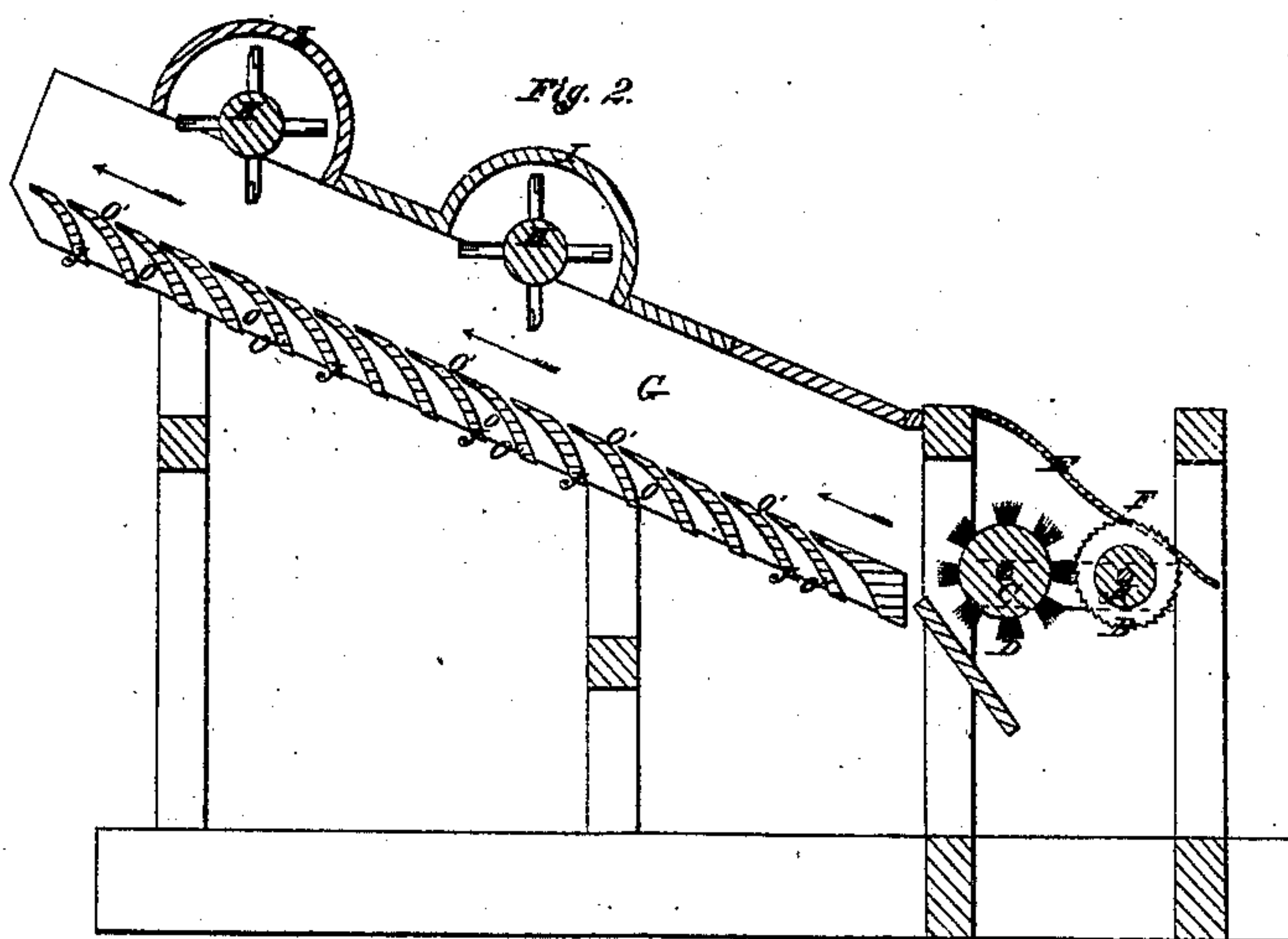
