(No Model.) 2 Sheets—Sheet 1.

G. E. TAFT, Dec'd.

C. A. TAFT and E. S. CLARK, Executors.

CARDING MACHINE.

No. 410,864. Patented Sept. 10, 1889.

Fig. 1.

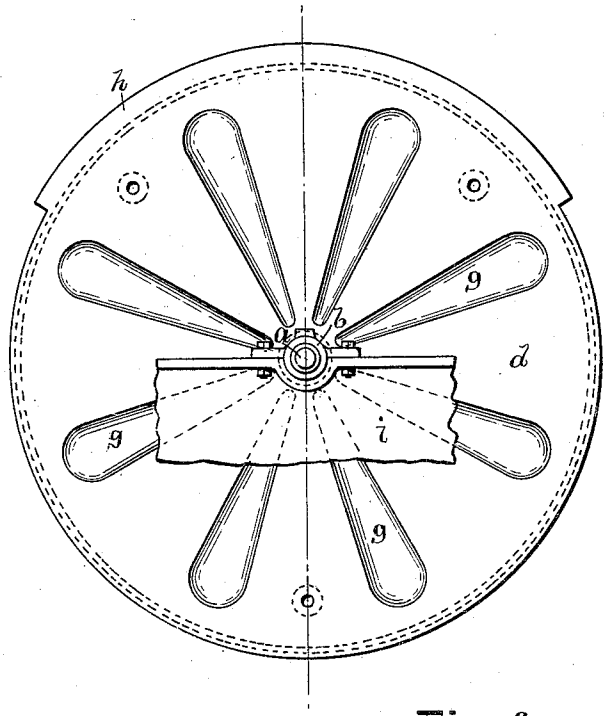


Fig. 2.

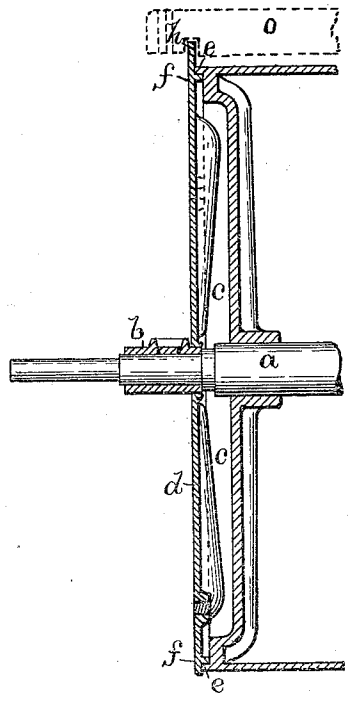
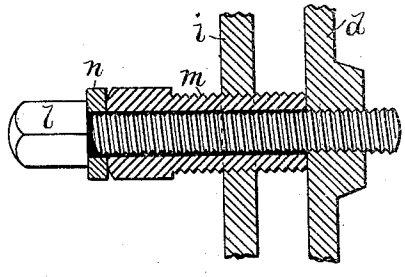


Fig. 3.



WITNESSES:

Chas. H. Luther Jr

M. F. Bligh

C. A. Taft
& E. S. Clark
Executors of G. E. Taft, dec'd
INVENTOR.
by Joseph A. Miller, Jr.
Atty

N. PETERS. Photo-Lithographer. Washington. D. C.

(No Model.)

