

(No Model.)

J. C. POTTER.

TRUNK FOR COTTON CLEANING APPARATUS AND THE LIKE.

No. 410,443.

Patented Sept. 3, 1889.

Fig. 3.

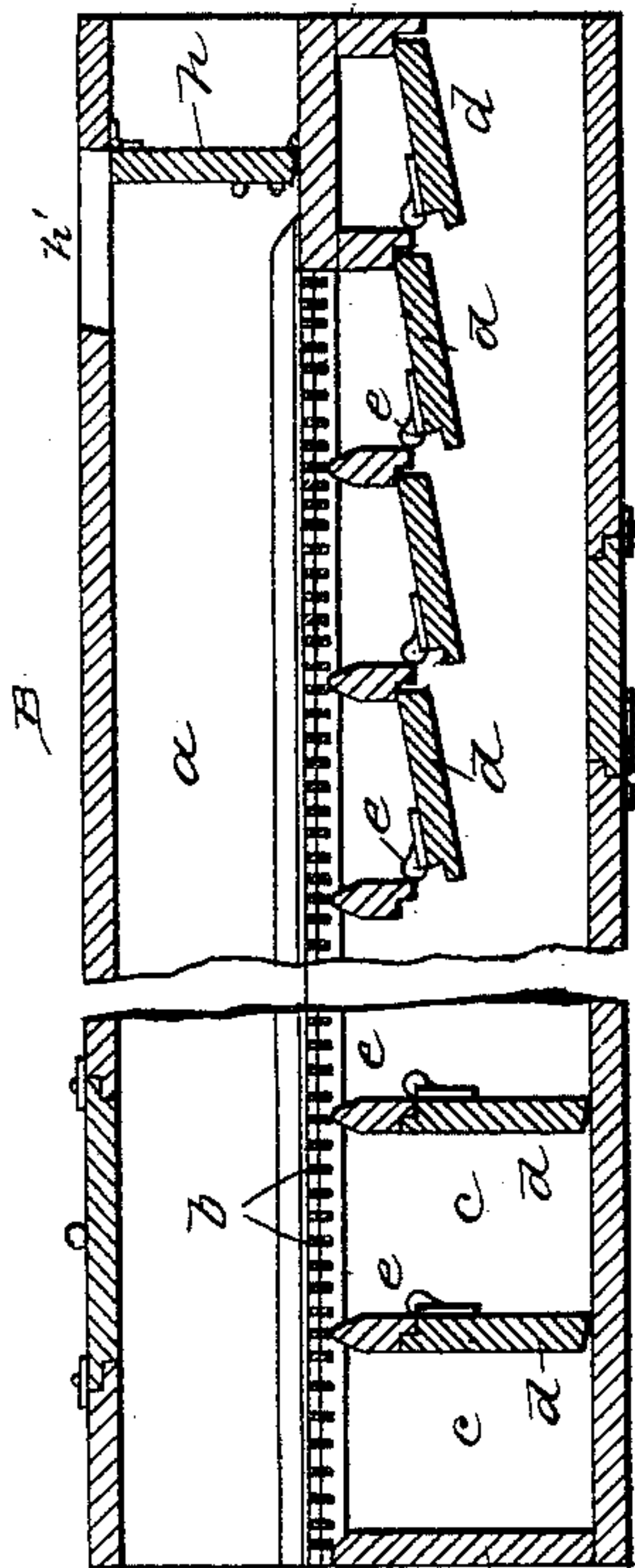
