

No. 751,639.

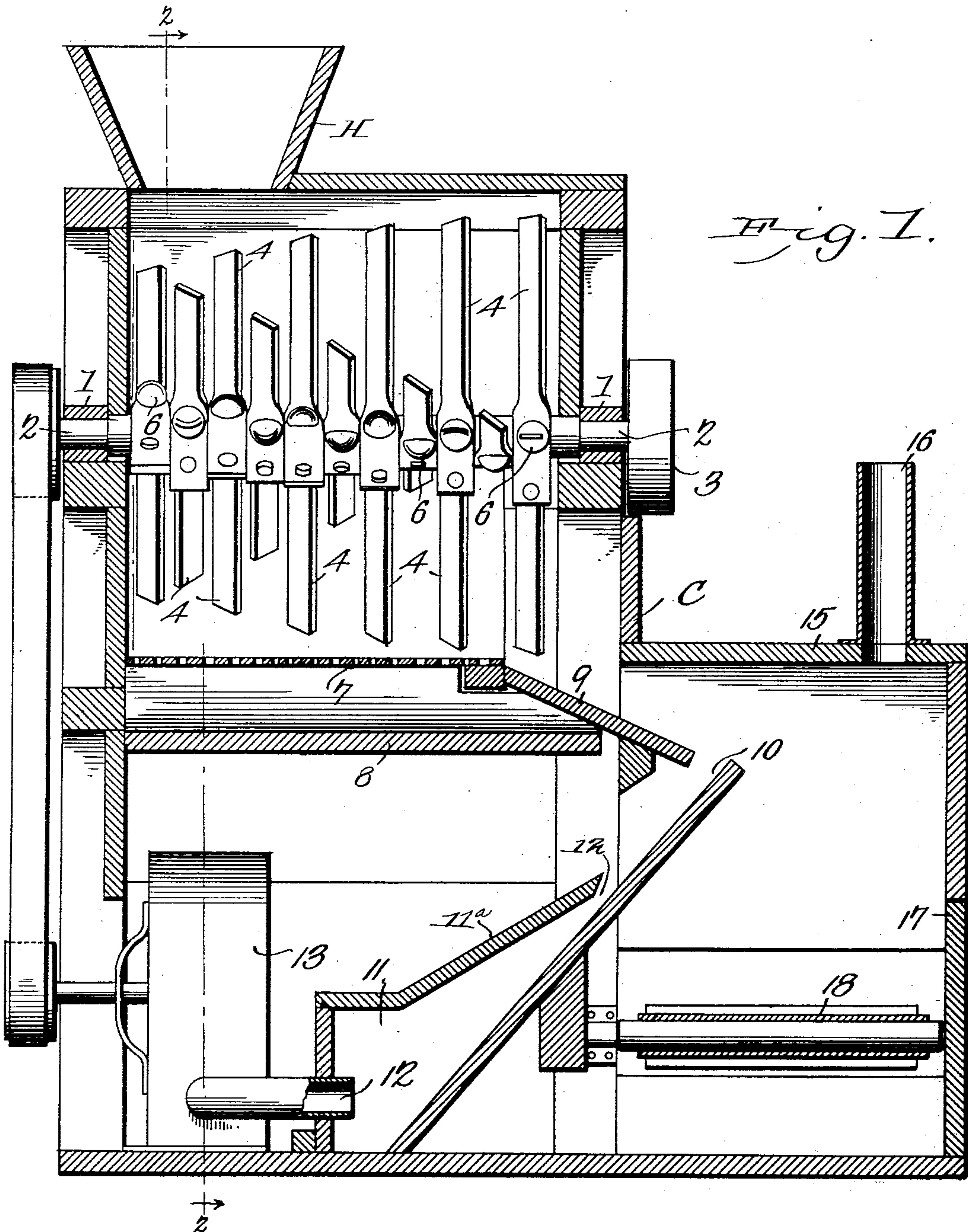
PATENTED FEB. 9, 1904.

