

(No Model.)

C. YOUNG.
COTTON CLEANING MACHINE.

No. 482,669.

Patented Sept. 13, 1892.

Fig. 1.

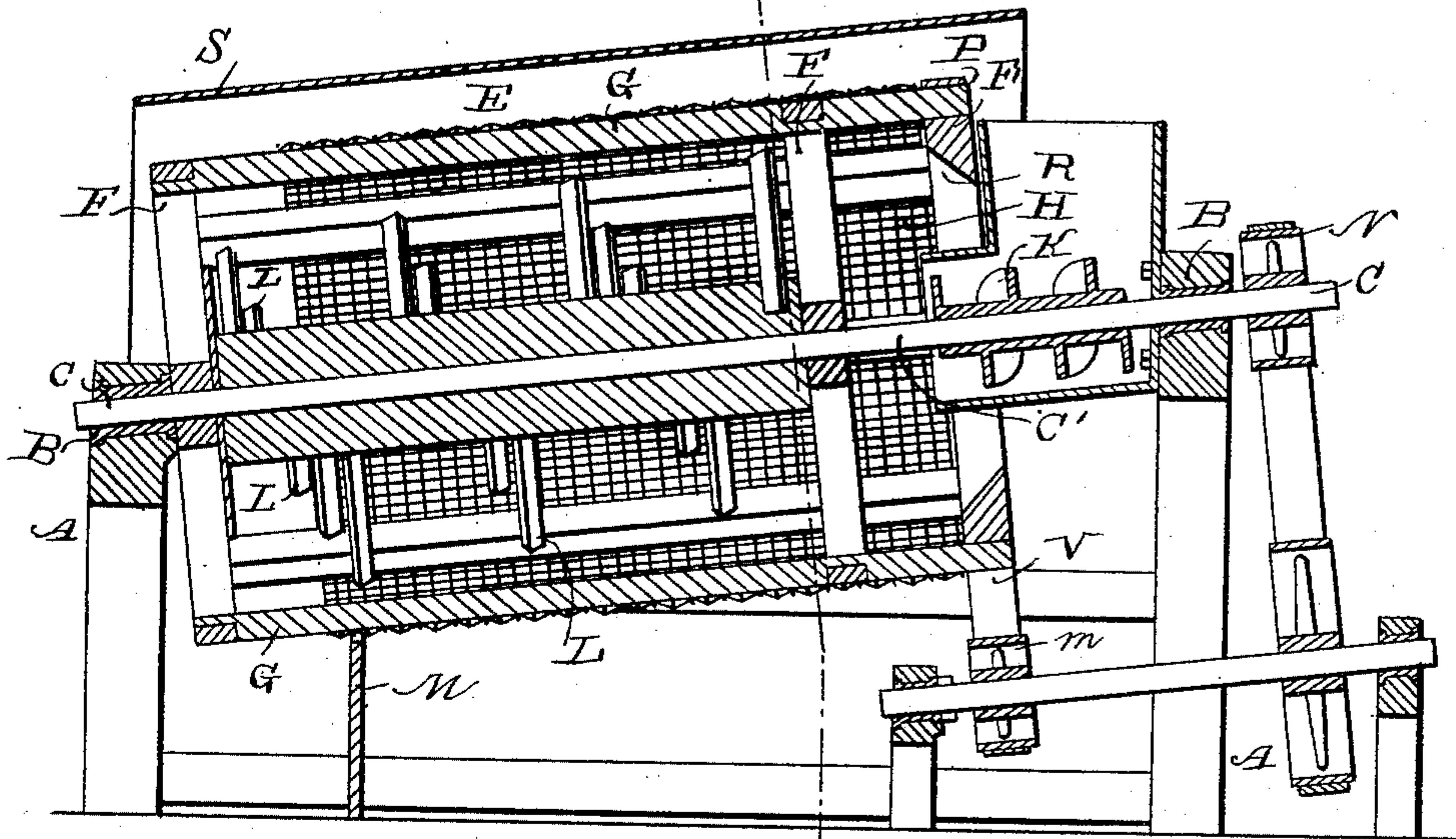
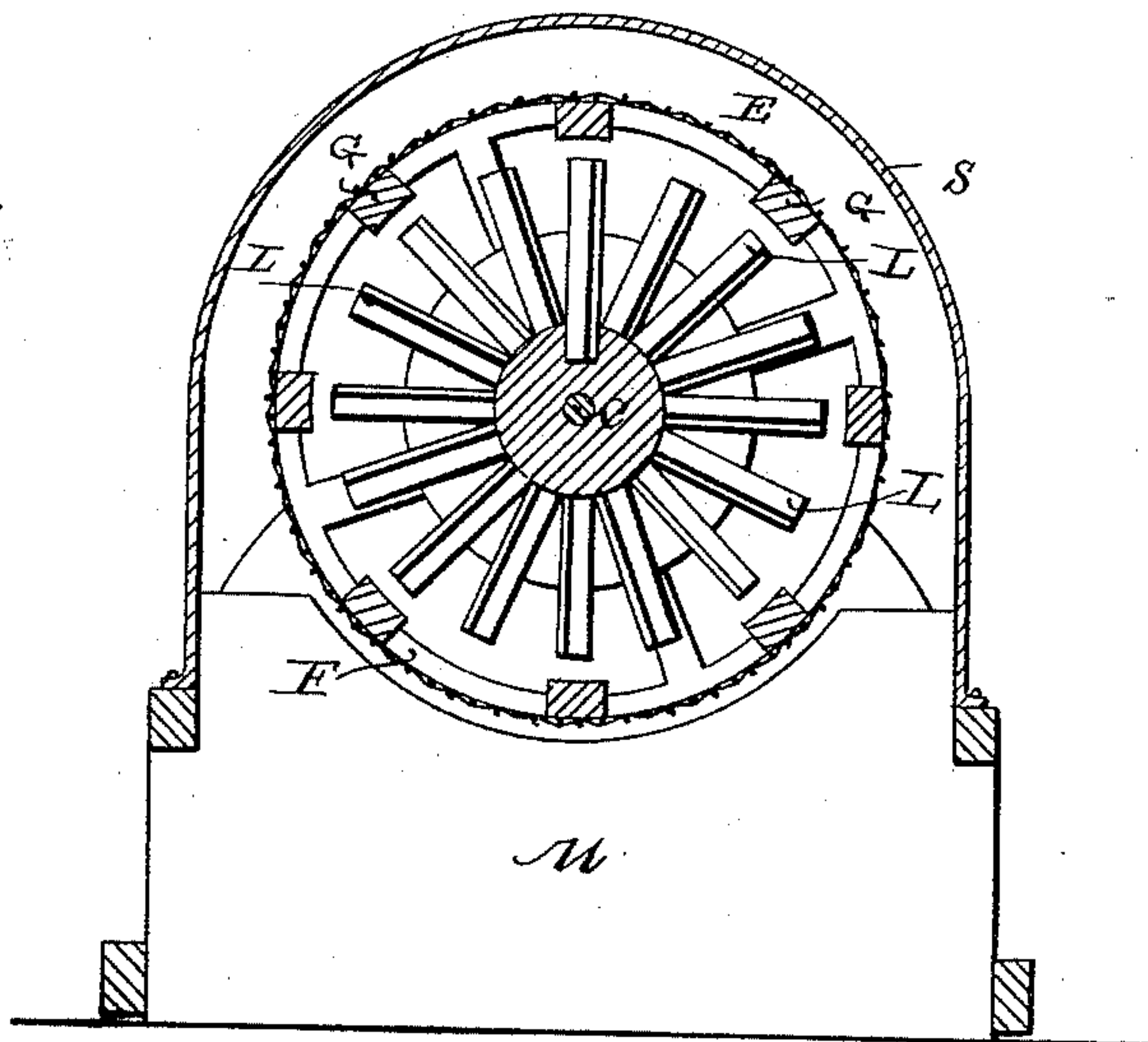