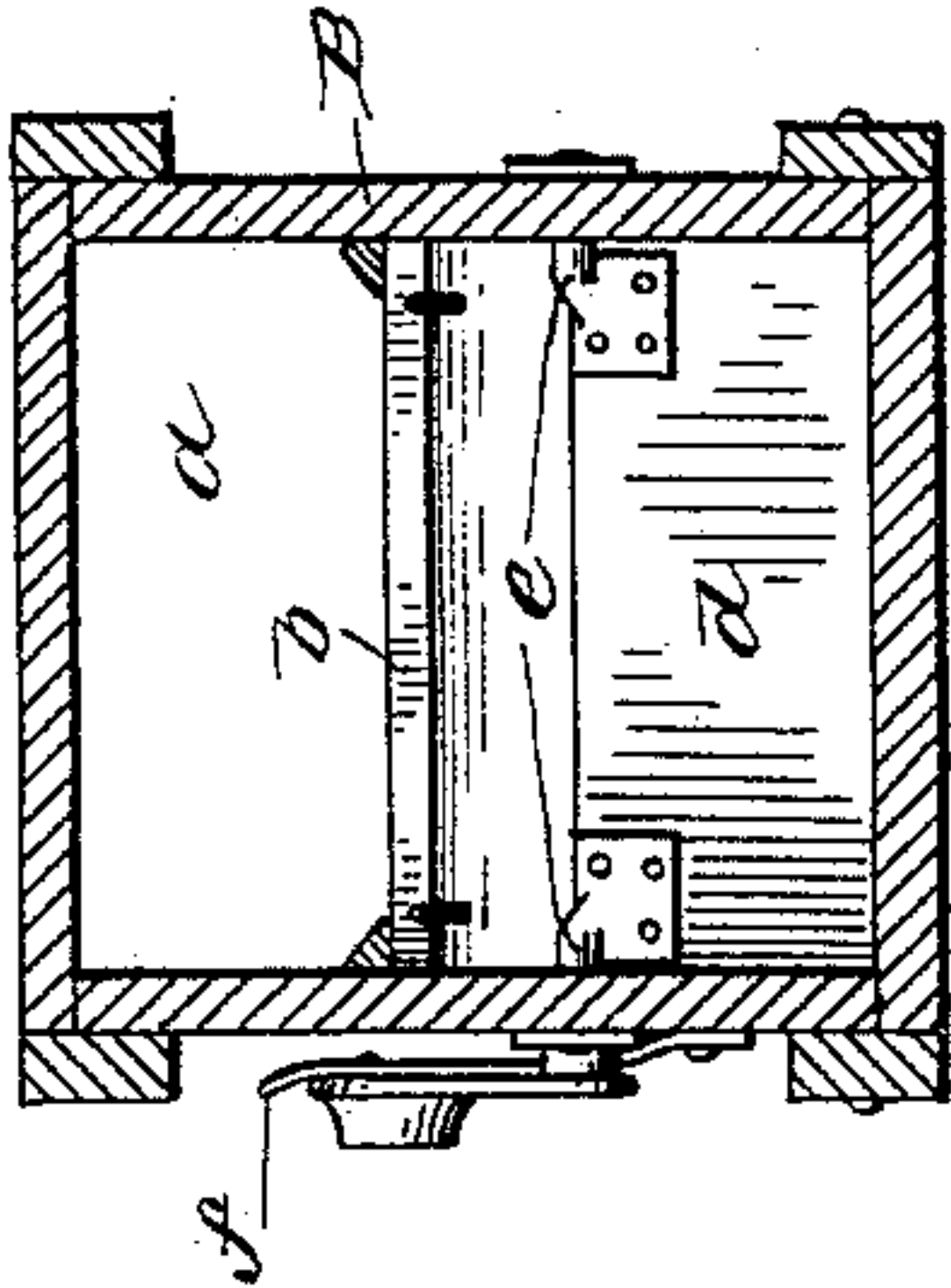
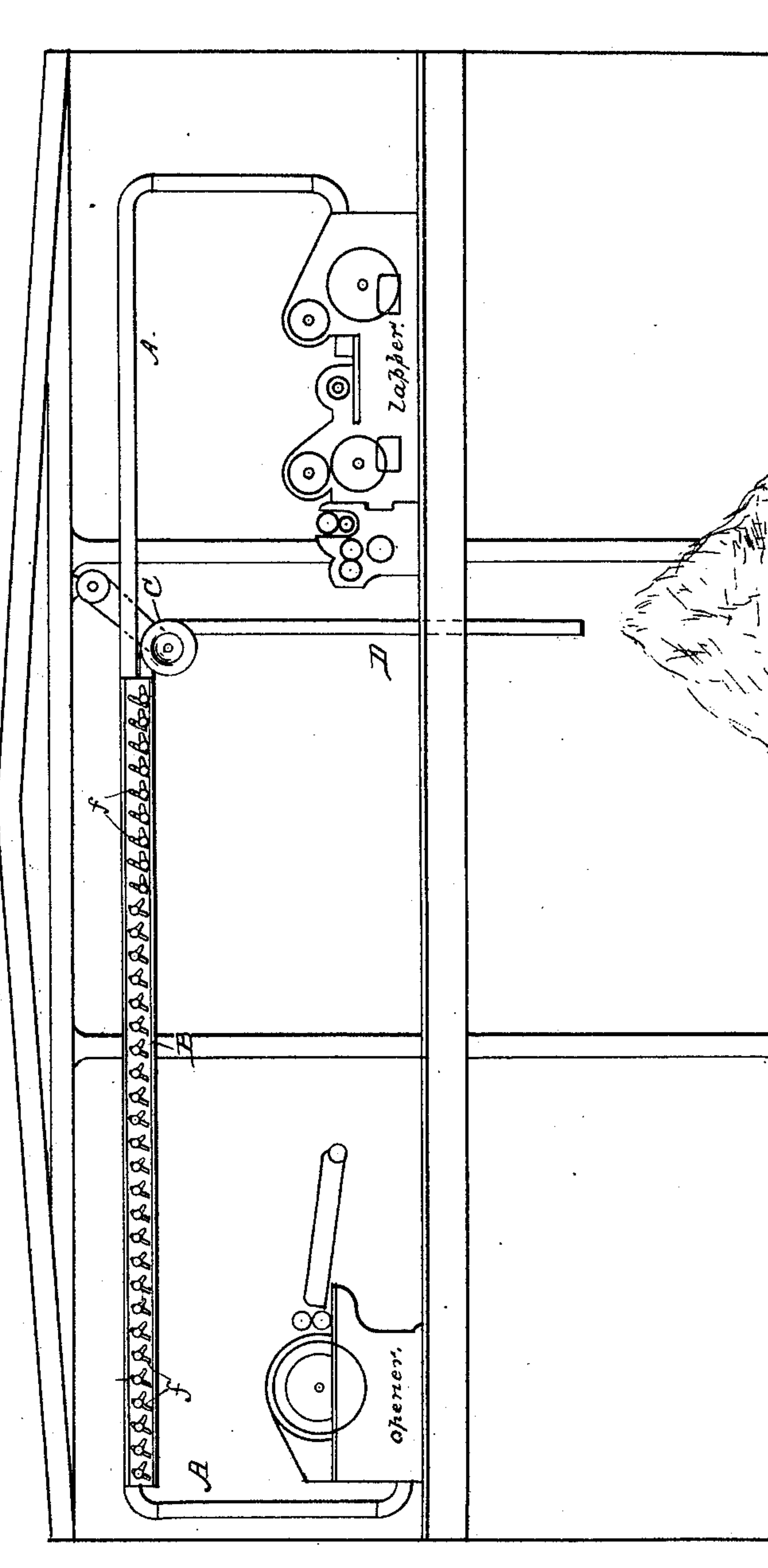


