

D. G. MARTIN & W. H. LYTLE.

Bolting-Machines.

No. 157,209.

Patented Nov. 24, 1874.

FIG. 1

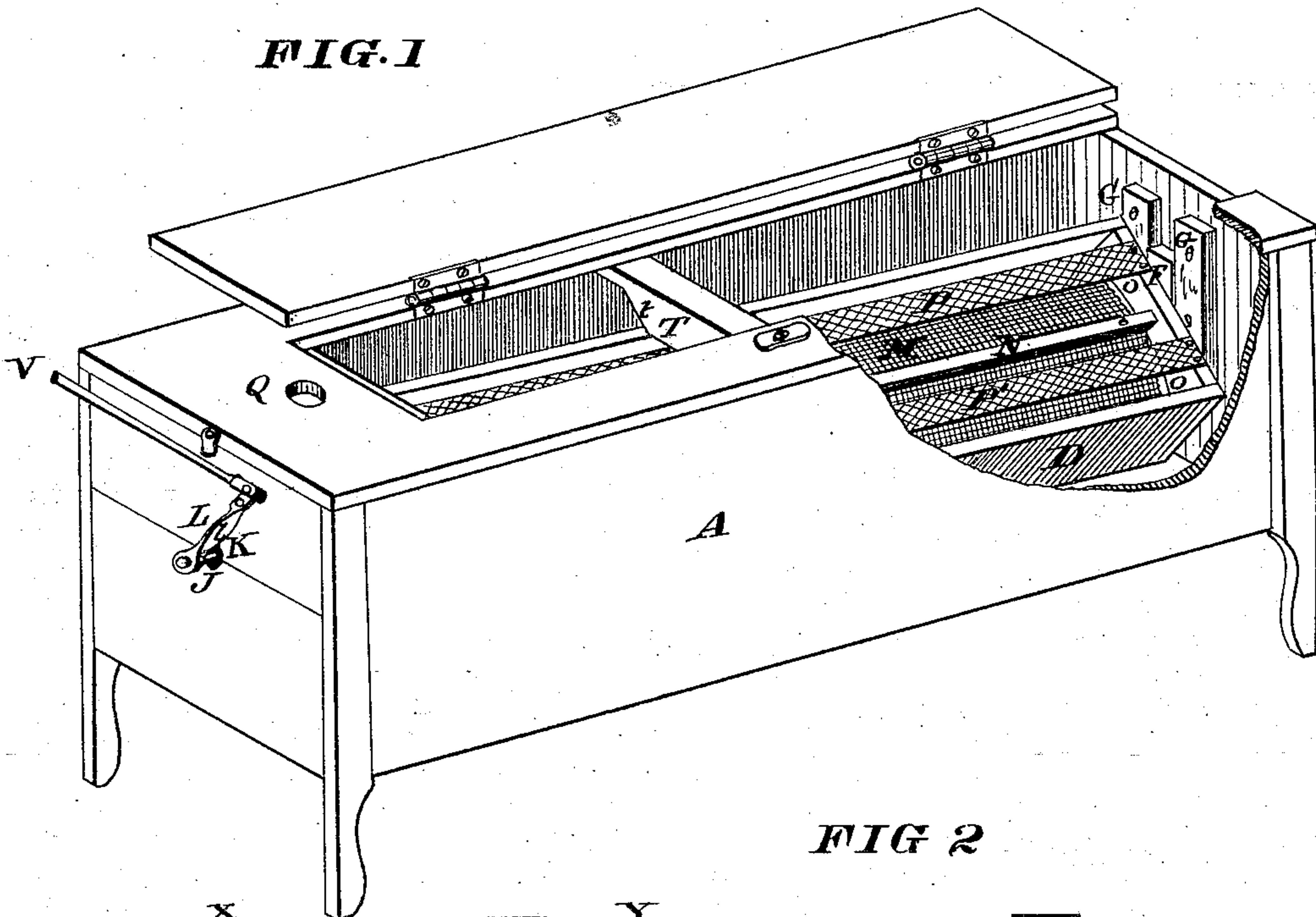


