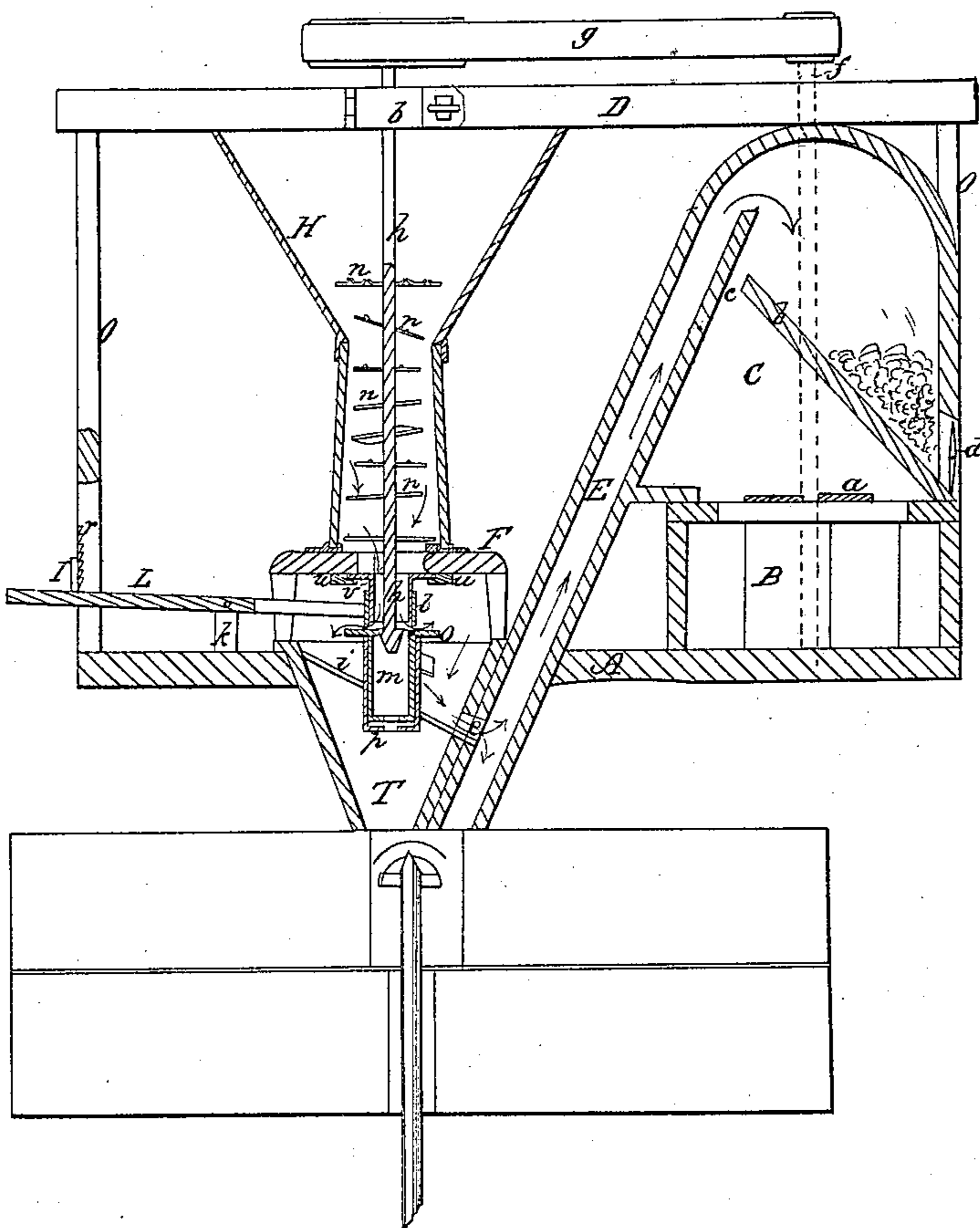
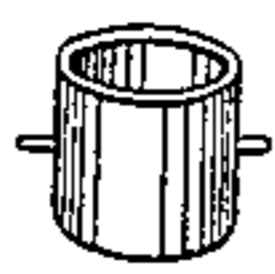


*Patented Apr. 7, 1868.*

*Fig. 1.*



*Fig. 3.*



*Fig. 2.*

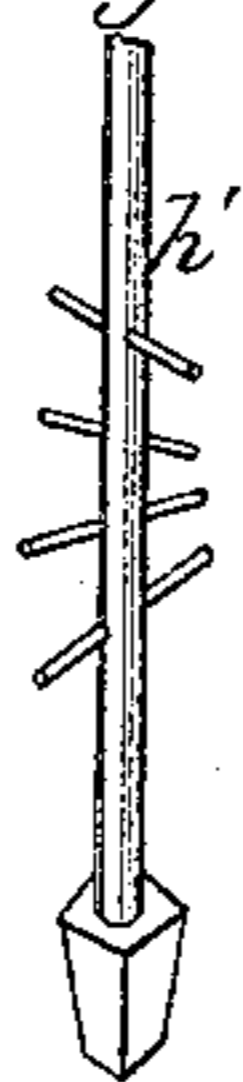
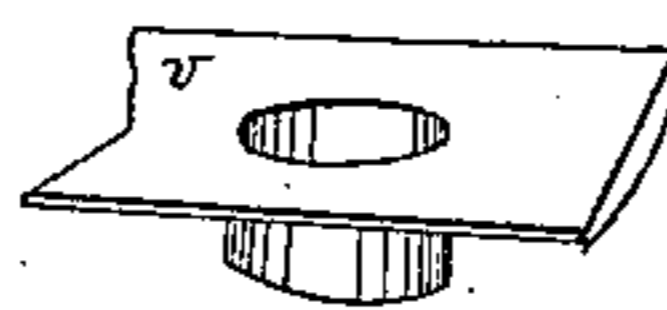


Fig. 4.