Fig. 2.

Fig. 1.



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TRUNK FOR COTTON-CLEANING APPARATUS AND THE LIKE.

SPECIFICATION forming part of Letters Patent No. 410,443, dated September 3, 1889.

Application filed June 17, 1889. Serial No. 314,553. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. POTTER, of Pawtucket, in the State of Rhode Island, have invented certain new and useful Improvements in Trunks for Cotton-Cleaning Apparatus and the Like, of which the following is a specification.

The dust-trunk for cotton-cleaning, in which my invention is comprised, is one in which there is a longitudinal grating, which divides a continuous cotton-passage above from separate dust-receptacles below the grating. A dust-trunk of this general kind is old, and has been in general use for many years. Heretofore, however, each of these separate dust-receptacles has been provided with a movable bottom, which, for the purpose of removing the accumulation of dirt, has been taken out of the trunk, or, more recently, has been hinged, so that when opened it would drop and thus discharge its dust and refuse into a dirt-receiving chamber common to all the receptacles. Under my invention, however, I neither employ any dust-receiving chamber below the dust-receptacles, nor, indeed, do I employ any dust-receptacles with movable bottoms. On the contrary, the dust-receptacles have stationary bottoms. It is the partitions between the receptacles that I make movable, so that I can at will transform the series of separate dust-receptacles into a continuous passage, through which the accumulated dust can be carried off and removed, and I may, and in practice do, so arrange the movable partitions that when lifted they will close up against the grid bars or grating, the advantage of which arrangement will be presently explained. The movable partitions are preferably hinged at their upper edges, and they are actuated by suitable devices outside of the trunk.

In the accompanying drawings, Figure 1 is a view showing in side elevation my cleaning or dust trunk applied to the conducting-trunk leading from a cotton-opener to a cotton-lapper. Fig. 2 is a longitudinal vertical central section of the dust-trunk. Fig. 3 is a transverse vertical section of the dust-trunk.

In Fig. 1 the general arrangement of parts as they would be in a cotton-mill having the conducting-trunk leading from one machine to the other on the same floor is shown. The

conducting-trunk A in this case leads from the opener to the lapper. In that trunk at a convenient point is introduced the dust-trunk B, of a suitable length, say, for example, thirty feet. This trunk, as shown in Figs. 2 and 3, consists, in a general way, of an air or cotton passage *a*, continuous from end to end and communicating at each end with the conducting-trunk, a grating *b*, formed by transverse grid-bars, constituting a grated or perforated bottom for said passage *a*, and separate dust-receptacles *c* below the grated bottom. These separate dust-receptacles are formed by cross-partitions *d*, which are hinged at their upper edges, as at *e*, to the trunk, as shown, and can be actuated to move by suitable devices outside of the trunk—in this instance by weighted lever-handles which normally drop by gravity, so as to cause the partitions to divide the space below the grating into separate dust-receptacles. When, however, these levers are lifted by hand, they will raise the partitions and thus throw the dust-receptacles into one continuous chamber or passage. The lever-handles, when lifted, can be held by spring detents or catches *f*, as will be understood by the skilled mechanic without further explanation. As hereinbefore indicated, I prefer to so arrange the partitions that when raised they will form a practically-closed top to the chamber below, shutting the latter off from the grating above. This is exemplified in Fig. 2, where a portion of the partitions is represented as lifted up into horizontal position.

To the end of the trunk from which the dust is discharged I prefer to connect a suction-fan C, this connection being below the grating and with the dust-passage. The dust taken by this fan through a suitable trunk or pipe D is carried off and discharged into the dust-room or other selected place. The opposite end of the dust-passage, or rather of what would be the dust-passage if the partitions were raised, is closed, as seen at *g*.

Air for the suction-fan is taken into the dust-trunk at a point above the grid-bars. To this end I prefer to form an opening *h'* in the top of the trunk near its discharge end, this opening being closed by a hinged door *h*, which, when dropped, serves as a cut-off or partition to close the trunk leading to the lap-

per. The object of this is to prevent possibility of cotton being drawn from the lapper when the cleaning of the dust-trunk is in progress.

