

WILSON & PAYNE.

Cotton Gin.

No. 20,120.

Patented April 27, 1858.

Fig. 3.

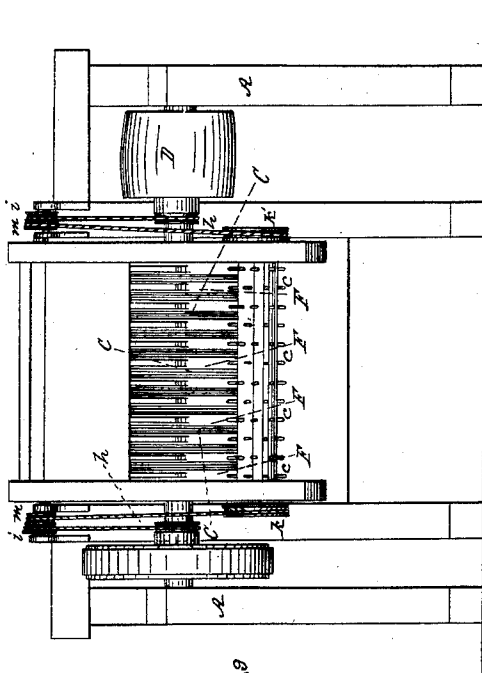


Fig. 2.

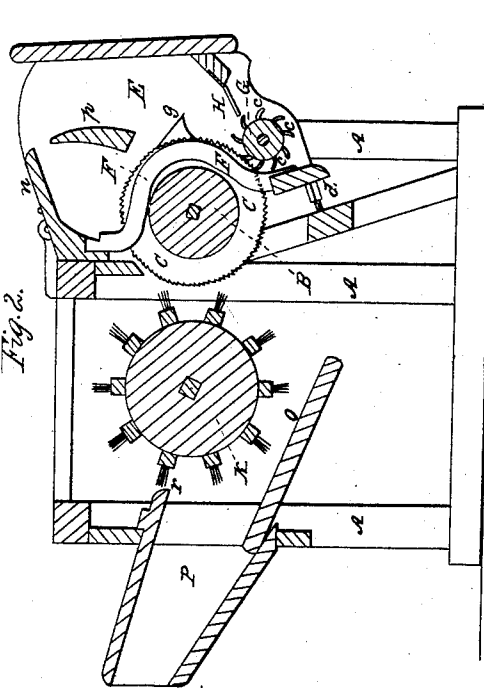


Fig. 4.

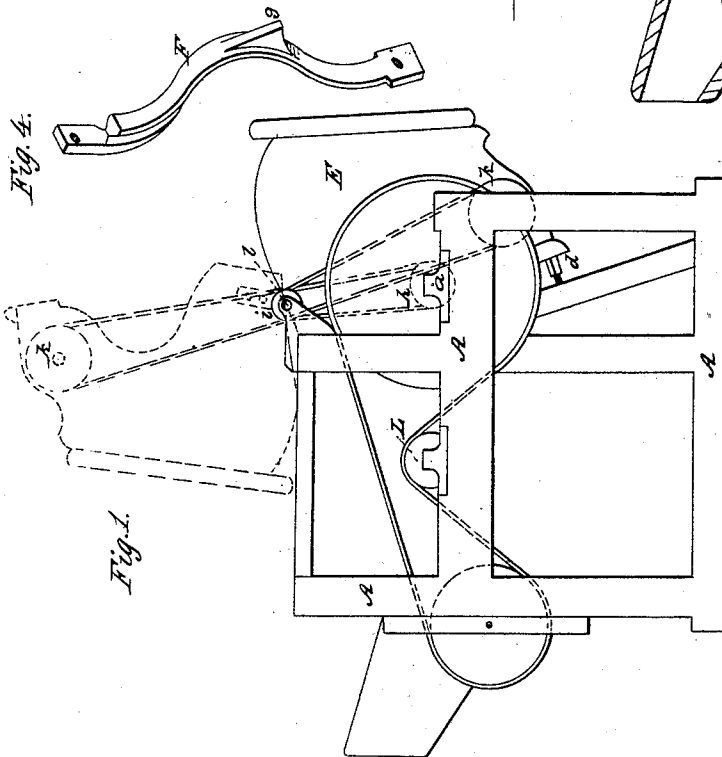
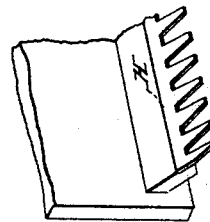


Fig. 1.

