J. I. MUNROE.

Improvement in Bung-Cutters.

No. 128,745. Patented July 9, 1872.

Fig. 1

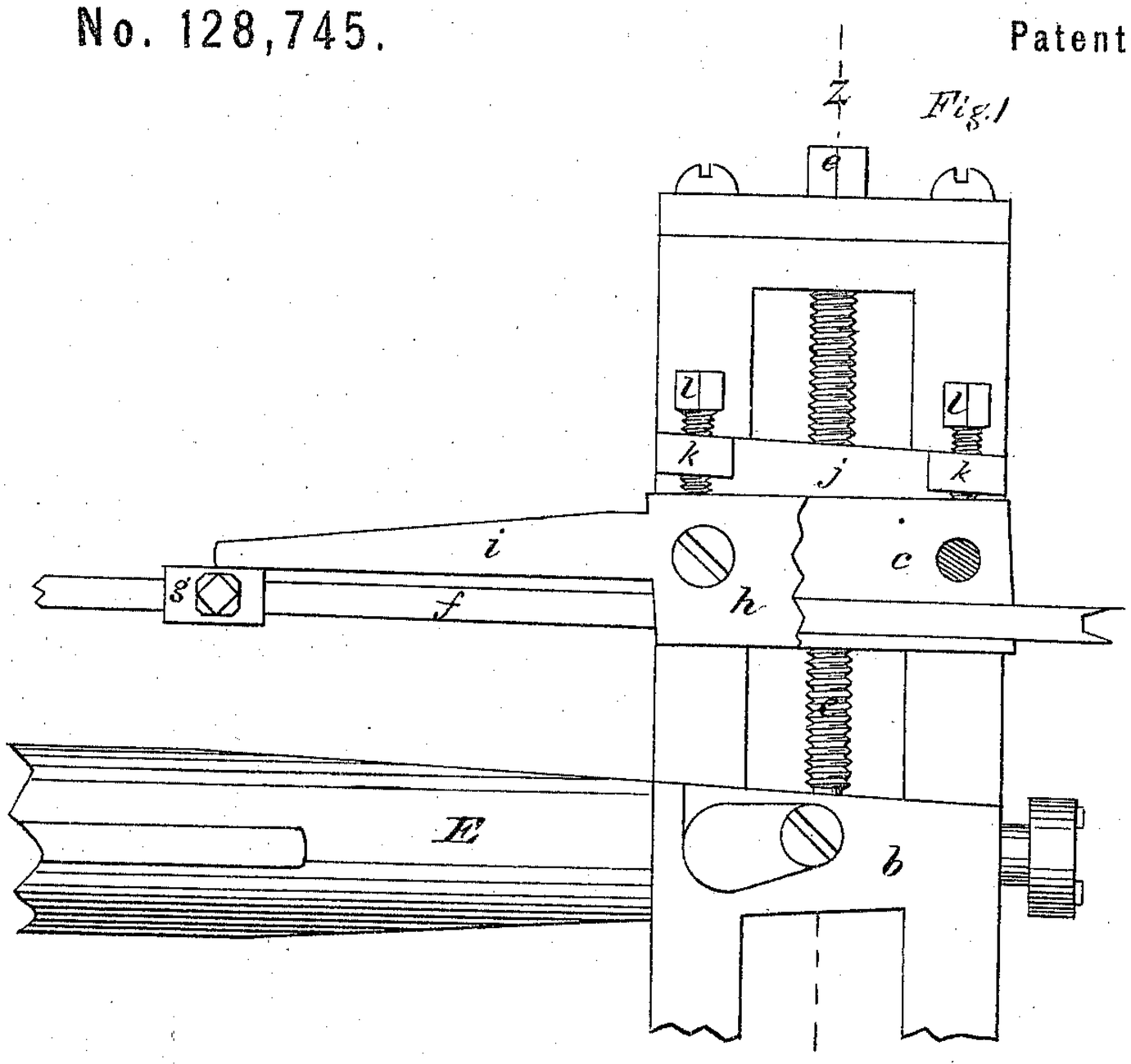


Fig. 2

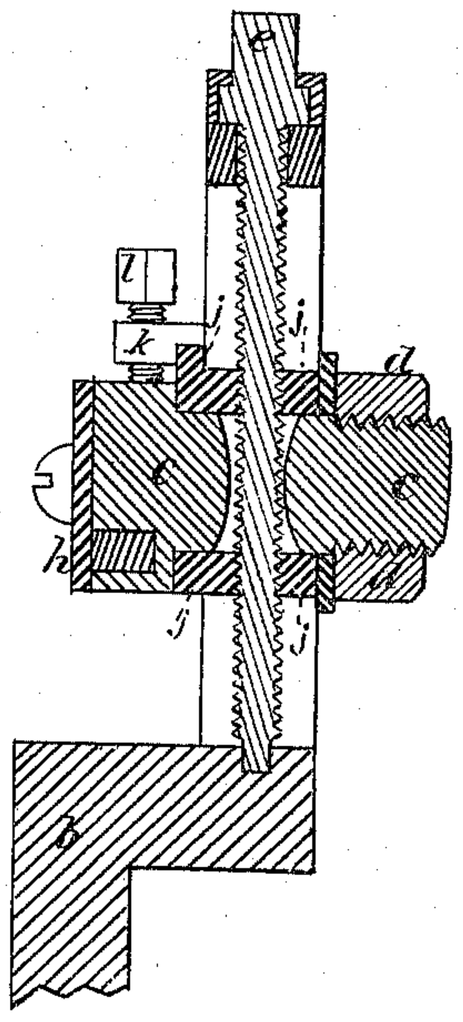
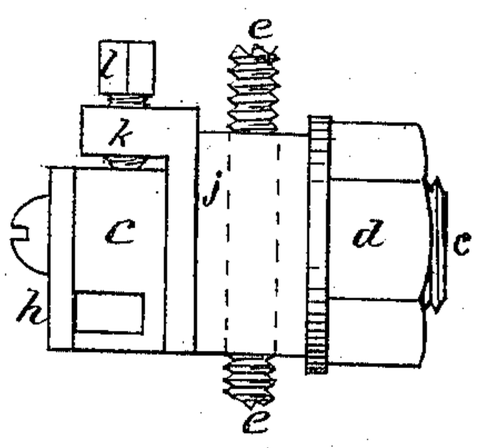


Fig. 3



Witnesses

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128,745

UNITED STATES PATENT OFFICE.

JOHN I. MUNROE, OF WOBURN, MASSACHUSETTS.

IMPROVEMENT IN BUNG-CUTTERS.

Specification forming part of Letters Patent No. 128,745, dated July 9, 1872.

To all whom it may concern:

Be it known that I, JOHN I. MUNROE, of Woburn, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in the Bung-Cutter patented by me on the 12th day of April, 1870, of which said improvements the following is a specification:

The first part of my invention relates to the combination, with the slotted head and sliding cutter-blocks, of a device whereby the said cutter-blocks may be vibrated upon the axis of their locking-screws, so as to vary the taper of the bungs cut by the machine. The second part of my invention consists in a device whereby the cutters are supported so that the centrifugal force shall not throw the cutters out of line when the machine is in operation.

In the accompanying drawing, Figure 1 is a detached plan view of a part of the arbor and head, with the parts thereto attached. Fig. 2 is a vertical section taken on the line *y z*, Fig. 1; and Fig. 3 is a detached end view or elevation taken at the right hand of Fig. 1, and showing the locking-block and vibrating device.

The same letters of reference indicate corresponding parts in the several figures of the accompanying drawing, and also in my said former Letters Patent.