FIG. 2

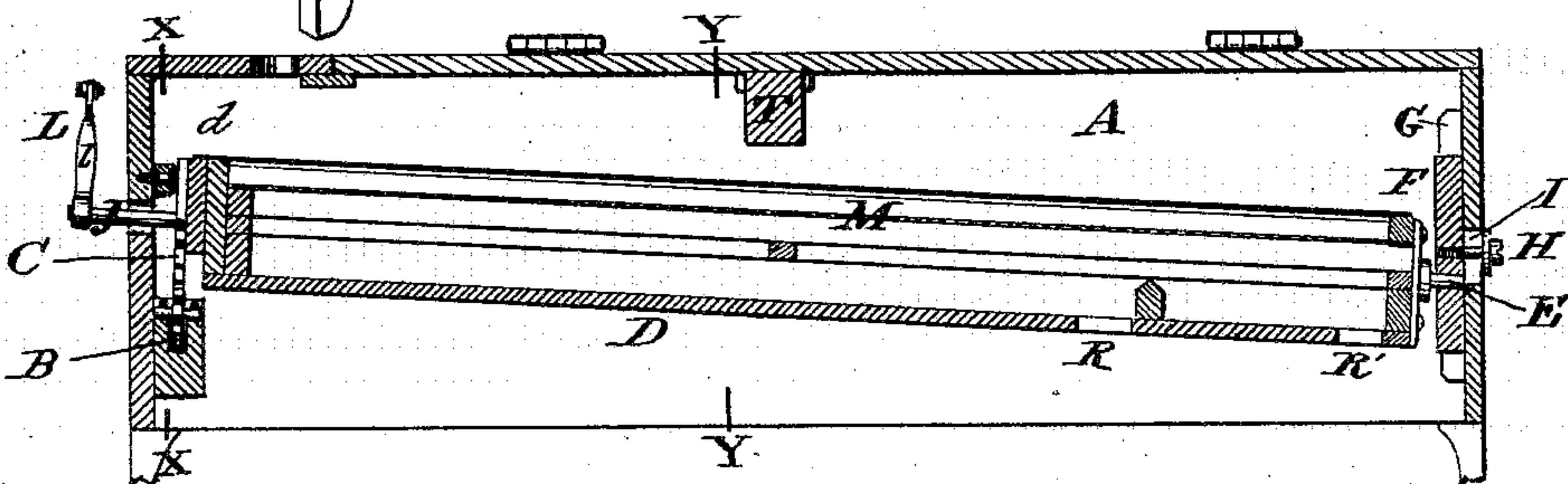


FIG. 3

