2 Sheets--Sheet 1.

J. H. JONES.

Improvement in Bolting-Machines.

No. 131,278. Patented Sep. 10, 1872.

Fig. 1

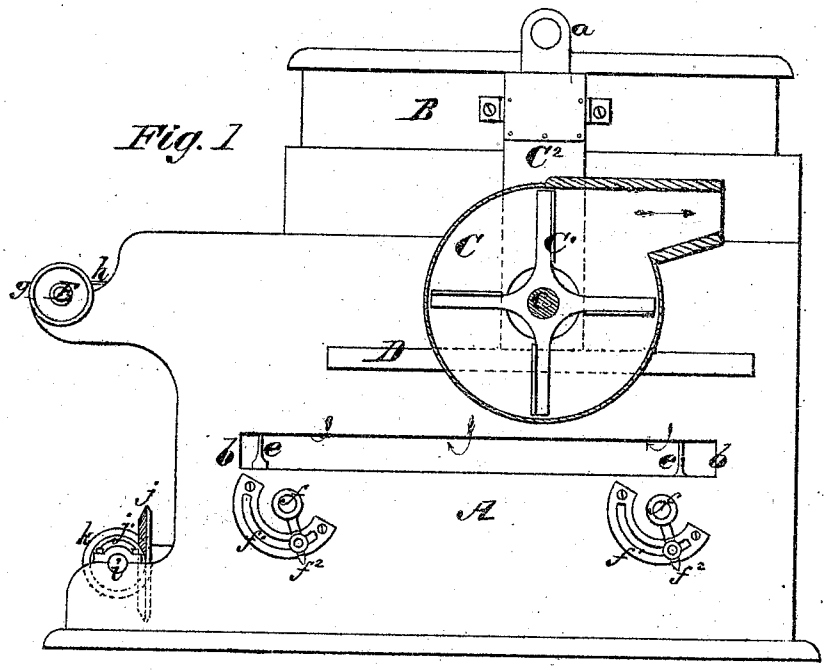
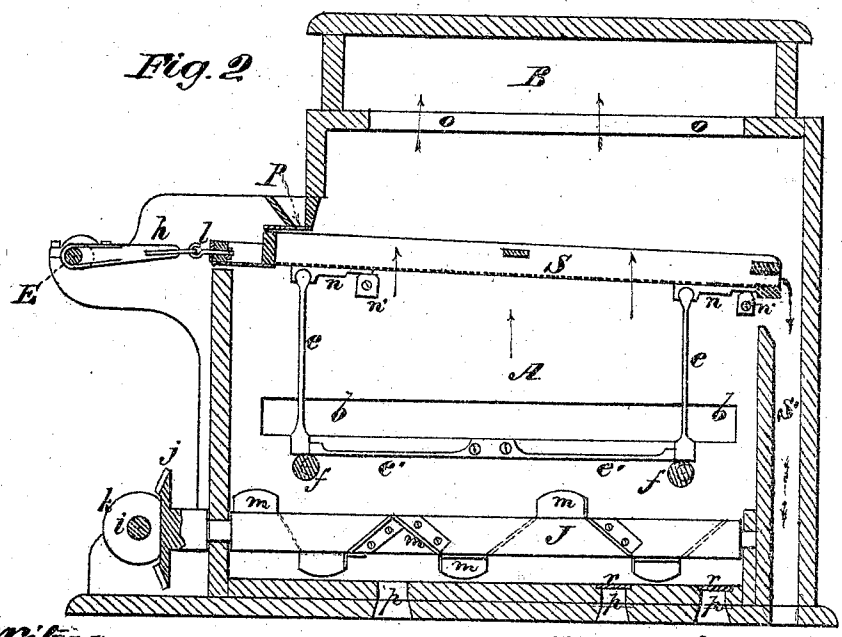


Fig. 2



Witnesses.
P. T. Campbell
L. N. Campbell.

Inventor
James H. Jones
by
Mason, Fenwick & Lawrence.