In the drawing, *j*, Fig. 1, represents a plate of the same length as the slotted T-piece *c*, and slightly wider. Upon this plate is formed a square projection, shown at *j j*, Fig. 2, which fits accurately (but to slide freely) in the slot in head *b*. Through this plate and its square projection is a round hole of the same size as the tail of the T-piece *c*, which is formed around its entire length, instead of having a square section, to fit the slot in the head. The adjusting-screw *e* is threaded in block *j*, as is plainly shown in Fig. 2, while through the tail of the T-piece *c* is formed an "hour-glass"-shaped hole, also shown in Fig. 2, through which screw *e* passes freely. *k k* are two ears formed upon plate *j*, and in which are fitted the set-screws *l l*, the ends of which bear against the slotted part of T-piece *c*, so that when the locking-nut *d* is loosened, thereby actuating the set-screws, the slotted head of the T-pieces may be vibrated in either direction, so that the direction of cutters *f* shall be parallel with the axis of arbor E or oblique thereto, as the taper or absence of taper in the bung may render necessary. The cap *h*, secured to T-piece *c* to hold the cutter *f* in the slot, is formed with an extension, *i*, against which the coupling *g* bears, so that the centrifugal force shall not tend to throw the cutters out of line, and thereby increase the friction when sliding in the grooves in the T-pieces.

What I claim as new is—

1. In combination with the T-pieces *c*, the blocks *j* and set-screws *l l*, by which to change the axis of the cutters relatively to the arbor E, substantially as and for the purposes specified.

2. The rigid supports *i*, substantially as and for the purposes specified.

JOHN I. MUNROE.

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