Fig. 5.



UNITED STATES PATENT OFFICE.

JAMES N. WILSON AND GEO. W. PAYNE, OF MEMPHIS, TENNESSEE.

IMPROVEMENT IN COTTON-GINS.

Specification forming part of Letters Patent No. 20,120, dated April 27, 1858.

To all whom it may concern:

Be it known that we, JAMES N. WILSON and GEORGE W. PAYNE, of Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Cotton-Gins; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents an elevation of said cotton-gin. Fig. 2 represents a longitudinal vertical section through the same. Fig. 3 represents a front view of the cotton-gin. Figs. 4 and 5 represent detached views of details hereinafter to be described.

The nature of our invention relates to the feeding of the cotton to the saws by means of a feeding-cylinder, to the stripping the cotton of coarser impurities by means of projections on the ribs between which the saws run, and to the peculiar arrangement of the belting of the feeding-cylinder which permits the feeding-hopper to be raised, lowered, or adjusted to the ginning-saws without previously stopping the machine.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A represents the frame of the machine. B represents the saw-cylinder, to which the saws C are secured in the usual well-known manner. The ends of the saw-cylinder shaft are supported by suitable boxes, *a*, and the cylinder is driven by power applied to pulley D.

E represents the hopper-frame. This frame is pivoted to the main frame A by means of pins *b* passing through the brackets of the main frame, and through suitable studs of the hopper-frame. The ends of the hopper-frame rests upon the heads of the screws *d*.

F represents metal ribs, which are secured at both ends, respectively, to the upper and lower part of the hopper-frame, and between which the saws revolve. The particular shape of these ribs is represented in Figs. 2 and 4. Each rib is formed with a projection or knuckle, *g*, the object of which will be described hereinafter.

G represents a cylinder, which is armed with curved teeth *c*, which serve to carry the cotton to the saws as said cylinder revolves. Rotary motion is given to this cylinder in the following manner: An endless belt or cord passes around pulley *h* on the cylinder G, and returns over pulley *m* down again to pulley *h*. This arrangement of pulleys permits the hopper-frame E to be turned over pin *b* without interfering with the belting arrangement. Thus the hopper E can be turned to the position represented in red in Fig. 1 without arresting the motion of the machine. The hopper-frame can be set to any desired inclination by adjusting the set-screws *d*, on which the lower end of the hopper rests, and thus the position of the ribs F can be adjusted with great accuracy in regard to the ginning-saws, allowing said saws to project through the ribs any regulated distance.

H represents an inclined grate, which serves to support the cotton in hopper E.

K represents the stripping-cylinder, which is provided with brushes in the usual manner, and which is driven by a pulley, L.

The operation of this machine is as follows: The cotton is thrown into the space E of the hopper, and is prevented from touching the upper parts of the saws by the hinged cover *n* and by the partition *p*. The cotton falls down upon the inclined grate H, and as the cylinder G revolves the teeth *c* carry the cotton downward and then upward between the saws C. As the cotton is carried upward, it passes between the projections *g* on the ribs, which strip it of the coarser impurities. The cotton is then carried by the saws through between the ribs F, which separate the seed from it, and the brush-cylinder K strips the saws and carries the cotton onto the board O and out through trunk P, while the point *r* perfectly clears the brushes from adhering cotton.

Having thus fully described the nature of our invention, what we claim therein as new, and desire to secure by Letters Patent, is—

1. The adjustable hinged hopper and rib-frame, in combination with the belt arrangement described, by which the side frame can be adjusted, raised, or lowered without stop-

ping the motion of the machine, substantially in the manner set forth.

2. The projection *g* on the ribs, substantially in the manner and for the purpose described.

3. The toothed feeding-cylinder *G*, in combination with the inclined grate *H*, partition

p, and hinged cover *n*, substantially in the manner and for the purpose set forth.

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GEORGE W. PAYNE.

Witnesses:

MILTON H. SUMMER,
ALPHEUS W. REEVES.