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

CORNELIUS YOUNG, OF SELMA, ALABAMA.

COTTON-CLEANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 482,669, dated September 13, 1892.

Application filed November 19, 1891. Serial No. 412,400. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS YOUNG, a citizen of the United States, and a resident of Selma, in the county of Dallas and State of Alabama, have invented certain new and useful Improvements in Cotton-Cleaning Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a vertical longitudinal sectional view of a machine embodying my invention, and Fig. 2 is a vertical transverse section thereof.

The object of this invention is to take out the particles of boll, leaf, and dirt from cotton; and it consists of the novel construction and combination of parts composing a machine for this purpose, as hereinafter set forth.

In the accompanying drawings the letter A designates a framework having bearings B for the shaft C, which is inclined from the receiving end somewhat downward to the discharging end of the wire cylinder E, which is concentric with the shaft C and is supported upon the circular frames or heads F F' and the longitudinal ribs G, which connect said frames or heads. The bearings of the frames F are preferably upon the shaft C, while the head F' at the receiving end is supported by the extensions g of the ribs G at this end. Between this head F' and the next circular frame F is a circular compartment (indicated at H) into which the cotton, with such particles of leaf as may be adhering thereto, is delivered from a hopper or spiral feed K.

Spirally around the shaft C are placed the beaters L, which are preferably radial arms, squared in cross-section, and these spiral beaters are placed as near together as can conveniently be accomplished along the length of the shaft between the frame F, no beaters being placed on the end portion C' of the shaft in the compartment H at the receiving end of the cylinder, which is thus left open for the reception of the cotton from the feeder, which is designed to project into said chamber.

At the lower end of the wire cylinder is provided the discharge opening or openings, which are preferably peripheral, and under the cylinder, next its wire portion is placed the partition M, which extends transversely up around the lower portion of said cylinder on each side, in order to prevent the leaf and dust carried out through the mesh of the wire cylinder from becoming again mingled with the cleaned cotton after the latter has been discharged. The mesh of the wire-cloth of the cylinder is of large size, about five-sixteenths being preferred.

The shaft C, with its spiral beaters, is designed to be rapidly rotated, a speed of about five hundred revolutions per minute being effective when the cylinder E is run at a speed of about twenty-five revolutions per minute. At this speed the cylinder, aided by its internally-projecting ribs, will carry the cotton to the upper portion of its interior and, it will then fall and be acted upon by the beaters, which, as it is passing through the cylinder, will whip the particles of leaf and boll free and will by their blast action blow the particles and dust out through the meshes of the wire-cloth of the cylinder. The cotton is continually fed forward by the action of the spirally-arranged beaters, as well as by the rotation of the downwardly-inclined cylinder. The beaters, although normally at right angles to the shaft, are actually inclined to the vertical plane and toward the discharging end, so that they have each an action which feeds the cotton forward as it falls in the cylinder. It is important that a number of these beaters be employed and that they follow each other in quick succession in their action, as the locks of cotton are not very large, not over an inch to two inches in diameter, and they must be each acted upon in an efficient manner to dislodge the smaller particles of leaf and debris, so that the blast will take effect.

The blowing action of the beaters is very effective in carrying the particles of dust and leaf through the meshes of the wire-cloth without taking the cotton into said meshes in such a manner as to clog them, and the cotton is discharged after such action in a clean state, relieved of all particles of boll and leaf, so that it is fit to be fed to the gin.

The circular compartment in the receiving

end of the cylinder is designed to prevent the action of the beaters from obstructing the feed of the cotton, which, being very light, would at the commencement of the beating
5 action be liable to be forced backward, clogging the feed. Within this compartment, however, the locks of cotton and particles of leaf are carried around between the rim portion R of the circular head F' and the next
10 rim-frame F in such a manner as to enter easily the cleaning compartment of the cylinder to be acted upon.

A hood or casing S is usually placed over the cylinder and assists in keeping the particles of leaf and dust from flying about and
15 becoming mingled with the cleaned cotton.

N represents the pulley, whereby the shaft is turned, and P the large pulley of the cylinder, which I have preferably placed on the
20 head F', this pulley being connected by the belt V to the small driving-pulley m. By means of this or other suitable mechanism the shaft and cylinder can be turned at the desired rates of speed.

25 What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a cotton-cleaning machine, the combination, with the framework having the transverse under partition and the inclined shaft
30 journaled in said framework, said shaft hav-

ing a series of spirally-arranged beaters terminating short of one end thereof, of the inclined large-mesh-wire cylinder around said shaft, said cylinder having at its upper end, around that portion of the shaft free from
35 beaters, a circular receiving-chamber located between the upper end frame of the cylinder and an interior circular frame, and mechanism for rotating said shaft and cylinder, substantially as specified. 40

2. In a cotton-cleaning machine, the combination, with the inclined shaft, its series of spirally-arranged beaters in close proximity to each other and terminating short of one end of the shaft, of the inclined large-mesh
45 wire-cloth cylinder around said shaft, the circular frame therein near one end portion, and a circular receiving-chamber around that portion of the shaft free from the beaters, said chamber being located between said circular
50 frame and the upper end frame of the cylinder, and mechanism designed to rotate said shaft and cylinders at different rates of speed, substantially as specified.

In testimony whereof I affix my signature in
55 presence of two witnesses.

CORNELIUS YOUNG.

Witnesses:

GEORGE H. PARMELEE,
PHILIP C. MASI.