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his attys

# United States Patent Office.

P. H. MASSEY, OF SOUTH BEND, INDIANA.

*Letters Patent No. 76,486, dated April 7, 1868.*

## IMPROVED GRAIN-SCOURING APPARATUS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, P. H. MASSEY, of South Bend, in the county of St. Joseph, and State of Indiana, have invented certain new and useful Improvements in Grain-Scouring and Cleaning Apparatus for Mills; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

My invention consists in a novel construction of an apparatus, to be used, in connection with the burrs of a grinding-mill, for scouring and cleaning wheat and similar grains, and that is also adapted for feeding mill-drawings to the stones for regrinding.

Figure 1 represents a vertical section of my improved apparatus, and

Figures 2, 3, and 4 represent certain details, shown detached.

I construct a platform or frame, A, on which a fan, B, is mounted, in a suitable case, surmounted by a chamber, C, from the top of which a spout, E, extends down through the platform, to or near the eye of the stone, as represented in fig. 1. Within the chamber C is placed an inclined partition, *b*, which extends nearly across the chamber, the upper end of the partition stopping a short distance from the spout E, and thus leaving an opening, *c*, for the air to pass from the upper part of the chamber down into the fan-case, through a central opening in the top of the case, where a slide, *a*, is placed, to regulate the size of the opening in the case, and thus regulate the draught or force of the current generated by the fan B. The upper end of the partition *b* projects slightly under the upper end of the spout E, so that the particles of chaff, oats, and other material drawn up the spout E, as they pass over the upper end of the spout, and are projected into the chamber, will fall upon the partition, and be accumulated at its lower end, in the upper part of the chamber, where they can be removed, when necessary, through an opening, closed by a swinging valve or door, *d*. From the platform A, a spout, T, extends down to the eye of the stone, and over this spout is placed a table, F, on which is mounted a hopper, H. To the under side of the table F are secured two cleats, *u*, grooved, so as to permit a slide to be held therein, this slide having a hole in it, with a tube, *v*, extending downward a short distance, as represented in fig. 1. Centrally within the spout T is secured a tube or socket, *p*, directly under the tube *v*, and in this socket is placed another tube, *m*, having a circular plate or disk, *o*, attached to its upper end, the tube or socket *p* being secured in place by arms, and serving to support the disk *o* and the shaft *h* of the scouring-device, which shaft is provided with a flat-sided conical head at its lower end, to fit in a hole in the disk *o*, and permits its ready removal therefrom when desired. Upon this shaft *h*, I secure rigidly a series of plates or disks, *n*, having their upper surfaces roughened by punching holes through from their opposite sides, these plates being secured to the shaft *h*, preferably, in inclined positions, as represented. These disks *n* are made slightly less in diameter than the vertical portion of the hopper, so that the grain may gradually work down past them, and finally strike upon the revolving disk *o*, and from thence upon the inclined partition *i* in spout T. A sleeve, *l*, like that shown in fig. 3, surrounds the tube *v*, and is pivoted to a bifurcated lever, L, which latter is pivoted to a standard, *k*, on platform A, the outer end of the lever being held in place by a catch, I, engaging in notches in a plate, *r*, secured to the standard O, as represented in fig. 1, or by any similar means. By raising or lowering the sleeve *l*, by means of the lever L, the feeding of the grain from the hopper upon the disk *o* may be regulated as desired.

The operation of the apparatus, when thus arranged, is as follows: The wheat being placed in the hopper H, is thoroughly rubbed and scoured by the revolving disks *n* as it passes from one to another, thereby crushing and grinding or breaking up the kernels of smut, and detaching all adhering particles of chaff, &c., as it works gradually down to the bottom of the hopper, from whence it falls upon the revolving disk *o*, by which it is thrown outward, and falls upon the inclined partition *i*, from whence it passes, through the opening *c*, into the spout E, where it encounters the upward current of air, which separates and carries up with it all dust, smut, chaff, oats, and other material lighter than the wheat itself, the heavier portion of this light material being caught upon the partition *b*, while the lighter and finer particles of smut and dust are drawn with the air into the fan, and discharged from thence through a spout or opening, in the usual manner.

When it is desired to use the apparatus for feeding corn or middlings to the stones, the scourer is removed, and also the sleeve *l* and the tube *v*, the former being replaced by the shaft *h'*, fig. 2, the tube *v'*, fig. 4, being substituted for tube *v*, and the sleeve *l'*, fig. 3, for sleeve *l*. The partition *i* in spout H is also removed, it being made in two parts to facilitate its removal. When thus arranged, the corn or middlings are placed in the hopper H, and are then fed to the stones through the spout T, the chaff and dust from the corn being drawn through the opening *e* into the spout E, and conveyed away, as before. When feeding middlings, the slide *a* of the fan-case will be closed, to prevent the material from being drawn up the spout E, or the belt *g* may be thrown off from the pulley on the fan-shaft *f*, and the feeding part of the apparatus be run without the fan.

By this construction, I am enabled to produce an apparatus that operates in a most satisfactory manner, and that is adapted to a great variety of uses, in connection with the grinding-stones of an ordinary flouring-mill.

Having thus described my invention, what I claim is—

1. The combination of the hopper H, shaft *h*, provided with the scouring-disks *n*, spout E, chamber C, with the inclined partition *b*, and fan B, when said parts are constructed and arranged for joint operation, substantially as described.

2. The use, in the apparatus constructed substantially as described, of the detachable inclined bottom *i*, and the removable tubes *v* and *v'*, for the purpose as herein described.

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Witnesses:

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