J. W. HARRINGTON.  
COTTON SEED CLEANER.

APPLICATION FILED JUNE 22, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses  
*E. C. Stewart*  
*Baxter Norton*

*John W. Harrington* Inventor  
by *C. A. Snow* Attorneys

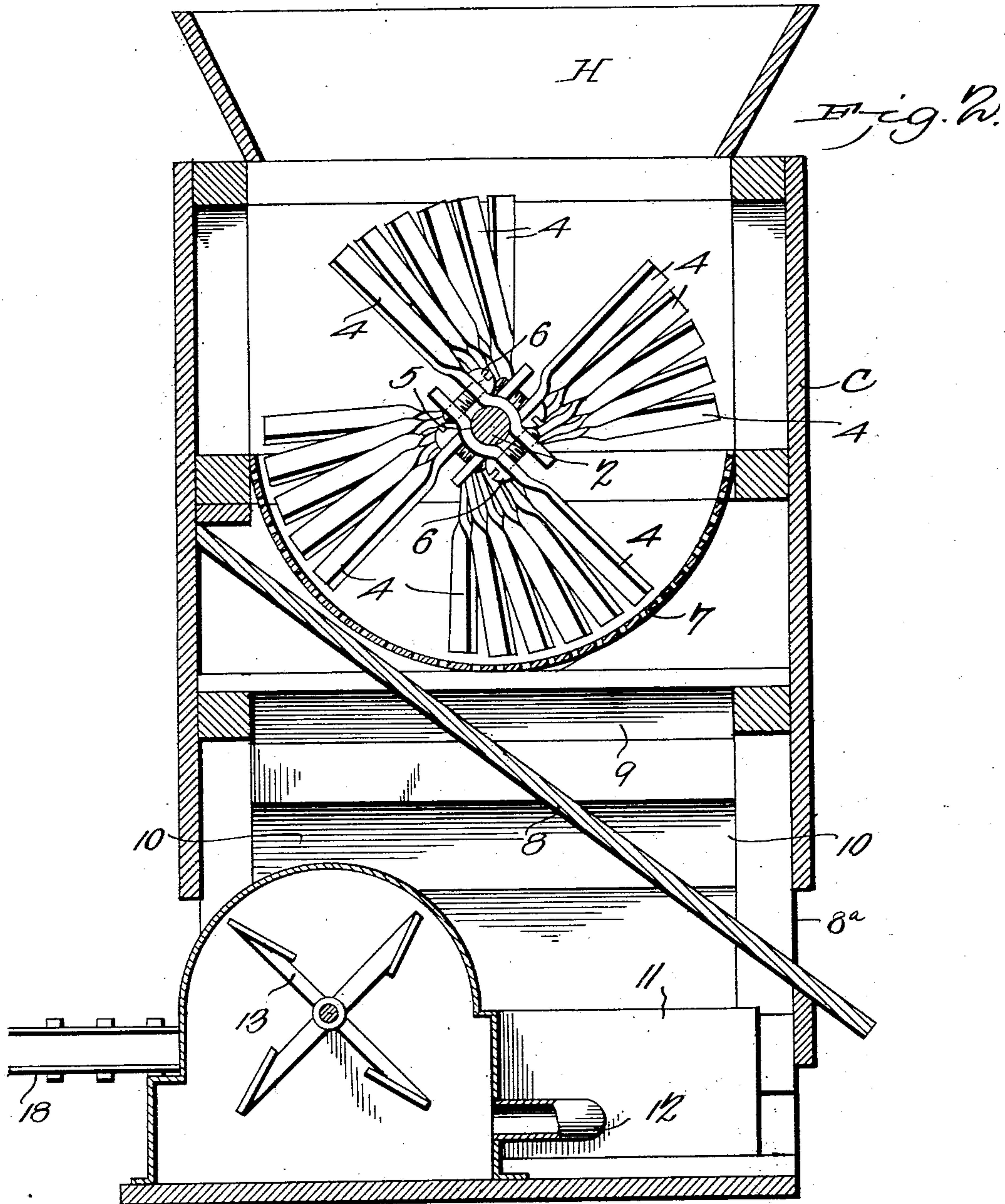
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*E. C. Stewart*  
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# UNITED STATES PATENT OFFICE.

