

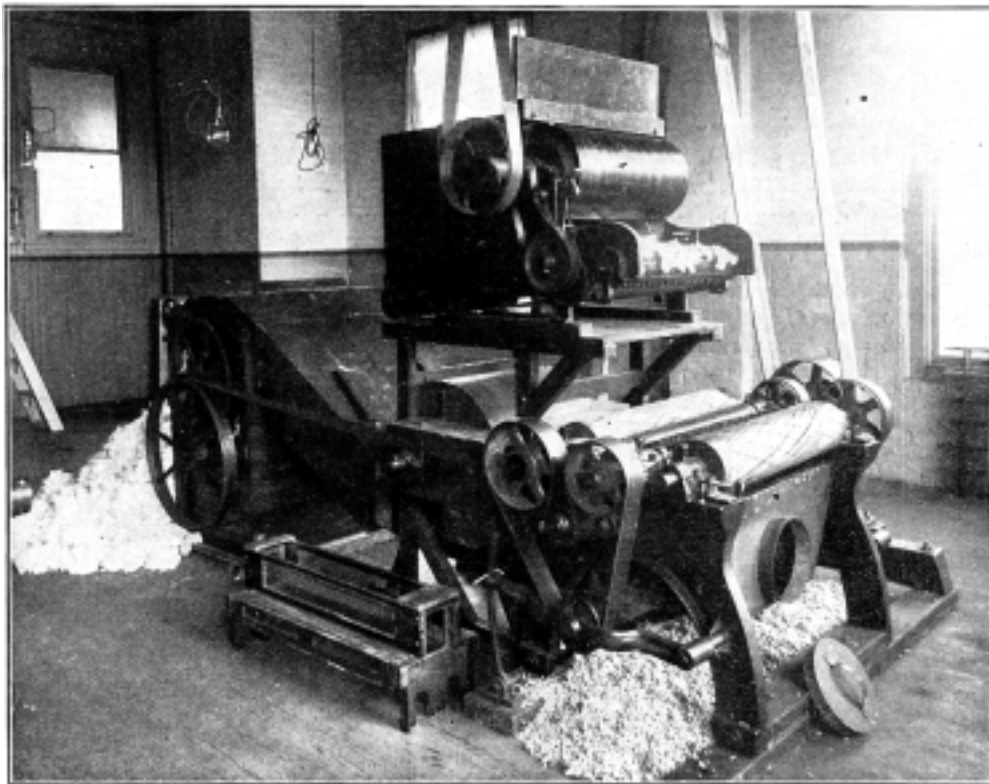
ROLLER COTTON GIN AT LAST

By

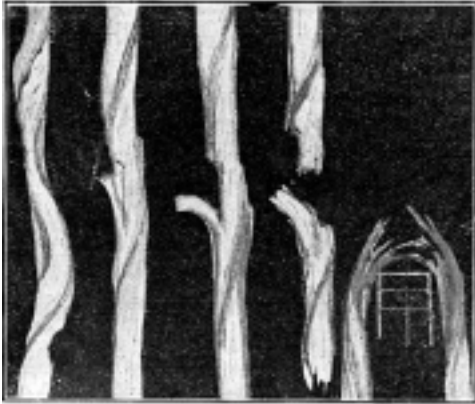
C. E. HAYES

FOR years all cotton men, whether growers, ginners or manufacturers, have recognized that a radical improvement was necessary in the present method of ginning cotton. The enormous loss in wasteful ginning methods, estimated as amounting to \$40,000,000 on each year's crop, could be saved for the mills of this country, with the use of a perfect gin. Roller gins have been recognized for years as the proper gins to use, delivering the cotton fiber in its full length, uncut and unbroken, while

the saw gins materially damage the fiber. But the roller gins in use, working by reciprocating motion, have a very small capacity, about 40 to 50 pounds per hour as compared with the saw gins which turn out from 400 to 500 pounds of lint per hour. Also the roller gins in use have only been adapted to the ginning of the very longest varieties of cotton, like Sea Island and Egyptians, and not much success was achieved with them in the ginning of short staple or upland cotton which comprises ninety-nine per cent. of the cotton crop in this country.



THE NEW ROTARY GIN WHICH HAS AN ENORMOUS CAPACITY FOR COMBING COTTON.



MAGNIFIED COTTON FIBERS SHOWING CUTS AND INJURY FROM SAW GINNING.

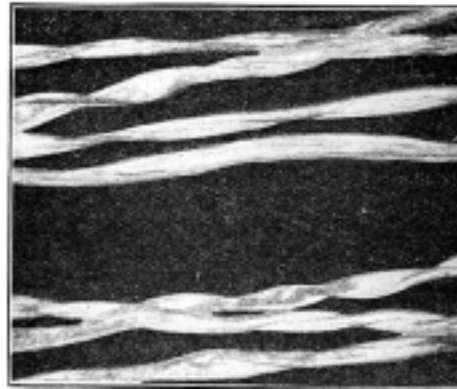
For years inventors have been working to improve the capacity of the roller gin, knowing that when the quantity of output would equal the saw gin, the latter would die out.

Some years ago Charles J. McPherson of South Framingham, Mass., became interested in the improvement of cotton ginning and as a result of his experiments invented what he calls the rotary comb roller gin. This gin will soon be in the market in competition with the saw gin.

The new gin uses a rotary process which gives it a rapid ginning action and a great capacity, turning out from 400 to 500 pounds of short staple cotton per hour while the fiber is uninjured and the quality of the lint perfect. Many points of superiority are claimed for this new gin over the saw gin. Among them is the saving in fire losses which now occur in saw ginneries through the action of the rapidly revolving saws encountering pebbles or small particles of hard metals which are frequently brought to the ginneries in the seed cotton. Sparks are flashed as a result and fires ensue, thus causing insurance rates on ginneries to be very high. The action of the rolls in the rotary gin is to smother the fire should one start in the gin. Repeated tests having been made to demonstrate this fact. There is no danger whatever to operators of the new roller gin. Thousands of employes in Southern ginneries are maimed or less seriously injured each year by saw gins.

The new gin has ginned wet cotton

perfectly and no saw gin will do it without mangling and tearing the lint. In competition with saw gins in the South it saved from twenty to twenty-five pounds of waste per bale, as it delivered the line full length from the seed. Perfect lint to the manufacturer means a



PERFECT COTTON FIBERS FROM ROLLER GIN.

great saving to him in the preliminary processes in the mill, besides making a stronger yarn. As a result roller gin cotton sells from one-half to three cents per pound more than saw gin cotton.

The gin consists of two sets of double rolls, the rolls of each set revolving in opposite directions. One of these is a ginning roll, and is covered with some soft material having a gentle friction—usually walrus hide—which will thus not only not injure the fiber, but likewise should be free from the danger of heating excessively. The other roll is a combing roll and consists of a shaft on which are set spirally two pointed soft metal disks. The lint on the seed is caught by the ginning roll and drawn inside a polished steel plate or blade against which the ginning roll revolves. This action holds the seed firmly against the dull edge of the blade and it is combed from the lint by the points of the rapidly revolving disks. After being detached by the comb roll, the seeds are forced through a grate underneath by the rotary action of the comb roll, and the lint, now free, is blown by means of a suction fan to a condenser in the rear of the gin. The simplicity and efficiency of the process are apparent at a glance.