2 Sheets—Sheet 2.

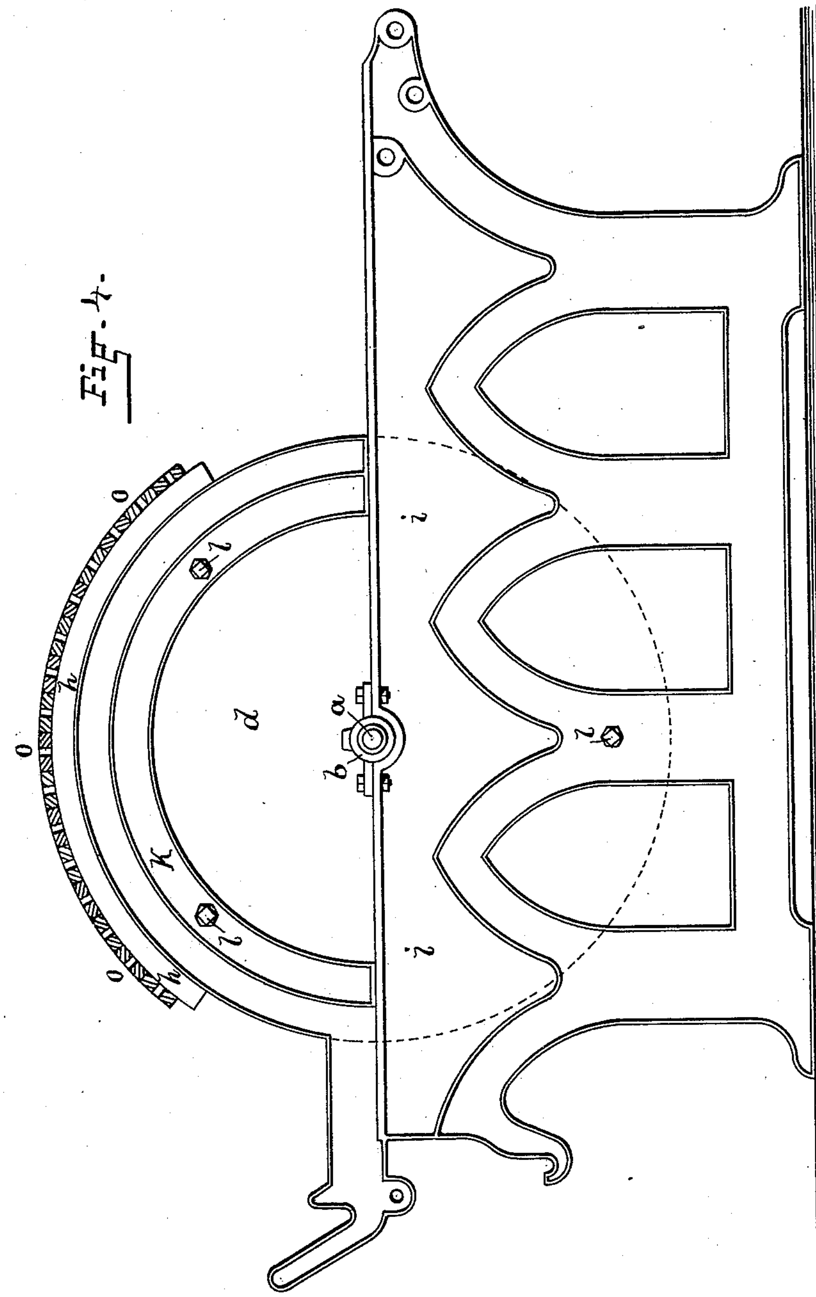
G. E. TAFT, Dec'd.

C. A. TAFT and E. S. CLARK, Executors.

CARDING MACHINE.

No. 410,864. Patented Sept. 10, 1889.

Fig. 4.



WITNESSES:

Chas. H. Luther Jr

M. F. Bligh

C. A. Taft and E. S. Clark Executors of G. E. Taft, dec'd

INVENTOR:

by Joseph A. Miller & Co. Att'ys

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CYRUS A. TAFT, OF WHITINSVILLE, MASSACHUSETTS, AND EDWARD S. CLARK, OF PROVIDENCE, RHODE ISLAND, EXECUTORS OF GUSTAVUS E. TAFT, DECEASED.

CARDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 410,864, dated September 10, 1889.

Application filed January 4, 1889. Serial No. 295,469. (No model.)

To all whom it may concern:

Be it known that GUSTAVUS E. TAFT, deceased, late of Northbridge, in the county of Worcester and State of Massachusetts, did invent certain new and useful Improvements in Carding-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in machines for carding cotton or other fibrous material.

The object of the invention is to protect the large or main cylinder of a carding-engine against air-drafts.

In carding-engines the speed at which the main cylinder revolves causes a constant indraft and outdraft of air. When these air-drafts are intelligently controlled, they can be utilized to facilitate the cleaning and carding of the fiber. The aim in the modern carding-engine is to so control the air-drafts and utilize the same. The ends of the main cylinder of a carding-engine when in operation, no matter how smooth their surfaces may be, act on the air in contact with the same to drive the air outward from their periphery by centrifugal force and draw the air inward at their center by the partial vacuum created by the outward motion of the air. The air-drafts thus generated drive the fiber from the edge of the cylinder toward the center and prevent the even working over the whole width of the cylinder. For the purpose of preventing these air-drafts a shield or cover is provided for the ends of the main cylinder, as will be more fully set forth hereinafter.