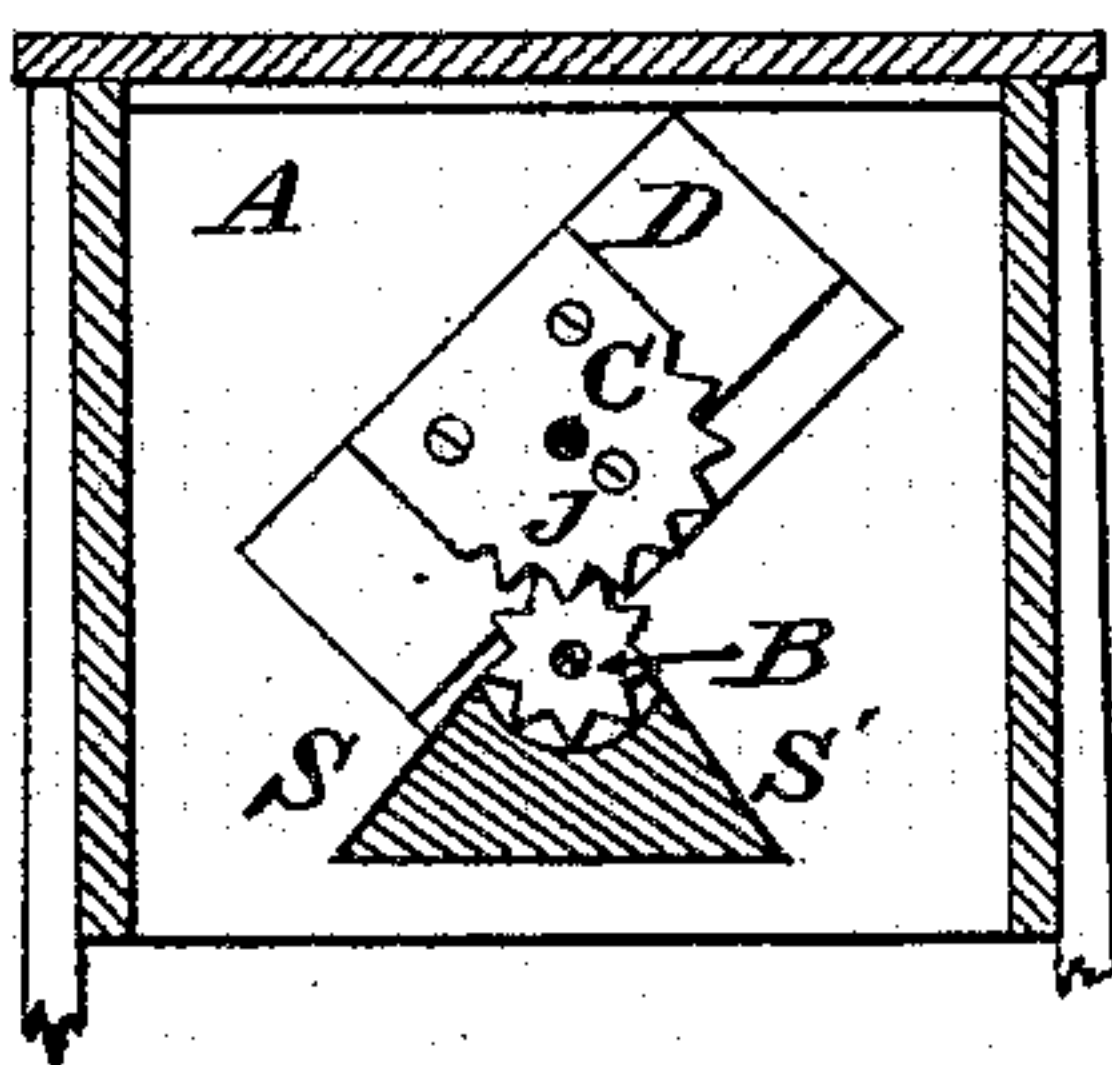
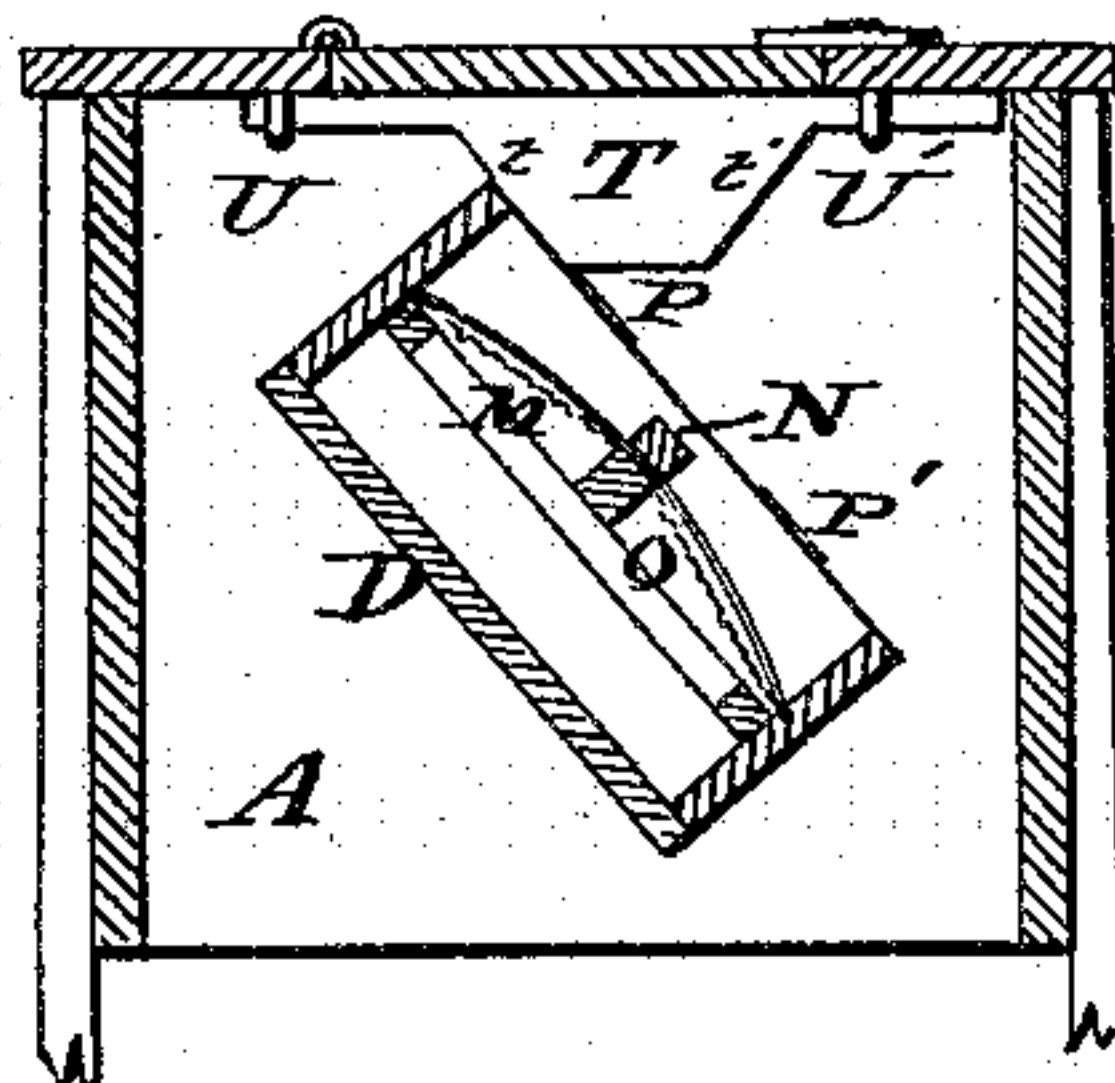