JOHN W. HARRINGTON, OF AUGUSTA, GEORGIA.

## COTTON-SEED CLEANER.

SPECIFICATION forming part of Letters Patent No. 751,639, dated February 9, 1904.

Application filed June 22, 1903. Serial No. 162,680. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. HARRINGTON, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented a new and useful Cotton-Seed Cleaner, of which the following is a specification.

This invention relates to cotton-seed cleaners.

The principal object of the invention is to provide a simple and effective apparatus for removing from cotton-seed the dust and dirt which is ordinarily adherent in varying quantities to the lint attached to the cotton-seed and which is objectionable partly because it lessens the value of the lint detached from the cotton-seed by the linters through which it is passed prior to use in manufacturing cotton-seed oil and, further, because the accumulations of dust and dirt on the lint of the cotton-seed are injurious to the saws of the linters through which the cotton-seed is passed.

In attaining the object above stated I make use of the construction and combination of parts of a cotton-seed cleaner hereinafter described and claimed, and illustrated in the accompanying drawings, forming a part of this specification, in which corresponding parts are designated by the same characters of reference throughout the various views in which they appear, it being understood that changes in the form, proportions, and exact mode of assemblage of the elements may be made without departing from the spirit of the invention or sacrificing the advantages thereof.

In the drawings, Figure 1 is a vertical longitudinal section through the seed-cleaner on the median line. Fig. 2 is a vertical transverse section through the cotton-seed cleaner on the line 2 2 of Fig. 1.

Referring to the drawings by reference characters, C designates generally the casing of the cleaner, at the top of which is mounted, preferably, a hopper H, through which cotton-seed is fed to the interior of the casing.

Within the casing C is rotatably mounted in bearings 1, at the sides thereof, a shaft 2, having on one end external to the casing a pulley 3, which is rigidly attached to the shaft. Within the casing there are fastened

to the shaft 2 a plurality of beaters 4, each consisting of a bar of metal having a slight twist approximately midway between the ends and provided near one end with a concavity 5, adapted to correspond to the contour of the shaft 3 and having on either side of the concavity 5 an opening for the passage of a securing-screw 6. The beaters 4 are arranged in pairs, as shown, each pair having the twisted ends oppositely disposed and being secured together by screws 6, as above mentioned. The pairs of beaters are arranged so that when the shaft is rotated in the direction indicated by the arrow in Fig. 2 they tend to propel the cotton from the end of the casing under the hopper H toward the opposite end.

Beneath the beaters 4 there is secured within the casing C a curved metal sheet 7 of such curvature that the revolving beaters travel thereover without contact with its surface, but pass in close proximity thereto throughout the entire length of the sheet. The sheet 7 is perforated to permit the passage downward out of the casing C of the loose dirt detached from the cotton-seed by the bars 4, and the loose dirt on passing through the perforations in the sheet 7 escapes to the outside of the apparatus through an opening 8<sup>a</sup> in the side thereof by traveling over the inclined bottom 8, which forms a sort of chute that extends out to one side of the apparatus, as shown. The curved sheet 7 lies in contact with the side of the casing adjacent to the hopper H; but at the opposite side the sheet 7 is spaced from the side of the casing, so that the cotton-seed forced in that direction by the beaters is caused to pass off the surface of the sheet 7 and down over an inclined surface 9, which terminates a short distance from an inclined wall or stop 10, against which the cotton-seed strikes after passing beyond the lower edge of the chute 9.

