

as it must run well; there is no economy in running so that the quality will not be the best. On combed stock there is no question that the twist can be less than standard, and on numbers finer than 65 it will be economy to use this preparation.

The draft should not be too long, $1\frac{3}{4}$ on 36 yarn will have to be decreased on number 42 to make the work as good, and the yarn as satisfactory. As the yarn becomes finer, the draft should be gradually made less, until a draft of ten and one-half is reached for 60 yarn. If it is possible to make finer roving than this requires with the carding machinery, and still use double roving, it will improve the spinning. In spinning any number it is necessary to use double roving, as the work will not be satisfactory without it. One word more about double roving, a number of mills needing more filling yarn alter a warp frame to the filling wind, still using the single roving, but the results are not the best, and not a little of the fault found with goods made from frame filling, and the making of this filling itself, comes from just this method of spinning filling yarn. Filling yarn will need less twist with a shorter draft, and if possible to make this choice, should give the preference to one tooth less draft rather than one more tooth of twist, and the spinning will show more improvement.

The best conditions can be obtained in a room where the humidity runs from 55 to 65 per cent. and the temperature can be kept low in the extreme warm weather. This would make it advisable not to put the frames on the upper floor under the roof, but on a floor below, leaving the upper by choice for the warp yarn.

The frame should be made with short boss rolls, the stands pitched to insure the twist running up to the bite of the rolls, the saddles set so as to leave the middle roll without weight, the thread guides round rather than flattened on one side, and provided with a kink arrester. There should be a traveler cleaner, and the roving trumpets should be made with as small a hole as possible. There should be plenty of space between the thread board and the top of the bobbin, and the choice should always be given to a wider rather than a narrower gauge of frame.

There will be no doubt that it is economy to select as good staple as possible for the filling yarn in mixing the cotton, as less twist is to be the goal always sought, the quality of the stock and the evenness of the staple are important considerations. A bobbin filled with yarn spun well will mean good weaving, large production and a medium amount of waste which should not be any more on twelve bobbins than is usually made by the weaver in putting one cop in the shuttle. Without question, the best method of setting the twist is to keep a surplus stock of bobbins, from four days to a week's supply, ahead of the looms, and have the filling kept in a damp cellar or on a rack over running water. If this cannot be done, air moistened with water should be blown or sucked through the boxes of filling in enclosed bins. During the cold, dry weather, it will be advisable to heat the water from the returns from traps on the circulation pipes or from the slashers.

There has been a great increase in the spinning of frame filling within the last few years, and first one mill and then another makes finer and finer yarn. There seems to be no question up to number 80, and the results on numbers finer than 100 seem to be very satisfactory. The saving in cost of production is not the same in every case, but half a cent per pound ought to be possible on the finer numbers of yarn. This with the large saving in cop waste, the most expensive waste made in a mill, makes a strong argument for the frame and the change from mule yarn to frame yarn would seem to be a move in the right direction.

Foreign Textile Centres

MANCHESTER.—In the lace departments more vigor has been shown lately, and agents, both for home and foreign manufacturers, appear to regard the outlook as good. Cluny lace manufacturers have made wonderful efforts, and have succeeded in bringing out some distinctly attractive designs. Embroidered hats and all-overs, the latter on silk embroidered muslin, have been well sold by Plauen agents, especially to some of the foreign markets, and black silk laces have also met with fair enquiry. Lace bed sets, which were well bought for shipment a few seasons ago, appear to have done badly. No reference to hosiery would be complete that did not speak of the mercerized effects that have been brought out of late in stripes and other styles. Some of the finest novelties shown are in goods of this class, and the continent has not been slow to take up the business. Lace hosiery has received much closer attention. In striped hosiery gray grounds with fine stripes up have been fairly prominent. Blues and purples have met with support in foreign dyed goods, although it would be difficult to express an opinion as to the probable length of their reign. Combinations of mercerized cotton and merino for hosiery stripes produced a tasteful effect, and sprigs, polka dots, and other designs embroidered with mercerized cotton look very well, says *The Drapers' Record*. In the dress goods departments the outlook appears as satisfactory as in other branches. The abundance of employment in the great trades of the North makes a brisk retail movement certain, and every department of the wholesale trade will share in this prosperity. Printed silks do not seem to have such a run in this country as in some of the foreign markets, but Continental producers have paid close attention to these goods, and are showing a beautiful range of designs. In the heavier branches the feeling as far as linens are concerned is that prices will keep firm. Cuba continues to buy liberally, and the mills are so busy that manufacturers have no inducement to listen to buyers desirous of beating prices down. In fact, in some of the linen-producing districts labor is somewhat scarce. Most of the cloths going to Cuba are for clothing purposes, being, as a rule, of a medium or inferior grade, although some finer grades are sent. The demand, at any rate, has helped to considerably improve the general tone of the linen industry, and the outlook is more cheerful for the manufacturer to-day than it has been for a long time, while the distributor, as far as can be gathered here, can look forward with confidence to the results of his autumn trading. The prospects all round certainly appear satisfactory.

BRADFORD.—That part of the year 1899 which has already passed has been in the highest degree eventful for the Bradford trade, and the present commercial situation is also distinctly removed from the commonplace, says the correspondent of *The Drapers' Record*, London. During the year we have seen the establishment of a successful combination of such importance that it practically controls one of the most important branches of the Bradford trade, and other less important combinations are also taking possession of other departments of the local industry. It is impossible to foretell what the eventual effect of the establishment of these trade combinations may be, but it is certain that they must have a far-reaching effect on the Bradford trade generally, and that a full test cannot be given to them until they have successfully stood the strain of a long period of trade depression. We have also seen an almost unprecedented revival in the general trade of this country, coupled with one of the finest summers and most successful harvests in modern years. As this prosperity has extended to all our principal national customers, including the United States, every factor necessary for a good autumn business seems to be present,