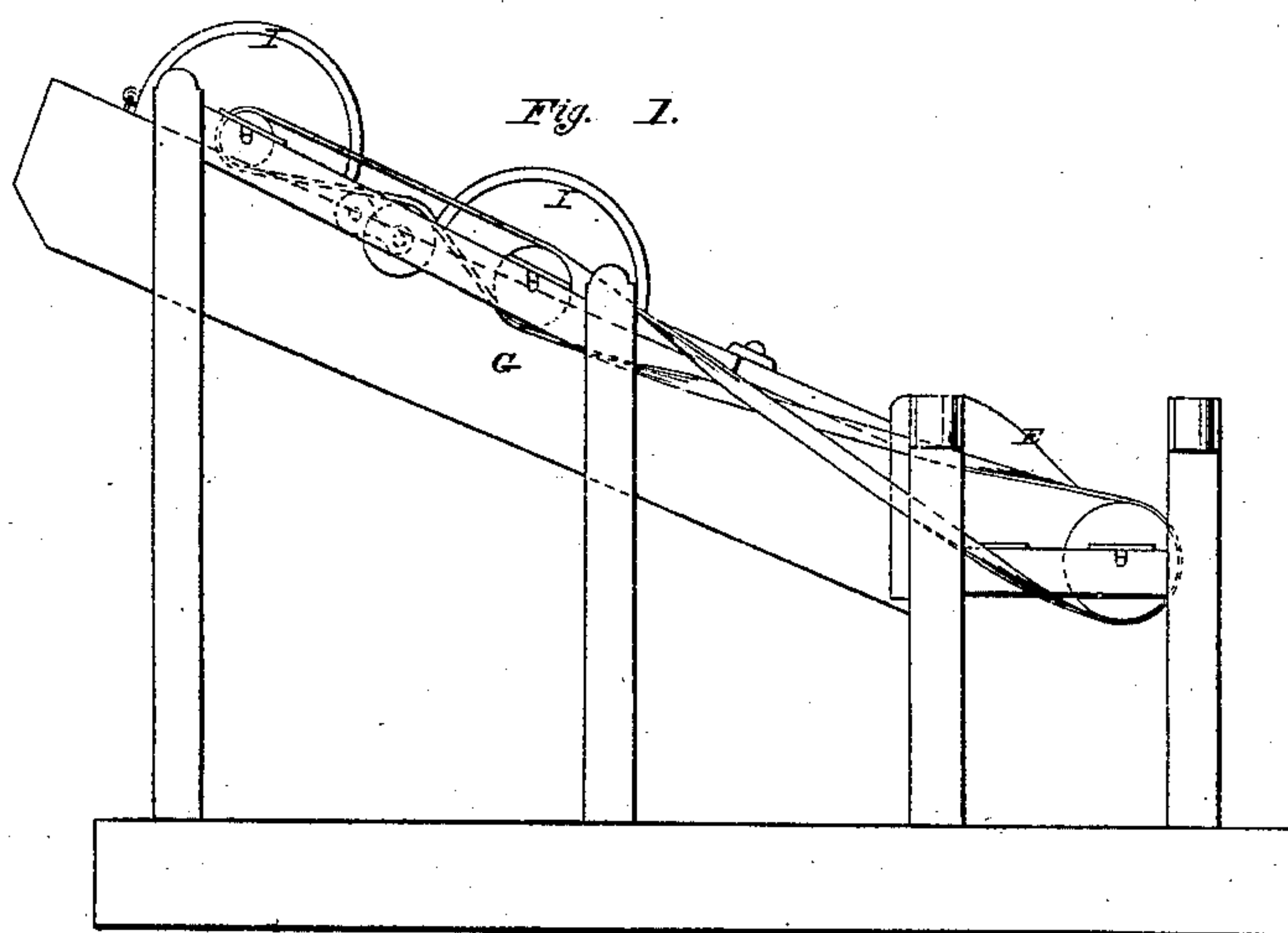