FIG. 4



Attest
Jacob Schefflin
Henry Tamm.

David G. Martin and Wm. H. Lytle
By Knight Bros. Att'ys.

UNITED STATES PATENT OFFICE.

DAVID G. MARTIN AND WILLIAM H. LYTLE, OF YELLOW SPRINGS, OHIO.

IMPROVEMENT IN BOLTING-MACHINES.

Specification forming part of Letters Patent No. **157,209**, dated November 24, 1874; application filed August 7, 1874.

To all whom it may concern:

Be it known that we, DAVID G. MARTIN and WILLIAM H. LYTLE, both of Yellow Springs, Greene county, Ohio, have invented a new and useful Bolting-Machine, of which the following is a specification:

Our machine, while especially designed and adapted for bolting of middlings, may be applied to the bolting of corn-meal, the cleaning of wheat, and other like purposes. It consists, essentially, of a long trough or shoe, hung in a fore-and-aft slanting position on longitudinal pivots or gudgeons; and our invention comprises, as a characteristic feature, a number of peculiarly-formed bumpers or tappets for securing an effective agitation of the shoe.

Figure 1 is a perspective view of a bolting apparatus embodying our improvements, a portion of the casing being broken away. Fig. 2 is a longitudinal section of the same. Fig. 3 is an end elevation of the shoe, the case being shown in section at the line *xx*. Fig. 4 is a transverse section of the shoe and case at the line *yy*.

A may represent a case of suitable form, preferably a long rectangular box, as shown. Journaled in one end of said case is a pinion or cog-wheel, B, on which rests and meshes a cogged segment, C, that is fastened to the corresponding end *d* of our shoe D. Our said shoe is a long shallow rectangular trough, as shown, and is supported at its tail end by a pivot, E, which journals in a bearing, F, that occupies slides G on the inner wall of the case, and is capable of adjustment to any desired height, and of being secured to its said adjustment by means of a screw, H, which passes through a slot, I, in said case. The head end of the shoe is preserved from lateral displacement, while at the same time allowed vibration up and down in obedience to the jarring action of the tappets and bumpers, by means of a gudgeon, J, which, projecting axially from the cogged segment C, occupies a vertical slot, K, in the case. Projecting rectangularly from the outer end of the said gudgeon is an arm, L, which is purposely made limber, as at *l*. The gauze or cloth M is stretched a little below the top of the shoe, in the represented roof-like form, and is surmounted by a

ridge-piece, N. The tail end of the shoe, above the gauze, has openings O. Two strips of webbing, P P', are stretched from end to end of the shoe on the top thereof. A hole, Q, in the top of the case, near its head, admits the crude middlings or other material, and holes R R', in the bottom of the shoe, near its tail end, permit the escape of the flour in one or more grades. Sloping shoulders or projections S S', from the inner wall of the case, at its head end, receive the impact of the shoe at the conclusion of each oscillation, thus discharging the functions of bumpers. T is a sliding tappet or bumper, occupying guides or sockets U U' near the top of the case, and transverse of the same. This tappet has sloping shoulders *t t'*, against one or the other of which the top of the shoe strikes at each respective oscillation. The shoe may be driven by pitman-connection V, with any motor.

The operation of our machine is as follows: The tail of the shoe being set to that height which will give the proper pitch for the materials to be separated—as, for example, a steeper pitch for damp and a more gradual declination for dry middlings—and the arm L being connected with the motor, the middlings are fed down through the hole Q, and strike first the webbing P P', which operates to throw off the chaff and fluff. The middlings, on reaching the gauze M, are tossed violently to and fro. The separation of the grades is greatly accelerated by our several kinds of jarring and bumping devices; for example, a sharp jar is received when the top of the shoe strikes the sliding bumper T; and again, a very solid jar when the bottom of the shoe on one side, and the top of the shoe on the other side, strikes the shoulder S or S' and the now solid bumper T. So, intermediately between the two extreme positions, the shoe is subjected to a constant tremulous agitation by reason of the abrupt descent of the segment-cogs into the interdental spaces of the pinion.

We have selected to illustrate our invention the form successfully employed by us for bolting of middlings, but reserve the right to vary the same for some purposes; for example, a foraminous or perforated plate may replace the gauze.

In the use of our machine the jarring attach-

ment, which causes the bolting, also raises from the cloth or gauze the light gummy refuse called fluff, which is, by the motion of the shoe simply, and of the currents of air thereby engendered, discharged on each side of the shoe inside of the casing, whence it drops upon the floor or into any spout or receptacle, and this without the need of any special blast or fan.

We claim as new and of our invention—

1. In combination with the transversely-oscillated shoe D, the cog-wheel B and clogged segment C at the head end of the same, for the jarring of said shoe, in the manner stated.

2. In combination with the transversely-oscillated shoe D, the arrangement of solid bumpers S S' and sliding bumper or tappet T.

3. The webbing P P', stretched longitudinally over the top of the shoe D, as and for the purposes designated.

In testimony of which invention we hereunto set our hands.

DAVID G. MARTIN.

WM. H. LYTLE.

Attest:

GEO. H. KNIGHT,

HERBERT O. KNIGHT.