

J. Kirby,

Turning Bungs.

N<sup>o</sup> 18,287.

Patented Sep. 29, 1857.

Fig 1

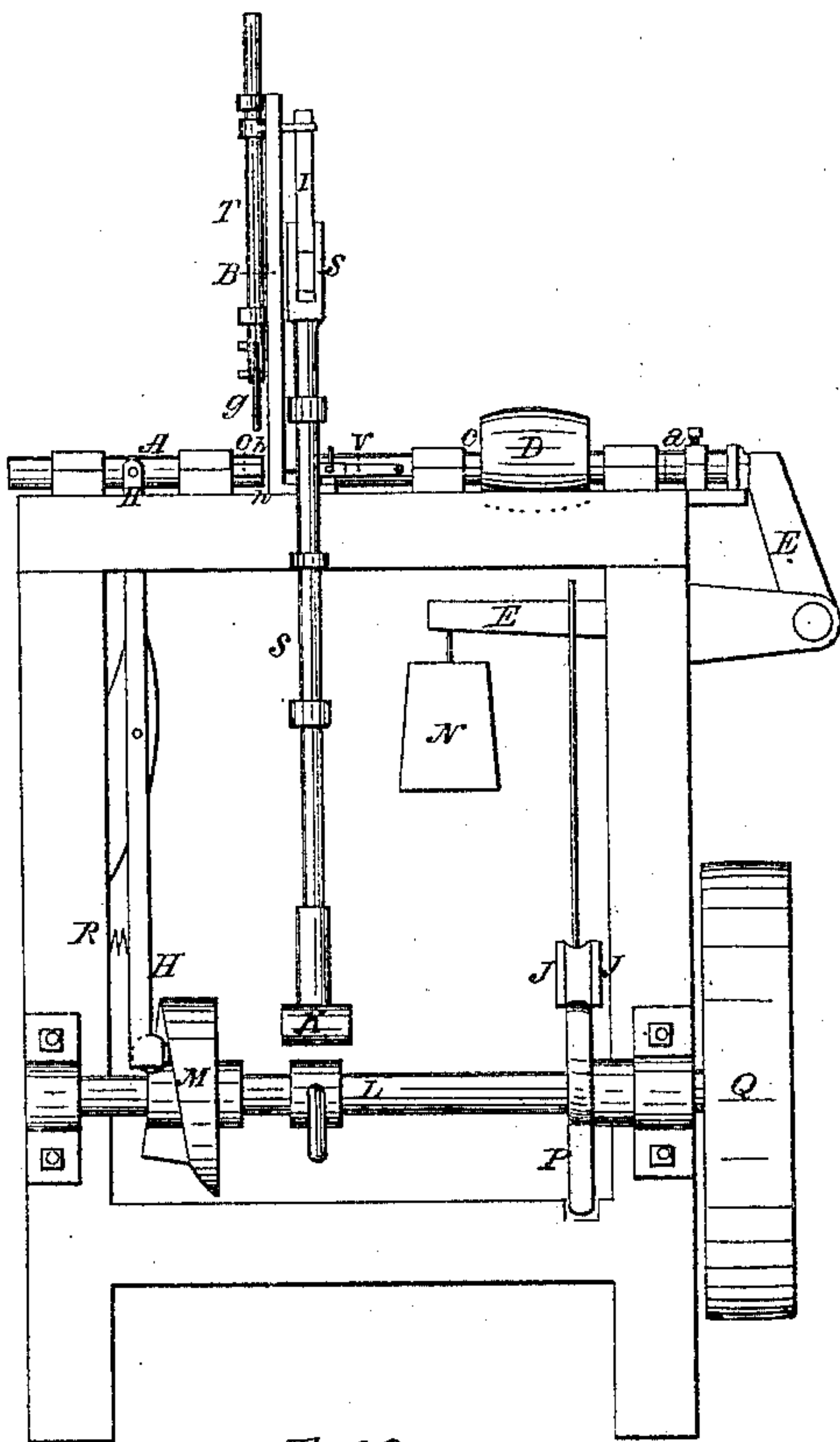