W. H. JOHNSON.
COTTON CLEANER.

No. 30,227.

Patented Oct. 2, 1860.



Witnesses,
J. H. A. A. A.
J. H. A. A. A.

Inventor,
W. H. Johnson

UNITED STATES PATENT OFFICE.

WILLIAM H. JOHNSON, OF RICHMOND, ARKANSAS.

IMPROVEMENT IN COTTON-CLEANERS.

Specification forming part of Letters Patent No. 30,227, dated October 2, 1860.

To all whom it may concern:

Be it known that I, WILLIAM H. JOHNSON, of Richmond, in the county of Sevier and State of Arkansas, have invented a new and useful Improvement in Cotton-Cleaners; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view, and Fig. 2 a longitudinal vertical section, of the machine.

Similar letters of reference in each of the several figures indicate corresponding parts.

The nature of my invention consists in the combination, with a cotton-gin, of an inclined flue having a continuous slatted bottom with curved tapering passages through it, and the fan-beaters, the said parts being so arranged and operated that the cotton as it comes from the saws is thrown up the flue by the action of the blast created by the stripping-brush, and in its passage is thrown down against the slatted bottom of the flue and forward by the action of the fan-beaters. The cotton, in being forced through the flue by the stripping-brush and thrown down against the slatted bottom of the same, has the dust, trash, sand, &c., knocked and blown out of it, and these impurities, by reason of their superior specific gravity and the backward curved inclination of the discharge-passages and the tapering shape of said passages, discharge in a reverse direction from that in which the current is moving. Thus having the cotton-discharge in one direction and the impurities in another or an opposite direction, obviates all liability of the lint being beaten through the dust and sand discharge passages and of said passages being clogged by the lint, while a perfect and rapid discharge of impurities is insured.

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

The front part of this cotton-cleaning device is to be placed immediately underneath the cotton-gin, and consists of two cylinders, the outer one, A, carrying saws B, and the inner one, C, being provided with brushes D, such as usually employed in cotton-cleaners. The space above these two cylinders is covered by means of a shield, E, containing suitable slots, F, for the saws to project through.

Behind the brush-cylinder there is an inclined box, G, containing a series of fan-beaters, H. The drawings represent two of these fan-beaters, but any number of them may be employed. The lid of the box G is suitably covered at I I, so as to accommodate the fan-beaters. The rear end of the box is open. The bottom of the box is made of a series of curved slats, J. Each of these slats is made of tapering thickness, the thin end of each being at the top and somewhat overlapping the next slat, so as to form between each two of the slats an aperture, O, which is of a curved shape, and which is very narrow at the top, as seen at O', and gradually widens toward the bottom, as seen at O². The slats are curved backward from the saw and brush cylinders, so that the upper mouth, O', of each aperture is directed toward the rear end of the machine.

The saw and brush cylinders and the fan-beaters are geared together, so that the brush-cylinder revolves faster than the saw-cylinder, the first fan-beater faster than the saw-cylinder, and the second fan-beater faster than the first fan-beater.

Each of the fan-beaters is constructed of a central shaft and radial frames, the latter being covered with canvas or similar material. This is a very cheap construction, and answers the purpose even better than brushes.

The operation of the machine is as follows: The saws take the cotton from the gin, draw it through the slots F, and pass it to the brush-cylinder, the saw-cylinder and brush-cylinder revolving against each other. The rapid revolving motion of the brush-cylinder creates a considerable draft of air through the box G in the direction of the arrows, as seen in Fig. 2. This draft is increased still more by the rapid revolutions of the fan-beaters, and as the apertures between the slats of the bottom open toward the rear end of the machine, as above set forth, said current of air does not react through said apertures, as would be the case if the apertures were open toward the current of air. This current of air draws the cotton upward along the inclined and slatted bottom of the box G. The cotton, as it arrives underneath the fan-beaters, is subjected to a rapid beating motion, which serves to loosen and separate all particles of sand, trash, and similar impurities from the cotton. These

impurities drop through the apertures in the slatted bottom into an ordinary air-tight dirt-receptacle, which completely incloses the slatted bottom of flue and shuts off the external air from the same, and the cotton is discharged at the rear end of the machine in a perfectly clean condition.

As the slats are curved and the apertures are thus allowed to be of less width than what they are at bottom, the sand, &c., can drop through them freely without being choked up, which is the greatest trouble with bottoms consisting of straight slats, the apertures between which are of equal width throughout, is effectually prevented.

I am aware that in preparing and cleaning fibrous material—such as wool, cotton, &c.—

long troughs with perforated bottoms have been used, through which the material is driven by a blast or by the exhaustion of the air; but I do not lay claim to that arrangement.

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

The combination, with a cotton-gin, of an inclined flue having a continuous slatted bottom with curved tapering passages through it, and the fan-beaters, said parts being arranged and operating relatively to one another, substantially as and for the purposes set forth.

WM. H. JOHNSON.

Witnesses:

GOODWIN Y. AT LEE,

I. M. PITTS.