2 Sheets--Sheet 2.

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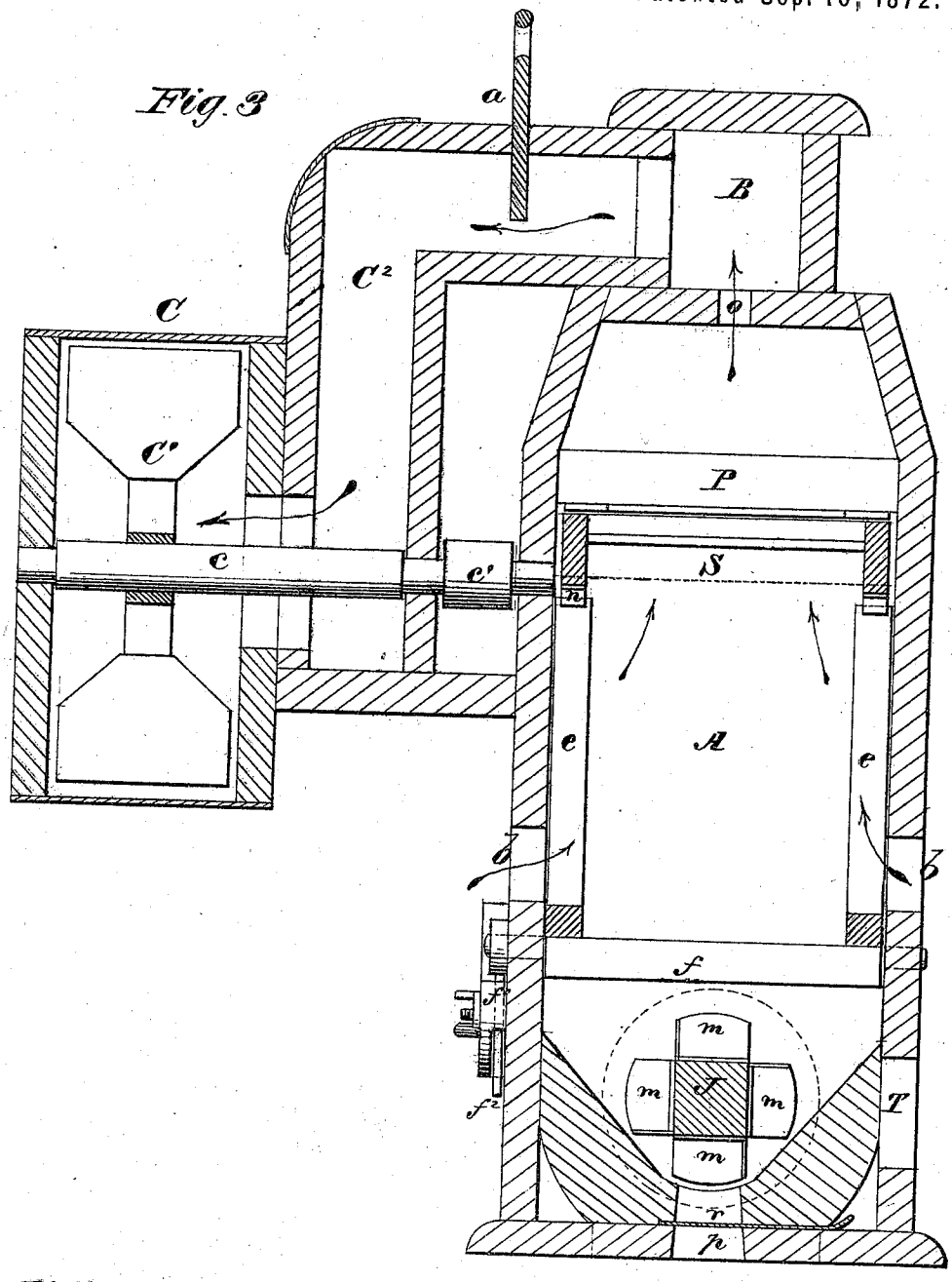
Fig. 3



Witnesses.
P. J. Campbell
J. N. Campbell.

Inventor
James H. Jones
by
Mason, Fenwick & Lawrence

UNITED STATES PATENT OFFICE.

JAMES H. JONES, OF DAYTON, OHIO.

IMPROVEMENT IN BOLTING-MACHINES.

Specification forming part of Letters Patent No. 131,278, dated September 10, 1872.

To all whom it may concern:

Be it known that I, JAMES H. JONES, formerly of Yellow Springs, in the county of Greene and State of Ohio, but now residing in Dayton, in the county of Montgomery and State of Ohio, have invented an Improved Bolting-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, Plate 1, is an elevation of one side of my improved machine. Fig. 2, Plate 1, is a section taken vertically and longitudinally through the center of the machine. Fig. 3, Plate 2, is a section taken transversely through the machine.