Fig 2

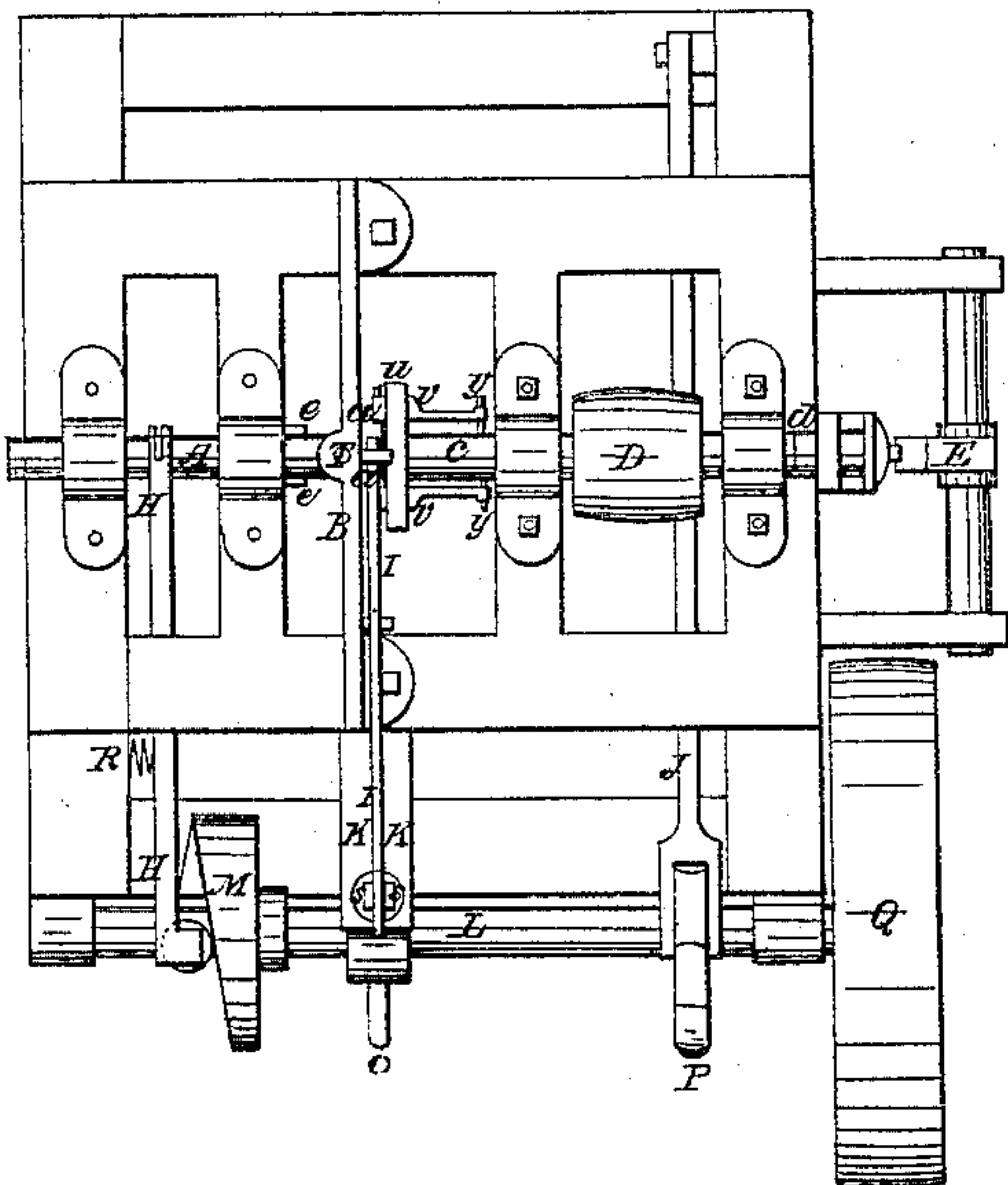


Fig 3

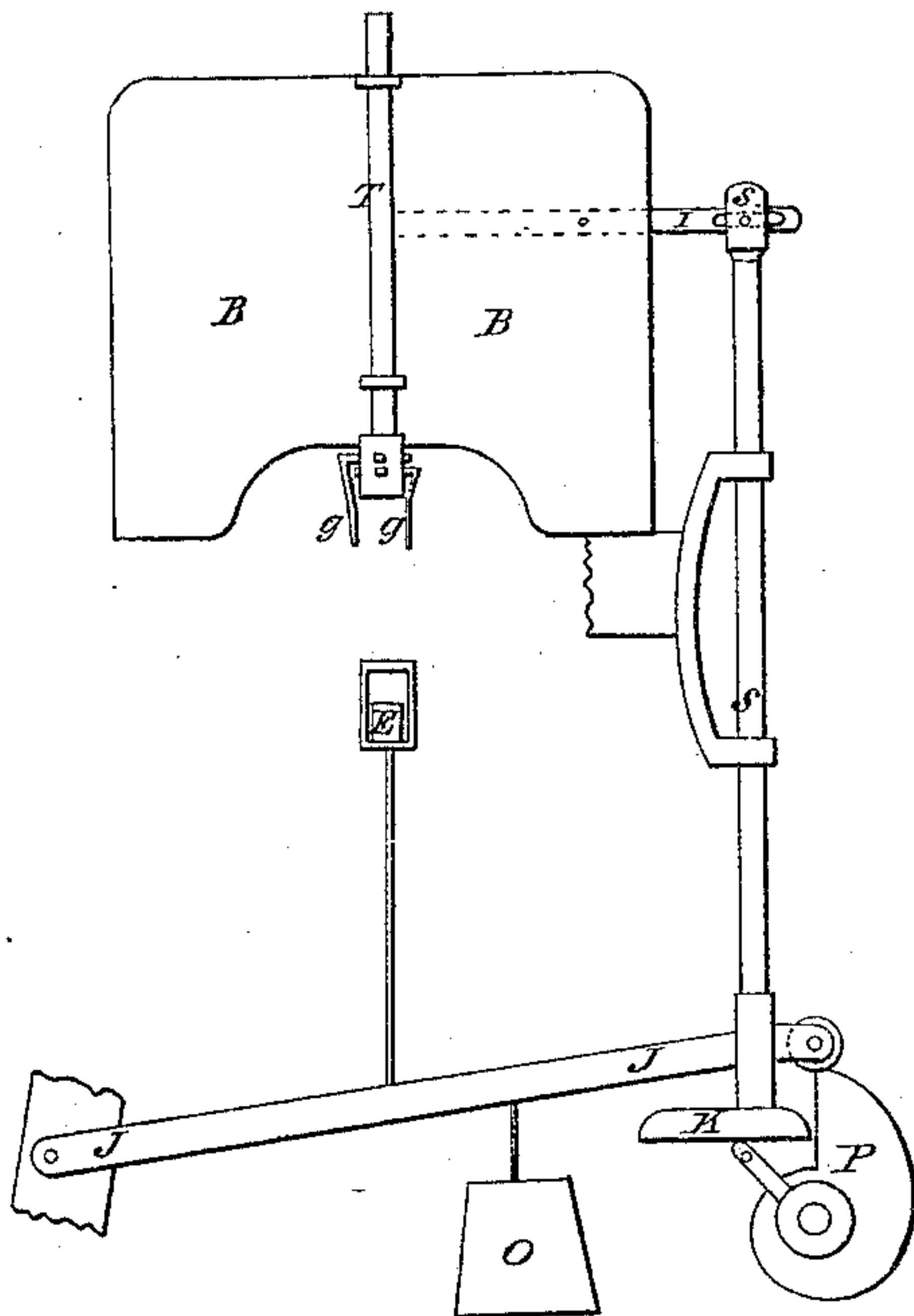
