send to the builder of the machines for a man to come and put them in order after a few months operation under the care of a so-called competent foreman.

Although competition has reduced the throwing prices, there is still a good return for a well equipped, up-to-date mill that is intelligently and economically managed.

To prevent drawing or curling up of twisted skeins of silk (organzine—heavily twisted) place them after reeling in a lukewarm water bath. In Italy a treatment known as *brova* is in use, it referring to a steaming of the yarn while on the reel for from 15 to 20 minutes, after which the silk is placed in a drying chamber and for a short time subjected to a heat of from 80 to 90 deg. C. It is claimed that this procedure greatly enhances the lustre and pliability of the silk, but the drying is not made use of everywhere.

Organzines, trams and floss, for convenient handling in transit, are made up into hanks, each hank containing a number of skeins. These hanks are then made up into bundles; those of organzine are generally short and weigh from 6 to 8 lbs., whereas those of tram are long, the length of the reel, weighing from 12 to 17 lbs. The bundles are then tied up in the ordinary way with string, but as there is always an allowance made to the buyer on account of using this string, throwsters are not very sparing in this respect.

Defects Met with in Thrown Silk.

In connection with thrown silk, *i. e.*, floss, tram or organzine, defects we may come across are:

(1) Minor ends running out or breaking, caused by the stop motion being out of order and this trouble not noticed at once by the attendant;

(2) Uneven tension given to some of the minor threads as fed to the doubler or the spinning frame, which will give to the twisted thread a spiral effect, technically known as corkscrew;

(3) Uneven counts or sizes of minor threads put up for twisting into one thread, may also be at the bottom of corkscrew, and so also

(4) the union of minor threads containing a different percentage of moisture, which in turn will cause an uneven contraction of the thread when dry.

Corkscrew of the thread, in connection with organ-

zine, will cause trouble at the weaving; the short minor thread of the organzine, not being able to stand the strain of weaving, will break, and when the loose end will form itself into a bunch, which will catch either in the mail of the harness or in the dents of the reed, and thus be the cause of the end breaking during weaving.

With reference to the first twist, *i. e.*, the twist imparted to the minor threads, in connection with organzine, defects met with are: soft twisted ends, and kinks or snarls. The first may be the result of slack spindle bands, sticky spindle bolsters or spindles out of true.

Such a soft twisted thread can be readily detected by the attendant, since the spools containing such silk will handle soft. Such yarn should not be used in this state in connection with perfectly spun yarn, since if used, it will clearly reveal the defect after passing through the boiling-off process, and finally may be the cause of spoiling the face of the fabric.

Kinks or snarls in the first twisting process can be generally traced back to improper working of the stop motion, *i. e.*, the latter failing to operate when the spindle stops. Kinks should either be stretched, rubbed or pieced out, previously to again starting up the machine.

Other Kinds of Silk.

Besides dumb and thrown singles, floss, tram and organzine, we may come in contact with:

SEWING SILK: Refers to silk composed of 3 to 24 threads, 2, 4, or 6 of which are united by twisting.

EMBROIDERY SILK: Refers to silk composed of untwisted threads, a number of which are united by a slight twisting.

CORDONNET SILK: Is a silk used for braiding, knitting, etc.; it consists of 4 to 8 threads loosely twisted with a left-hand twist to form the primary threads, 3 of which are then twisted together with a right-hand twist.

MARABOUT SILK: Is a silk used for crapè; it consists of 2 or 3 threads united without preliminary twisting, then dyed without scouring and strongly twisted together, so as to yield a stiff thread.

SOIÈ ONDÉE: Refers to a silk prepared by doubling a coarse and a fine thread. It is used in making gauze, to which it gives a watered appearance.

POINTS ON JACQUARD DESIGNING.

The Drop Reverse or Turn-Over Base.

