raw material will go to increase the comfort and preserve the health of the people, while another part, "which comes from the Manchester spinning mills in hundredweight bales, and costs about £30 per ton," may deal out destruction to life and property wholesale. Almost as though intended to point out the astonishing contrasts of the textile, and as if to show that cotton contains remedial as well as destructive elements, it was lately announced that the root of Gossypium herbaceum is used and very strongly recommended by Russian practitioners as a powerful hæmostatic. A liquid extract of the root is said to have successfully stopped hæmorrhage where all other remedies had failed. Thus while cotton in one form might cause cruel wounds, another application of it might be used to staunch blood, and a third preparation be administered internally to contract the blood vessels and prevent exhaustion.

SPIDER SILK.

A tremendous amount of misplaced energy has been spent by one man after another in the endeavor to bring spider threads within the scope of textile manufacture. Reaumur touched this side of the silk question, as he did that of artificial silk, and he had the gratification of inspecting and reporting upon to the leading body of savants of his day, a pair of mittens made by a M. Bon from the silk of the halabe spider of Madagascar. Halabe silk is said to be well adapted for weaving, and it was from it that the Creoles of the Mauritius made the highly elegant pair of gloves which they presented in the days of her glory to the Empress Eugenie. Towards the end of last century a M. Rolt introduced a little machine for reeling the silk as the spider spun it, and presented to the Society of Arts in London a thread of 6,000 metres in length, obtained in two hours from 22 spiders. A couple of years ago, says the *Textile Manufacturer*, another Frenchman named Camboue found that the silk-producing capacity of the halabe commenced at the rate of about 100 metres, but soon increased to about 150 metres per hour. The same gentleman made some minute experiments to determine the strength of the thread, and found that at a temperature of 17°, with a humidity of 68°, it was able to bear a weight of 3.26 grms. without breaking. It will be seen, therefore, that in the matter of strength it compares not badly with mulberry silk. The common house spider has not escaped the finicking experimenter—who, by the way, is usually a Frenchman. Stockings and gloves have been manufactured from the silken bags within which the female spider deposits her ova. But the difficulty of collecting these egg-bags, and the still greater difficulty of inducing the fierce little specimens to live together in unison, soon put a stop to all the efforts to control and utilize the house spider. Another objection lies in the want of strength in the fibre—an objection which cannot, as we have seen, be advanced against the halabe. Indeed, we are assured that it is only the incorrigible laziness of the natives of the districts where the spider abounds that prevents its utilization for manufacturing purposes. We have it on the word of M. Anton Dumaresq that a material has been obtained by the labor of the common ermine moth that is so strong and light as to have been actually made into and worn as a lady's neckerchief. Again, spider silk of a very excellent kind is formed on sticks in the North-west Provinces of India by *nephilengys malabarensis*. Yet again, and in conclusion, an Englishman, by name Stillbers, succeeded in 1890 in making a cloth of spider's web which he utilized for surgical purposes. He used tropical spiders only, and most of them he obtained from Africa and America. The stuff he obtained was of a texture resembling ordinary silk, but rather thick and stiff. The natural color was a by-no-means attractive grey, but the bleaching process removed this defect, and the roughness was obviated by the common process of softening, which made it brilliant as well as smooth.

For THE CANADIAN JOURNAL OF FABRICS

WORKMAN TO "SUPER"

BY G. DAMON RICE, MEDFORD, MASS.

II.

Management of the Spindle Bands.—The making and using of the spindle bands of a spinning mule form one of the essential parts of the mule fixing business. The best of adjusted mule heads will not work effectively if the spindle bands are too tight, too loose, or otherwise out of order. The tracks of the mule carriage may be uniformly set, the driving belts may be just about right, and all the moving parts of the head motion and its connections may be set according to the latest of improved methods, yet bad work will result, even if all these things are right, if the spindle bands are not right. The care of the spindle band falls upon the attendant of the machine to a great extent, but it also falls to the duty of the fixer to see to it that the bands are kept in proper shape. In the first place, good bands are needed. There are a number of ways in which bands can be made now, and all are fairly good. Probably the most common method of producing practical bands consists in the use of a home-made banding machine, such as is shown in Fig. I. This drawing is a top view of the affair, representing the parts seen when looking directly down upon them. But a single band is made at a time, yet the work is quickly done and a good band is made, only that it is not endless, and therefore must be spliced by the spinner.

As it may be necessary for the fixer to build one of these banding machines some day, perhaps an account of the method of putting the parts into shape may be beneficial. First notice the framework, which can be made from wooden pieces, and bolted together and fixed upon a stand near some driving pulley. Then procure an ordinary mule spindle, and have the point heated and bent over in the shape of a hook, as represented by E, in the spindle, A. Then a shafting must be put in with a fast and a loose pulley, B. A