Figure 1 is a view of the shield or escutcheon, also showing the shaft-bearing of the carding-cylinder. Fig. 2 is a sectional view showing the end of the main carding-cylinder and the shield or escutcheon in connection therewith. Fig. 3 is a sectional view of the stay-bolt by which the shield is secured to the card side or frame and adjusted with reference to the carding-cylinder. Fig. 4 is a view of the card side or frame, showing the position of the stay-bolts and the segment covering the space between the cylinder and the top-flats of the carding-engine.

Referring to the drawings, similar letters of reference indicate corresponding parts throughout.

In the drawings, *a* designates the shaft of the main carding-cylinder of a carding-engine; *b*, the bearing of the same; *c*, the end or head of the carding-cylinder; *d*, the shield or escutcheon.

The carding-cylinder is shown as provided with the projecting flange *e* on its periphery and the shield with the flange *f*. These flanges I prefer to turn true, so that one fits or nearly fits to the other and the outlet of air is prevented. In place of the flange *e* on the cylinder a groove may be formed in the head near the periphery, and the flange *f* fitted to enter the groove in the head *c*. The flange *f* may be square, V-shaped, or of any other suitable section, and instead of forming the joint between the cylinder and the shield at the extreme outer edge of the cylinder a joint tight enough to prevent the outrush of air may be placed some distance from the periphery of the cylinder without changing the effect of the invention. At the center the shield should be made to closely fit the shaft or the bearing, so that no air can rush in at this joint, for if no air can enter near the center no air can be drawn off from the periphery after the cylinder has been for even a short time in motion.

For the purpose of firmly securing the shield and adjusting the same any mechanical device may be used. As it is, however, desirable to secure and adjust the shield or escutcheon with great nicety to the cylinder, a special device has been designed by which the shield can be secured and accurately adjusted from the outside of the carding-engine, consisting of the stay-bolt *l*. Referring again to the drawings, *i* indicates the card side or frame, and *k* the arch of the card side or frame. Three stay-bolts *l* are shown in Fig. 4—two in the arch *k* and one in the frame *i*. These stay-bolts may, however, be distributed otherwise, and more than three may be used.

Referring to Fig. 3, it will be seen that the stay-bolt *l* is threaded and enters the screw-threaded hole in the shield or escutcheon *d*, which at the places where the bolt enters is provided with a boss to secure greater thickness and length of screw-thread. The bolt *l* passes through the cylindrical sleeve *m*, screw-threaded in the card side or frame *i*. The bolt *l* and the screw-threaded sleeve *m* are each provided with a head, so that they can be readily turned with a wrench. The washer *n* is placed between the head of the bolt *l* and the head of the sleeve *m*. The sleeve *m* can be turned in or out to form a support at any given point for the shield *d*, and by turning the bolt *l* the shield is drawn against the end of the sleeve *m* and is firmly held. By this arrangement the shield can be adjusted to the cylinder with great nicety.

The shield or escutcheon *d* may be provided with the projecting section *h* to cover the space between the carding-cylinder and the top-flats *o*. (Shown in Fig. 4.)

It is preferred to make the shield or escutcheon of metal; but any other suitable material may be used.

To stiffen the shield, it may be provided with light ribs, or the surface may be corrugated, or the radial concaved figures *g* may be formed on one side of the same, as shown in the drawings.

Both ends of the carding-cylinder are to be provided with a shield, as is shown in Fig. 2 applied to one end.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination, with the frame of a carding-engine, the main carding-cylinder, and a shield or escutcheon, substantially as described, of a fastening and adjusting device consisting of a threaded sleeve adjustably secured in the frame and a bolt constructed to hold the shield against the sleeve, as described.

2. The combination, with the frame of a carding-engine and the carding-cylinder, of the threaded sleeve *m*, the shield *d*, and screw-bolt *l*, constructed to secure and adjust the shield, as described.

In witness whereof we have hereunto set our hands.

CYRUS A. TAFT,
EDWD. S. CLARK,
Executors of the estate of Gustavus E. Taft, deceased.

Witnesses:
J. A. MILLER, Jr.,
M. F. BLIGH.