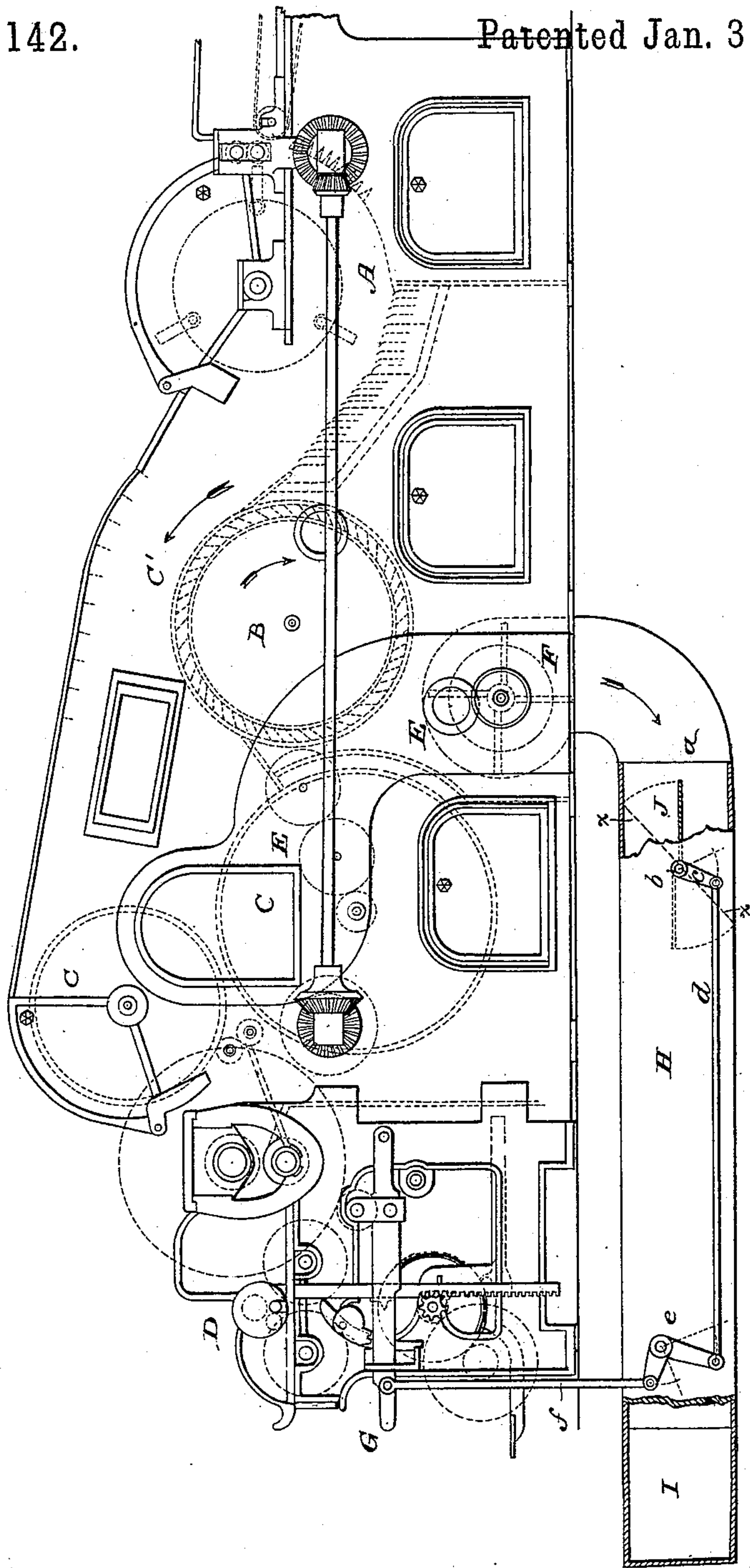


(No Model.)

W. E. WHITEHEAD.  
MACHINERY FOR OPENING OR PREPARING COTTON OR OTHER FIBROUS  
MATERIAL.

No. 253,142.

Patented Jan. 31, 1882.



WITNESSES

*Wm A. Skinkley*  
*H. W. Elmore*

By his Attorney

INVENTOR

*William E Whitehead*  
*W Bailey*

# UNITED STATES PATENT OFFICE.

WILLIAM E. WHITEHEAD, OF TEWKSBURY, ASSIGNOR TO THE WHITEHEAD  
& ATHERTON MACHINE COMPANY, OF LOWELL, MASSACHUSETTS.