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

This invention relates to improvements on the bolting-machine for which Letters Patent were granted me on the 24th day of October, 1871, numbered 120,198.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawing, A represents the body of the chest, upon which is a box, B, which is in communication with the chest by means of an opening, *o*, shown in Figs. 2 and 3. This opening tapers from its ends to the middle of its length, so that the draft up through it will be as nearly uniform as possible throughout its length. The box B communicates, through a trunk, C^2, with a fan-case, C, which is sustained outside of the chest A upon a bracket, D, and inside of which is a fan, C^1, applied on a shaft, *c*, carrying a belt-drum, *c'*. The chest A has long openings *b* through its sides for the inlet of air, which air is induced through said openings upward through the opening *o*, and through the trunk and fan-case, as clearly indicated by Figs. 2 and 3. The fan receives its rotation from a belt-wheel, *g*, on crank E, through the medium of a belt and the drum *c'*. For the purpose of regulating the upward blast through the case A and box B, a gate, *a*, is applied in the trunk C^2, as shown by Figs. 1 and 3. This gate may be wholly or partially raised, as circumstances require. Between the box B and the air-inlet openings *b* is a screen, S, which is somewhat inclined, as shown in Fig. 2, and which is mounted upon the upper end of spring-arms *e e*, the lower ends of which arms are rigidly secured to horizontal springs *e'*, arranged below the inlets *b*, and secured at the middle of their length to the sides of the case A. The upper ends of the spring-arms *e* are rounded and fitted into corresponding recesses, which are in bumpers *n* on the bottom of the screen-frame, as shown in Fig. 2. The bumpers *n* are stepped or shouldered, and when the screen is vibrated they strike the upper ends of fixed blocks *n'* and jar and shake the screen. Underneath of the spring-arm *e'* are eccentric shafts *f f*, which extend transversely across the chest A and have their bearings in the sides thereof. The ends of the springs *e'* rest upon said shafts, and are raised or depressed by oscillating the shafts about their axes. On one end of each shaft an index-hand, f^2, is secured, which passes through a slotted sector-guide, f^1, and is provided with a clamp-nut for confining it at any desired point to its guide. It will be seen that by moving the hand f^2 the ends of the screen can be raised or depressed, so that when the screen is lowered the slides will come upon the block *n n* and produce the knocking-motion, the direction of the hands indicating the degree of inclination of the screen. P represents the hopper, through which the material to be treated is fed directly upon the highest part of the screen S, and E represents a crank-shaft carrying two belt-drums, which receives rotation from a main shaft, *i*, through the medium of a belt. Motion is communicated to the screen S from the crank-shaft E by means of a pitman, *h*, which is connected to the screen by an eyebolt and nut, *l*, as shown in Fig. 2. The main driving-shaft *i* carries, besides its belt-drums, a pinion bevel-wheel, *j'*, which engages with a larger bevel-wheel, *j*, on one end of a prismatic shaft, J, shown in Fig. 2. This shaft J is located at the bottom of the chest A, between two inclined planes, as shown in Fig. 3, and it is provided with blades *m* applied obliquely around it, as shown in Fig. 2, for conveying the flour which falls through the screen to and discharging it through the spouts *p*. Two of these spouts are provided with a sliding cut-off, *r*, access to which can be had through an opening, T, shown in Fig. 3.

Operation.

When motion is communicated to the screen, the conveyer, and fan, from the main shaft *i*, the middlings are fed into the machine through the hopper P, and fall directly upon the highest end of the screen. This screen, which is driven by the crank-shaft E and pitman *h*, has a back and forward motion, which spreads the stuff and causes it to run down the cloth. While it is thus passing over the cloth the fan C^1 exhausts the air from the air-box B above and thus induces currents of air through the inlets *b* below the screen. These currents are drawn upward through the cloth in a continuous stream, and operate to keep all the lighter particles and specks at the top, and to allow such impurities as are not carried off through box B and fan-case C to pass off over the screen-cloth, from which they fall through a vertical passage, S′, and escape from the machine. The fine flour which it is desired to save passes through the screen-cloth and is discharged from the machine, through any one or more of the spouts *p*, through the bottom of the chest. The force of the currents of air through the screen can be increased or diminished by adjusting the gate or valve *a* in the trunk C^2.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The air-box B, arranged on top of the chest A over the screen S, and communicating with the interior of this chest by means of an oblong passage, *o*, in combination with a fan-box, C, which is arranged on one side of the box A, and communicates with said air-box by means of a trunk, C^2, which is provided with a regulating-valve, *a*, substantially as set forth.

2. The vertical springs *e*, jointed at their upper ends to the screen S, and rigidly connected at their lower ends to horizontal springs *e′*, in combination with adjusting devices for raising or depressing the screen, substantially as described.

3. The eccentric and adjustable shafts *f*, arranged beneath the screen-supporting arms *e e′*, substantially as described.

4. The socketed and shouldered bumpers *n* on the screen-frame, in combination with spring-arms *e* and fixed blocks *n′*, substantially as described.

5. The relative arrangement of the air-box B, the screen S, the passage S′, and the conveyer J *m*, as set forth.

JAMES H. JONES.

Witnesses:
JOSEPH S. PARROTT,
DANIEL T. JONES.