At the lower end of the wall 10 is provided a box 11 to receive solid particles too large to pass through the openings in the sheet 7 and too heavy to be disposed of in the manner presently to be described. Opening into the box 11 is a pipe 12 from a blower or fan 13 of any suitable construction, which is mount-



ed, preferably, under the casing C and driven from any suitable source of power. The blast of air introduced through the pipe 12 strikes against the inclined wall 10 and spreads out over the surface thereof, but is directed generally upward toward the top of the wall, where it is spaced, as shown at 12<sup>a</sup>, from the top 11<sup>a</sup> of the box 11, said top 11<sup>a</sup> acting in the nature of a deflector, as will be readily understood. Stones and other heavy material too large to be separated through the screen 7 will pass from the inclined wall 9 onto the inclined wall 10 and thence through the opening 12<sup>a</sup> into the box 11, from which they may be afterward removed. The blast of air striking against the cotton-seed which is discharged upon the wall or stop 10 from the chute 9 carries it upward over the top of the wall 10 and into a hood or receiving-chamber 15, from the upper part of which extends an escape-pipe 16, as shown. The hood or receiving-chamber is provided also with a door 17, by means of which entry to the interior of the hood or chamber may be had when desired; but the door is normally kept closed, and the only other openings communicating with the receiving-chamber are those through which the air enters from the blower 13 and the escape-pipe 16. Consequently the cotton-seed the dirt upon which has been loosened or detached by the action of the beaters 4 will be forced up over the inclined wall or stop 10 and thrown against the top of the hood or receiving-chamber 15 and the fine dirt intermingled therewith will be separated from the lint on the seed by the action of the blast of air and will in great measure be carried out through the escape-pipe 16, leaving the cotton-seed that settles to the bottom of the receiving-chamber or hood almost entirely free from dust or dirt.

At the bottom of the hood or receiving-chamber 15 is preferably provided a conveyer of any suitable type, as the belt conveyer 18, (shown in the drawings,) upon which the cotton-seed falls after passing over the top of the inclined wall 10 and by which the clean cotton-seed is carried directly to the linters.

Cotton-seed which is passed through the cleaner as above described, and illustrated in the accompanying drawings, is freed from adhering dust and dirt to such an extent that the value of the lint removed from the seed by the linters is materially increased in value, and the linter-saws retain their sharpness and effectiveness for a considerably longer period when the cotton is previously cleaned by means of a cleaner of this form than when introduced directly into the linters without cleaning.

Having thus described the construction and use of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a cotton-seed cleaner

of a casing, a concave screen near the bottom of said casing, a shaft arranged longitudinally of said screen on the upper side thereof, a plurality of beaters secured upon said shaft, a discharge-chute sloping laterally beneath said screen to a discharge-opening in the side of the casing, an inclined surface arranged at the discharge end of said screen, a second inclined surface arranged substantially perpendicular to the first inclined surface and spaced from the lower end thereof, a trash-receiving box at the bottom of one side of the second inclined surface and spaced a short distance therefrom, a hood or receiving-chamber at the opposite side of said inclined surface and an escape-pipe for dust-laden air provided in the top of said hood out of the plane of said second inclined surface.

2. The combination in a cotton-seed cleaner, of a casing, a concave screen near the bottom of said casing, a plurality of revolving beaters above said screen, a laterally-inclined discharge-chute beneath said screen sloping to a discharge-opening in the side of the casing, an inclined surface at the end of said screen over which cotton-seed passes from the screen, a second inclined surface arranged substantially perpendicular to the first inclined surface and spaced from the lower end thereof, a trash-receiver at the bottom of said second inclined surface and having a deflecting top spaced therefrom, a blower projecting a current of air against the lower portion of said second inclined surface at an angle thereto, a hood covering the upper end of said second inclined surface and spaced a short distance therefrom, an air-escape pipe in the top of said hood and a traveling apron at the bottom of said hood to receive the cleaned cotton-seed as it drops from the top of said hood.

3. The combination in a cotton-seed cleaner, of a casing, a concave screen arranged in the bottom of said casing, a laterally-inclined discharge-chute beneath said screen sloping to a discharge-opening in the side of the casing, an inclined surface at the end of said screen, a shaft arranged longitudinally of said screen on the upper side thereof, and a plurality of beaters secured upon said shaft, said beaters being arranged in spiral lines and being secured to the shaft in pairs, of which the two members project in almost directly opposite directions from the shaft, upon which they are secured by means of bolts arranged on opposite sides of the shaft and passing through both members of the pair of beaters.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN W. HARRINGTON.

Witnesses:

A. R. GOODYEAR,

A. J. PEARRE.