5 The door *h* in Fig. 2 is shown lowered or dropped.

The operation is as follows: During the operation of conveying cotton from one machine to the other the partitions *d* are lowered, dividing the chamber or space below the grid-bars into the usual separate dust-receptacles, and the door *h*, for obvious reasons, is raised, so as to close the air-opening in the top of the dust-trunk. When, however, it is desired to remove from the dust-trunk the accumulated refuse in the dust-receptacles, the opener and lapper machines are stopped, the suction-fan is started, and the door *h* is opened. Then the attendant raises the partition *d* nearest the fan. The air taken in through the opening *h'* is drawn down through the grid or grated section over the dust-receptacle, which has been opened by lifting this partition, and the refuse from this receptacle is thereby carried out, while at the same time the grid-bars of this section are thoroughly cleaned. This latter is an important item, for the reason that refuse cotton of very short staple, known as "fly," is very apt to gather upon and between the grid-bars in quantity sufficient to clog the spaces between them and prevent the escape of the leaf and other impurities into the dust-receptacles. By admitting the air from above the grid-bars and by cleaning one section at a time, as I am enabled to do, the bars are thoroughly cleaned and the grated surface is put into proper condition. After raising the first partition *d* the second one is then lifted, and then the third, and so on until the whole dust-trunk is cleaned. Each partition as it is raised closes up underneath the grid-section of the dust-receptacle in advance, thus forming a closed bottom for it, as illustrated in Fig. 2, wherein four of the partitions are represented as lifted, these lifted partitions forming a practically continuous floor beneath that portion of the grating beneath which they come and leaving exposed only the grid-section of the last-opened dust-receptacle, down through which the air drawn from the opening controlled by the door *h* passes.

I prefer, on the whole, to use a separate fan C, for the purpose just indicated; but manifestly this fan C can be dispensed with, and the opener itself may serve as a fan. In this case the opening *h'* in the top of the trunk would not be required, although, of course, there should be a door, slide, or gate, the equivalent of the door *h*, to cut off communication between the opener and the lapper during the operation of cleaning the dust-trunk. With this gate or door closed and the opener set in motion, then, by manipulating the partitions *d*, as hereinbefore pro-

vided, the blast produced by the opener would be forced down through successive sections of the grid-bars, and out through the dust-passage D, with the same or substantially the same effect as though the fan C were used for the purpose.

Having described my improvements and the best way now known to me of carrying the same into effect, I desire to state, in conclusion, that I do not limit myself to the specific details herein described and illustrated, for manifestly the same can be varied considerably without departure from my invention; but

What I claim, and desire to secure by Letters Patent, is as follows:

1. A trunk for cleaning cotton or the like, consisting of a passage for the material to be cleaned, a grated bottom for said passage, and a dust-chamber below said grated bottom divided into a series of separate dust-receptacles by partitions movable so as to convert at will the series of separate receptacles into a continuous chamber or passage, substantially as and for the purpose hereinbefore set forth.

2. A trunk for cleaning cotton or the like, consisting of a passage for the material to be cleaned, a grated bottom for said passage, a dust chamber or passage below said grated bottom, and hinged partitions or gates which when dropped divide said dust chamber or passage into separate dust-receptacles, and which when raised close up toward or against the grated bottom, substantially as and for the purposes hereinbefore set forth.

3. A trunk for cleaning cotton and the like, comprising a passage for the material to be cleaned, a grated bottom for said passage, a dust chamber or passage below said grated bottom, movable partitions in said dust-chamber, whereby the chamber can be converted into a series of separate dust-receptacles at will, an air-supply opening above the grated bottom, and a door or gate for closing the outlet end of the passage for the material to be cleaned, substantially as and for the purposes hereinbefore set forth.

4. A trunk for cleaning cotton and the like, comprising a passage for the material to be cleaned, a grated bottom for said passage, a dust chamber or passage below the grated bottom, hinged partitions for converting said chamber into a series of separate dust-receptacles, and partition-actuating devices outside of the trunk, substantially as and for the purposes hereinbefore set forth.

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

JAMES C. POTTER.

Witnesses:

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CHAS. T. ATHERTON.