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**Art. V.—COTTON GINS.**

PRATTSVILLE, Autauga Co., Ala., June 30, 1846.

*To the Editor of the Commercial Review :*

Your circular has been received, accompanied with a request that I should give you the history, locations, &c., of my business in the manufacture of Cotton Gins. I commenced the business in this State, in the year 1833. My establishment is situated on Autauga Creek, four miles north of Washington Landing, on the Alabama river, and thirteen miles west of Montgomery. Since commencing I have manufactured probably a little exceeding 5,000 gin-stands; I now manufacture about 500 annually—I have excellent water-power, which enables me to do most of my work by machinery. In connection with the gin factory, I have a saw, grist, and flouring mill, and am just now putting a cotton factory in operation expressly for the purpose of making heavy cotton Osnaburgs for plantation use—so that I flatter myself that by the first of October next, I will be able not only to furnish the cotton planter with gin-stands, but cotton Osnaburgs of as good a quality, and as cheap, as they can be procured elsewhere.

The establishment is styled the Prattsville Manufacturing Company, No. 1. Our machinery is entirely new, and made expressly for heavy goods—when in complete operation expect to turn out 6,000 yards per day—weighing half pound to the yard. My market for gins is Tennessee, Alabama, Mississippi, Louisiana, Arkansas, and Texas, and have also sent some to Mexico. I am not in the practice of sending gins from the factory until ordered, except to New Orleans, where Messrs. H. Kendall, Carter & Co., 15 St. Charles

street, keep a constant supply of all the different qualities I make, 1st, 2d, and 3d quality stands; the 1st are made with double-breasted large wing brushes, calculated for long flues. These I sell at \$4 per saw, the 2d are single-breasted, breast same as the 1st quality, calculated for long flues, these command \$3 50 per saw; the 3d quality is a lighter gin, with a 16 inch breast calculated for short flues—these are sold for \$3 per saw. They run lighter, and gin equally as fast as the other; the saws and breasting on the 2d and 3d qualities are same as the first. I make use of Naylor & Co's. sheet cast steel for saws No. 21 gauge—I have it manufactured to order, and use about 14 tons annually. I make from 6 to 16 teeth to the inch, as purchasers may order; my fine teeth gins work slow, but make fine cotton. When left to my judgment, I put 10 teeth to the inch, which I think gives more general satisfaction than any other number, and place the saws on a cylinder  $\frac{3}{4}$  inch apart. I make use of cast iron ribs altogether—have been using them more or less for 13 years past, and find them to answer a better purpose than any wrought ribs I have ever used. I think I am the first person that ever made use of cast ribs; I have them chill hardened, nearly as hard as glass where the saws pass through them. My gins are made on the most simple plan I can adopt to have them answer the purpose. I have long since learned that a piece of machinery should be simple, to go into general use—my object is to make them simple and durable. In relation to improvements in gins, I think the most important that have been made of late, are the improvement in the fineness and shape of the teeth, and in the use of long flues. It is important to have the teeth cut with such a pitch, as to have them pass through the breast so that the whole length of the tooth will strike parallel with the rib where it passes through. When the teeth go through point foremost, they will knap the cotton more or less, owing to the situation of the cotton. Flues ought to be made with slats running across, and to be from 10 to 20 feet long, according as the house will admit. These flues when properly made, will take a great portion of the dirt and trash out of the cotton.

As respects use of trashers, I am decidedly of the opinion that they ought not to be used until after frost kills the cotton. Every operation that cotton goes through injures it more or less. If a man wants fine cotton, he must pick it out as soon after it opens as he can, and clear of trash. There is more in handling cotton well than in the gin. Letting cotton be long exposed to the sun injures it by bleaching, and deprives it of that cream color which is so desirable. I am of opinion, were it practicable, that cotton would be better to be dried in the shade; I have no doubt but that steam or water is far preferable to horse-power for running a gin. The gin runs with a more steady and uniform motion, which I consider very important. There is one thing highly essential to the good performance of a gin, which most of the planters are deficient in, that is a good substantial gin-house, and running gear, also a good band. A gin ought not to have less than 260 revolutions to a minute.

In relation to baling cotton, I have never seen anything for general use which I think preferable to the screw; I think it would be much better if planters would make their bales square; what I mean

by square bales is, to have them square instead of flat as most of them now are, they would be much easier to handle with the hook—and would go to market in much better order. Some people think that running a gin fast injures the cotton. I am of a different opinion; the reason why gins that pick slow make the best cotton, is that they are calculated for slow gins; the teeth are so constructed as to take on but little cotton, consequently the brush throws it out in better order. Let the teeth be fine and short, so that they will take on but little cotton, you cannot then give the gin speed to injure the cotton; you can, however, speed it so high as to prevent it shedding the seed and rolling—coarse teeth will gin fast, and knap the cotton, if not very dry—it is this that has given the idea that fast gins injure the cotton. I think, however, that the greatest error that most of the cotton planters labor under, is planting too much. If they would plant less, handle their cotton better, pick it out easier, they would realize more for their crops, and be enabled to have everything in better order around them.

Yours, respectfully,

DANIEL PRATT.