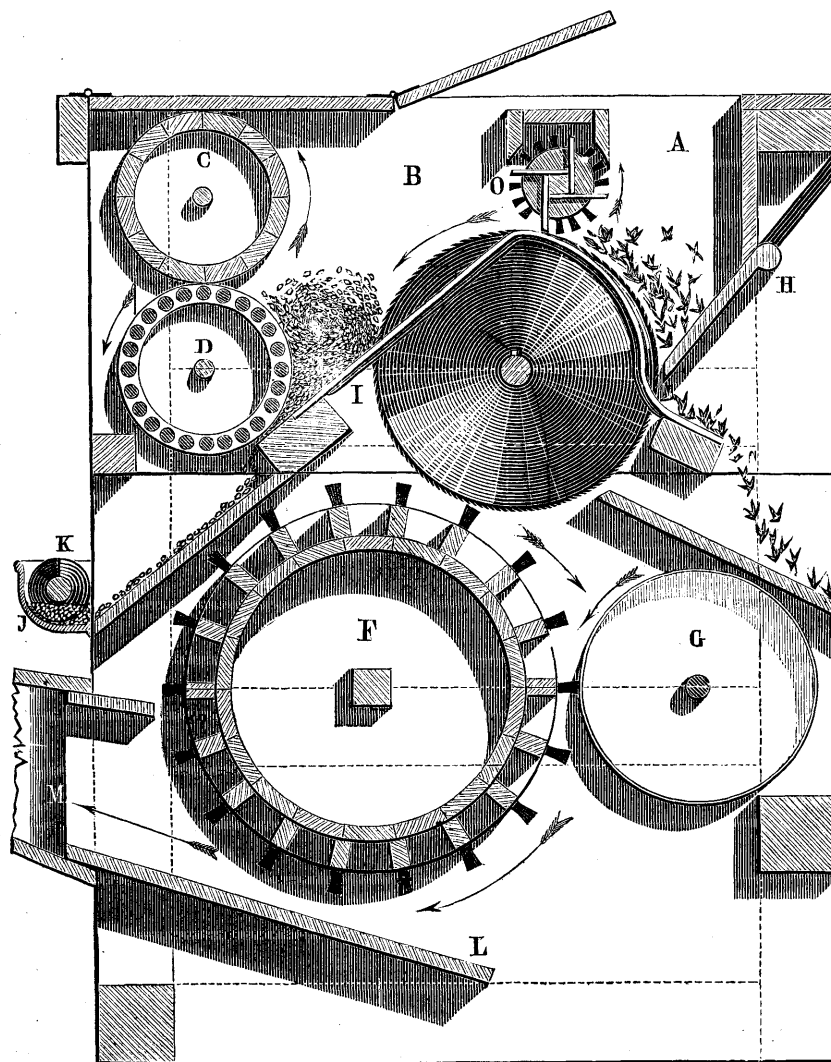


Cotton Gin, by Richard R. Gwathmey. At the last meeting of the Institute were exhibited the above apparatus with specimens of its work.

Its structure and operation will be clear on examination of the following cut and description.

The cut represents a transverse section of the Champion Gin and Huller. The cotton is dropped into the front box, **A**, where the saws in operation carry it into the breast box, **B**, the hulls being constantly kept back by the hulling roller, **O**. The cotton roll which forms in the breast, **B**, is carried and kept intact by the two carrying rollers, **D** and **C**, the lower one of which is open or slatted, and the upper one a continuous circumference. The brush,

F, takes the cotton off the saws, and throws it on the wire gauze cylinder, G, which allows the dust, but not the cotton, to pass through it. The brush, F, gathers the cotton again from this wire



cylinder, and throws it past the mote board, L, and out of the flue, M. O shows the ribs between the saws, and H shows an inclined sliding bottom to adjust the hulling operation. The seeds pass out under the roller, D, fall into the trough, J, and are carried off by the screw, K.

The saws are so arranged as to run in a reverse direction to those of all other gins. From this new adjustment, a great advantage is claimed, namely, that of procuring the lint from the seed cotton "in the boll," without cutting or breaking the hulls or napping the lint.

It must be obvious to all who have any experience of the mode of preparing cotton for the market, that a machine which will accomplish this without any additional power required to work it, must enable the planter to cultivate and gather in much larger crops with the same number of hands, than he could possibly do by relying upon the capacities of ordinary gins, adopted only for work upon cotton previously picked from the hull.

To show the financial advantages claimed for this invention a short calculation will suffice. In the usual way of hand-picking cotton, from 150 to 200 pounds in the seed, constitute an average day's work of a hand. But when the boll and hulls are pulled or raked off, from 600 to 800 pounds a day can be carried from the field by a single hand.

Supposing the cotton to be picked from the field by the hand, in the usual way, at the rate of 200 pounds to the hand per day, the amount in 30 days would be 6000 pounds. Allowing two-thirds of this weight for the seed, the amount of cotton wool, after ginning, would be 2000 pounds of merchantable cotton, or 5 bales of 400 pounds each. This at 20 cents per pound would yield the planter \$400 for thirty days picking of one hand.

But where a Gwathmey Gin is employed, which will gin the cotton thrown into the hopper, *hulls and all*, four times the amount can be gathered from the field by one hand in the same time, that is to say, 24,000 pounds in thirty days. Deduct from this gross weight, 10 per cent. for the hulls, and two-thirds of the remainder for the seed, and the yield of clean cotton wool to the planter would amount to nearly 20 bales, which at 20 cents per pound would give \$1,600 for the product of one hand's picking for thirty days.