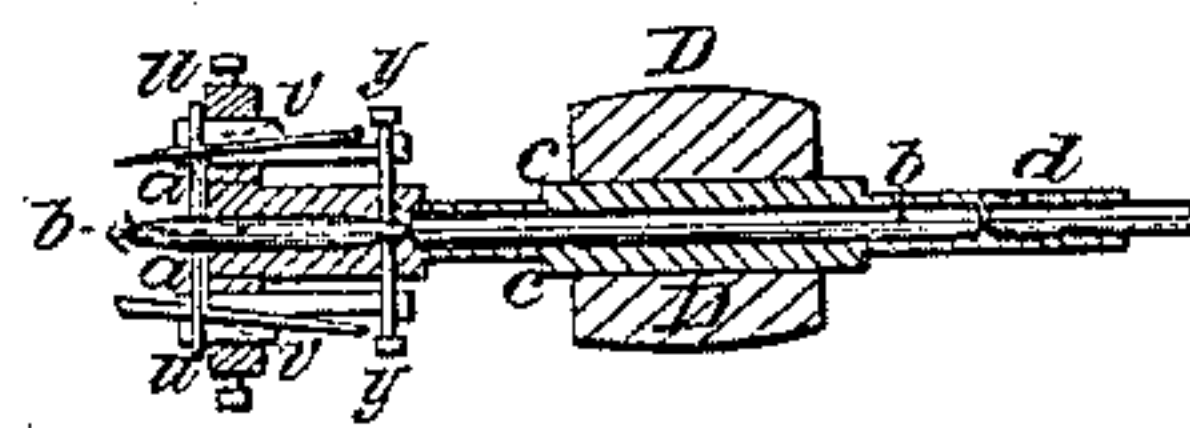


Fig 4



# UNITED STATES PATENT OFFICE.

JOSIAH KIRBY, OF CINCINNATI, OHIO.

