FILLING BREAKING.

Pick too Strong.—If the pick is too strong the shuttle will strike hard against the picker and the filling will be broken.

Boxes too Loose.—If the boxes are not tight enough the shuttle will not be checked and will strike hard against the picker and filling will be broken.

Spindle too Small for Cop.—If the spindle is very much too small for cop, it will have to be replaced with a new one. A spindle can often be made large enough to hold the cop by opening it, but care is required so the spindle will not cut filling.

Reed Marks.—If any of the wires should get bent this will make a mark in the cloth. These are known as reed marks. Occasionally a bent wire has to be taken out and another wire put back in its place. These can often be straightened without pulling out any of the wires. If the wires in reed are clinched, straighten out the wire on top; take hold with a pair of plyers and pull the wire in reed straight. Hold wires and then clinch the top.

Reedy Cloth.—This is also known as "bare" cloth. In this cloth reed marks are distinctly visible all through the cloth, and the threads, which are drawn in the same dent, are run together. This cloth has not the same value as a good, well finished, covered cloth. It is not so good as covered cloth for printing purposes. It is not advisable to have reedy cloth and it can certainly be avoided.

Cover on Cloth.—A cloth with cover on it has a soft feel to it. This is caused by the filling being thrown on the face of the fabric. This cloth is produced by the manner in which the harness are set in relation to the whip-roll and breast beam. If the harness eyes are on a straight line with the whip-roll and breast beam, when the harness are opened the threads will open an equal distance, and an equal tension is on each half. This gives reedy cloth.—From the Textile Excelsior.

ELECTRIC POWER IN BRITISH TEXTILE MILLS.

The Electrical Engineer, London, England, commenting upon the use of electricity in British textile mills, says: "The limited adoption of electric motors for textile machinery is due rather to the conservatism of British mill owners than to any fault of the power agent. Trade depression has also done much to retard progress in this direction. Were the electrical engineer asked to specify the most suitable time for putting in an electric plant, he would choose a moment when the mill was working at low output and numerous machines were idle, so that any delays incident to the change would be of little importance. But, on the other hand, when business is poor, the management are seldom inclined to incur the considerable expense entailed. Further, the insufficiency of antiquated methods of power distribution is less keenly felt than when the plant is working at its maximum capacity, when a brief cessation of the power supply would greatly disorganize the work. With orders pouring in and the plant working day and night, the owners feel justified in greater outlay on improvements, and in consequence this time is generally chosen for the electrification of a mill. The wisdom of the policy is open to doubt, but the facts are obvious. Much credit is due to the engineer for the ingenious manner in which delays in changing over have been avoided; in numerous cases the electrical plant has been put in without the slightest degree affecting the continuous operation of the mill. But probably the advantages of electric power would have been better exemplified had it been possible in these cases to modify the transmission system further than by simply substituting motors for the various steam-engines employed to drive the shafting. While the driving of the majority of machines by individual electric motors is not considered the best practice from either a technical or an economical point of view, the grouping of machines driven from one source of power can often be improved upon to a great extent in changing over, resulting in improved working conditions and decreased expenses."

The following description is given of an electrical installation grafted on to an existing mechanical system, at Sir Titus Salt's extensive works, Saltaire. The mills are driven by small steam plants laid down at several different points. The twisting shed is, however, located about 500 yards from any part of the main shafting, and it was therefore decided to drive it by electric power, rather than incur the great friction loss of mechanical transmission over such a distance. Current is generated by a Westinghouse alternator of 100-h.p., on the three-phase system, which runs at 440 volts and 720 revolutions per minute. It is driven by eight cotton ropes from a pulley 4 feet in diameter on the main shaft, running at 340 revolutions per minute. A smaller dynamo is used as an exciter. The plant has been running ten hours a day for eighteen months, and has required practically no attention. Starting and stopping are very simple, and no skilled supervision is required at any time. The Westinghouse induction motor, located at one end of the twisting shed, is of 75-h.p., and drives the line shafting by six cotton ropes running on grooved pulleys. Twenty twisting frames are at present driven by the motor, each having 180 spindles running at 2,500 revolutions per minute. The frames are driven by belts from the line shafting, and any of them can be isolated when required by the use of loose pulleys.

The polyphase induction type of motor, as here exemplified, is without a doubt superior to any other electrical machine for such work. It is simple and efficient, it can stand treatment that would inevitably ruin a direct-current machine, and it abolishes the bug-bear of sparking. The rotating member, or armature, of this motor contrasts strongly with the equivalent part of the more familiar direct-current motor, consisting simply of solid copper bars laid in slots in a laminated core, these bars being bolted at their extremities to heavy copper end rings. There is no insulation, no small conductors liable to injury, no thin "band wires," and no commutator. These advantages are unquestionable, and demonstrate clearly the superiority of the alternating-current system for electric power distribution in cotton mills.

The above plant, though but of small size, is interesting as showing that British textile manufacturers are evincing a disposition to adopt methods which have been in use in Canadian mills for some years.

COTTON GROWING IN FIJI.

The secretary of the Manchester Chamber of Commerce has received a letter from T. F. Burness, of Caboni, Fiji, who desires to enlist the practical help of the Chamber to induce the British Government to enable uncultivated land —of which there are upwards of one million acres—to become available for the production of cotton. Mr. Burness says it seems to him, as a Britisher, a scandal and a shame that such a valuable asset of the Empire should not be rendered available for the cultivation of a product so vital to the Empire's welfare. He proceeds: "On my plantation,