When the ordinary *drop base* is used as the scheme



Fig. 1

of arrangement, there is often a tendency to form diagonal lines in the pattern, especially when the figure

is longer in one direction than the other, or when some part of the figure is brought out in a prominent manner. This feature may often be remedied by re-

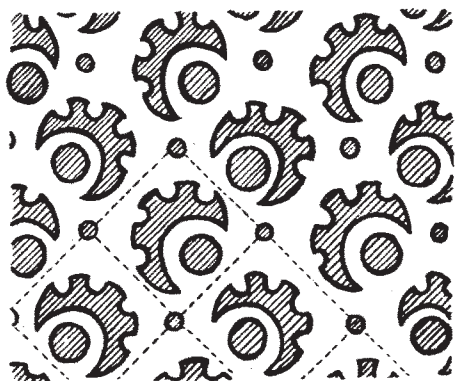


Fig. 2

versing the figure (which is dropped) thus breaking the diagonal effect line by throwing the object which attracts attention into a different position in relation to its mate figures. Figs. 1 and 2 are illustrations of this, and make clear the advantage which may be gained by the *drop reverse* method. In Fig. 1 the diagonal line produced by the figures is strongly emphasized (1) by the balls falling into a straight line; (2) by all the crescents being turned in the same direction.

In Fig. 2 this is remedied by using the *drop reverse* system of arrangement, by which method the balls are moved out of the diagonal line, and the crescents are arranged in reverse directions.

Fig. 3 is another design formed from a figure arranged, *i. e.*, distributed by the *drop reverse* system, showing a well balanced effect. If the same figure would have been distributed on the ordinary *drop* base, the resulting effect would be faulty, because of the diagonal lines which would be produced.

HOW TO PLAN THESE DROP REVERSE DESIGNS.

The rectangle which forms the area within which the design must be complete is divided into two diamond spaces, and the desired figure is sketched into one of the spaces. After this, the figure is copied by tracing it with a medium soft pencil on transparent paper; the copy is then turned over, so that the face side is placed downwards and the proper position found in the second diamond. The figure is then transferred to the paper on which the original figure was sketched, by drawing a pointed instrument, or a

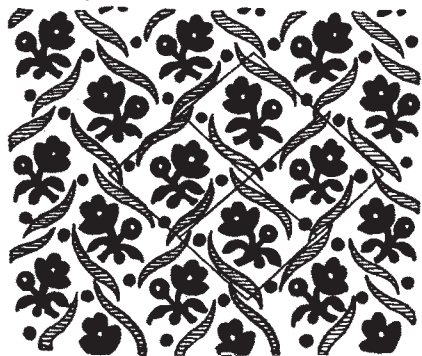


Fig. 3

hard pencil point over the outline of the figure on the transparent paper. This gives a pencil drawing sufficiently clear for working purposes, and makes sure of

the reversed figure being in its proper position in relation to the original.

A useful method, and one which assists in saving of time, is to copy the outline of the diamond on to transparent paper along with the first figure; then after the tracing has been turned over, the proper position is readily found by getting the diamond lines on the tracing paper to cover those which outline the second diamond.

It will also be noted from this design that when any part of the figure belonging to the first diamond enters the other, arrangements must be made for a corresponding part of the reversed figure to overlap from the second diamond. The best way is to draw the chief figure into the centre of both diamonds, and then carefully fill in the ground work, running each part into both spaces as the development proceeds. This method avoids faults in overlapping.

Fig. 4 shows a design arranged upon this base, which is suitable for a fancy-figured velvet, the black



Fig. 4

figure being woven in velvet pile, the inside of the leaves in gauze, and the ground in fancy rib made by extra filling.

Lyon's Silk-Condition House.

On August 1 the Lyon Chamber of Commerce advanced the tariffs of its public testing bureau because of the increased cost of operating. The new tariffs are 1 franc higher than the old rates for the different testing operations of worked and raw silks, with the exception of raw silk tussahs, where the charges remain the same as before. For silk in the gum, dyed or woven, the charges are unchanged.

Payment for testing will be, as in the past, in currency and not in goods. A determined effort is being made to suppress the practice of making payment in goods, which for a long while has been considered as against the true interests of the silk industry. The silk syndicates are cooperating with the private testers in an effort to end the practice.