## MACHINE FOR CUTTING BUNGS.

Specification of Letters Patent No. 18,287, dated September 29, 1857.

*To all whom it may concern:*

Be it known that I, JOSIAH KIRBY, of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Machine for Making Bungs for Barrels; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is an elevation or side view; Fig. 2, a top or plan view; Fig. 3, a front sectional view, and Fig. 4 is a cut section of mandrel and cutting head.

A is the fulcrum which presses the block against the bits.

B is the face plate; C, mandrel; D, pulley on mandrel; E, lever; F, lever shaft; H, lever which gives motion to follower; I, lever which gives motion to T.

J is lever used to increase the weight at certain times on E.

K is a shoe on rod *s* to increase its weight, and receive friction of pin.

L is shaft which gives the feed motion.

M is cam which gives motion to lever.

O is weight on lever.

P is cam.

Q is driving pulley on shaft.

N is weight on lever E.

R is a spring back of lever H to assist in bringing back the follower.

In operating my machine I first cut the lumber out of which the bung is to be made into blocks and squares (with circular saw or otherwise,) just large enough for the diameter of the bung. The machine being in motion by means of belts on D and O the block is pressed between the fingers I, I, Fig. 3, which are connected to the feeding rod T.

The rod T is connected by lever I to perpendicular rod at *s, s*, which has a shoe K on its lower end and is made to raise at a given time by means of pin *o* in the shaft L, as seen at *k, o*, Fig. 3, which allows the rod T to descend, so that the block is brought down the required distance to center against the rod *b* in center of mandrel, and is made to rest long enough to be caught by the follower against the center rod *b* when the follower A is made to move up by means of cam M which presses against the lever H attached to A at H, so as to hold it firmly against the center and move

it up to the bits while it is being cut. When the block is secured between the follower and the center and before the bits begin to cut, the pin *o* passes from under the shoe K and the feeding rod T is brought up again to its place and remains in its position to receive another block while the bung is being cut. When the follower has pressed the block its whole thickness beyond the points of the bits and the bung is finished the lever H slips off of the cam M, and is brought back by the weight N, hung on the lever E, for enough to clear the bits; at which time A is forced back by means of a spring at R, so as to bring the bung in contact with knuckles *e, e*, which knock it loose from the follower and allows it to fall below. When the bung is to be made of hard wood, it is necessary that it should be held more firmly between the follower A and center *b*, and to accomplish this I employ an additional weight O which is hung on lever J, and which is also hung on lever E. Lever J is operated by cam P, so that when the block is brought down by feeding rod T, opposite the center *b* ready to be caught by follower A and center *b* the entire weight of N and O is hanging on lever E and made to press against the end of rod *x* and consequently against *b*, and when the follower is brought up against the block the spurs in the end of A at *h h h* are forced firmly into the block to prevent it turning around while it is being cut. The block being thus secured the cam P passes around under the lever J and relieves the lever E from the weight of O so as to prevent unnecessary friction, and when the bung is finished the lever slips off of the cam P and falls down bringing the weight again upon E and resting in its position to receive another block. In order to give the taper to the bung I construct my mandrel and cutting head as shown at Fig. 4.

C represents mandrel with arms *u, u*, extending out on each side and forked or slotted at either end so as to admit the bit holders *v, v*, to work on a center between the fork. The bit holders are hung on centers to the arms as seen at *u, u*, Fig. 2.

*d* is a short hollow shaft same as mandrel in which the end rod *x* is made to slide; the center rod *b* is made to run through the entire length of *c* the front end projecting out in front a little farther than the points of the bit; it is made to revolve with the man-



drel and move from front to rear as required in the operation of cutting a bung. This center rod *b* is beveled or tapered oppositely at two given points and on opposite sides and serves as a slide to give motion to the bit holders. The bit holders *v, v*, are provided with adjusting rods *a, a*, at or near their front ends, and tail screws *y, y*, running through their rear ends. The rods *a, a*, and tail screws *y, y*, extend through the sides of the mandrel and rest upon the bevels of the center rod *b*, for the purpose of adjusting the bits to the required sized bung, and giving the holders *v, v*, an oscillating motion so as to taper or bevel the bung as it is forced up against the bits, and

to free the bits from the bung as it comes back again, after it is cut.

I claim:

1. The oscillating bit holders *v v* when operated by means of opposite bevels on the center rod *b* acting against the adjusting rods *a, a*, and the tail screws *y, y* in the manner and for the purpose described.
2. I claim the mode of grasping the block and freeing the finished bung when arranged and operating in the manner set forth.

JOSIAH KIRBY.

Witnesses:

W. CHIDSEY,  
EVAN EWAN.