MACHINERY FOR OPENING OR PREPARING COTTON OR OTHER FIBROUS MATERIAL.

SPECIFICATION forming part of Letters Patent No. 253,142, dated January 31, 1882.

Application filed November 18, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. WHITEHEAD, at present residing in Tewksbury, State of Massachusetts, have invented certain new and useful Improvements in Machinery for Opening or Preparing Cotton and other Fibrous Material, of which the following is a specification.

My invention has reference to machinery for opening or preparing cotton—such as openers, pickers, lappers, and the like.

In machines of this kind the material is (owing to various causes not necessary to mention) liable to take fire, and from that machine in which the material is on fire the fire is very liable to spread with rapidity to other machines and to other parts of the establishment containing the machines. It is manifestly important that in case of cotton taking fire in any one machine the fire should be confined to the material in that machine; and it is with this in view that I have devised my present improvement, which consists in combining with the dust flue or trunk of the machine an automatic damper placed in said flue or trunk, and arranged to open or close the same according as the machine is in or out of action. The damper for this purpose is connected with and operated by the drop-lever or other suitable part of the machine in such manner as to close when the machine or the feed stops and to open when the feed is set in motion. By closing the damper all communication (through the medium of the trunk or dust-flue) between the machine and the dust-room is shut off, thus isolating the machine from the dust-room as well as from other machines which may be working in the same room.

The nature of my invention and the manner in which the same is or may be carried into effect will be understood by reference to the accompanying drawing, which represents in side elevation a compound opener-lapper of the kind manufactured by the Whitehead & Atherton Machine Company, provided with my improvement.

The whipper A, leaf-extractor B, and dust-cages C are indicated by dotted lines.

C' is the passage-way through which the

cotton, after being operated on by the whipper, passes to the dust-cages, and thence to the lap-head D, where it is made into a lap.

E is the pipe leading from the dust-cages to the exhaust-fan F.

G is the drop-lever, by the fall or downward movement of which the feed-rolls are stopped.

The parts above specified are arranged and operate together in the usual way, and require no further description.

Joined to the delivery *a* of the fan F is a cast-iron box or tube H, which at its other end is connected to the dust-trunk I, and forms in effect part of the trunk.

Within the trunk-section H is the damper hereinbefore referred to, which is indicated at J partly in dotted lines and partly in full lines through the broken-away side of the trunk-section. The damper is fast on a shaft, *b*, supported in suitable bearings in the trunk-section. By means of this damper the trunk is opened or closed at pleasure. By connecting it with the drop-lever G it is caused automatically to open or close, according as the feed-rolls are in or out of operation. In order to thus connect it with the drop-lever, I prolong one of the ends of the damper-shaft *b* beyond the trunk, and on this end I fasten a radial arm, *c*, to which is pivoted a connecting-rod, *d*, whose other end is pivoted to one arm of a bell-crank or angle lever, *e*. The lever *e* is pivoted at its elbow to the trunk, and has its other arm pivoted to a connecting-rod, *f*, which at the other end is pivoted to the drop-lever G. When the drop-lever G occupies the position shown in the drawing the feed-rolls are in motion, and in this position the damper is open, thus allowing air to pass freely from the fan through the trunk. When, however, the drop-lever falls or is moved downward so as to stop the feed, the angle-lever *e* is moved to the position indicated by dotted lines, with the effect of bringing the damper to the position indicated by the dotted line *x x*, thus tightly closing the trunk. Thus in case of fire the movement of drop-lever to stop the feed causes also the closing of the damper. In this way fire in this machine can be prevented from communicating with the dust room or flue; or fire



originating in the dust room or flue or communicated thereto from other machines can be prevented from extending to this machine.

Having described my improvement, what I  
5 claim, and desire to secure by Letters Patent,  
is—

The combination, with the drop-lever, the  
exhaust-fan, and the dust flue or trunk, of an  
automatic damper placed in said trunk at or  
10 near the discharge or delivery end of the ex-

haust-fan, and connected with and operated  
by the drop-lever, substantially as and for the  
purposes hereinbefore set forth.

In testimony whereof I have hereunto set  
my hand this 14th day of November, 1881.

WILLIAM ED. WHITEHEAD.

Witnesses:

A. T. ATHERTON,  
WM. H. ANDERSON.