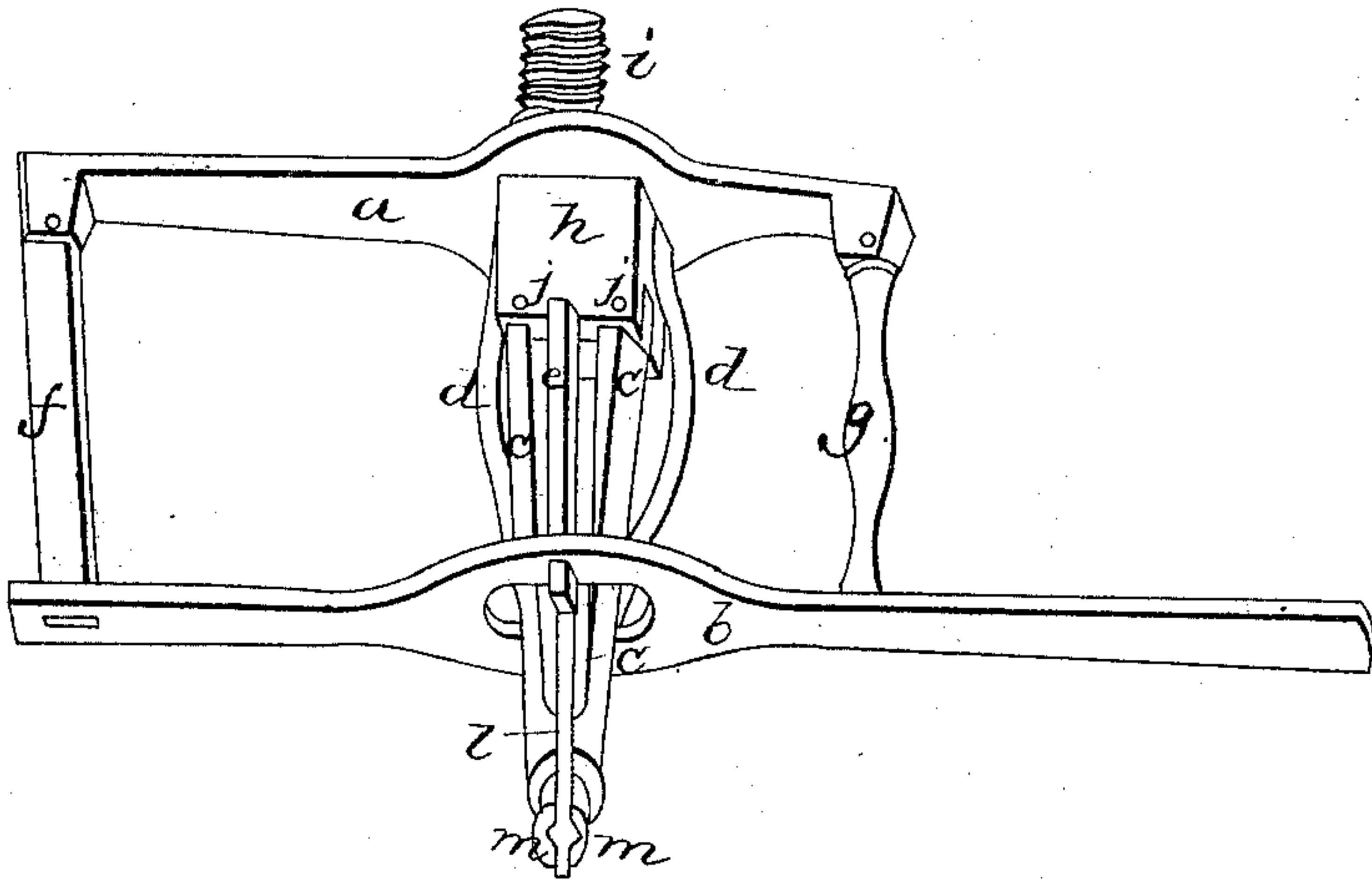
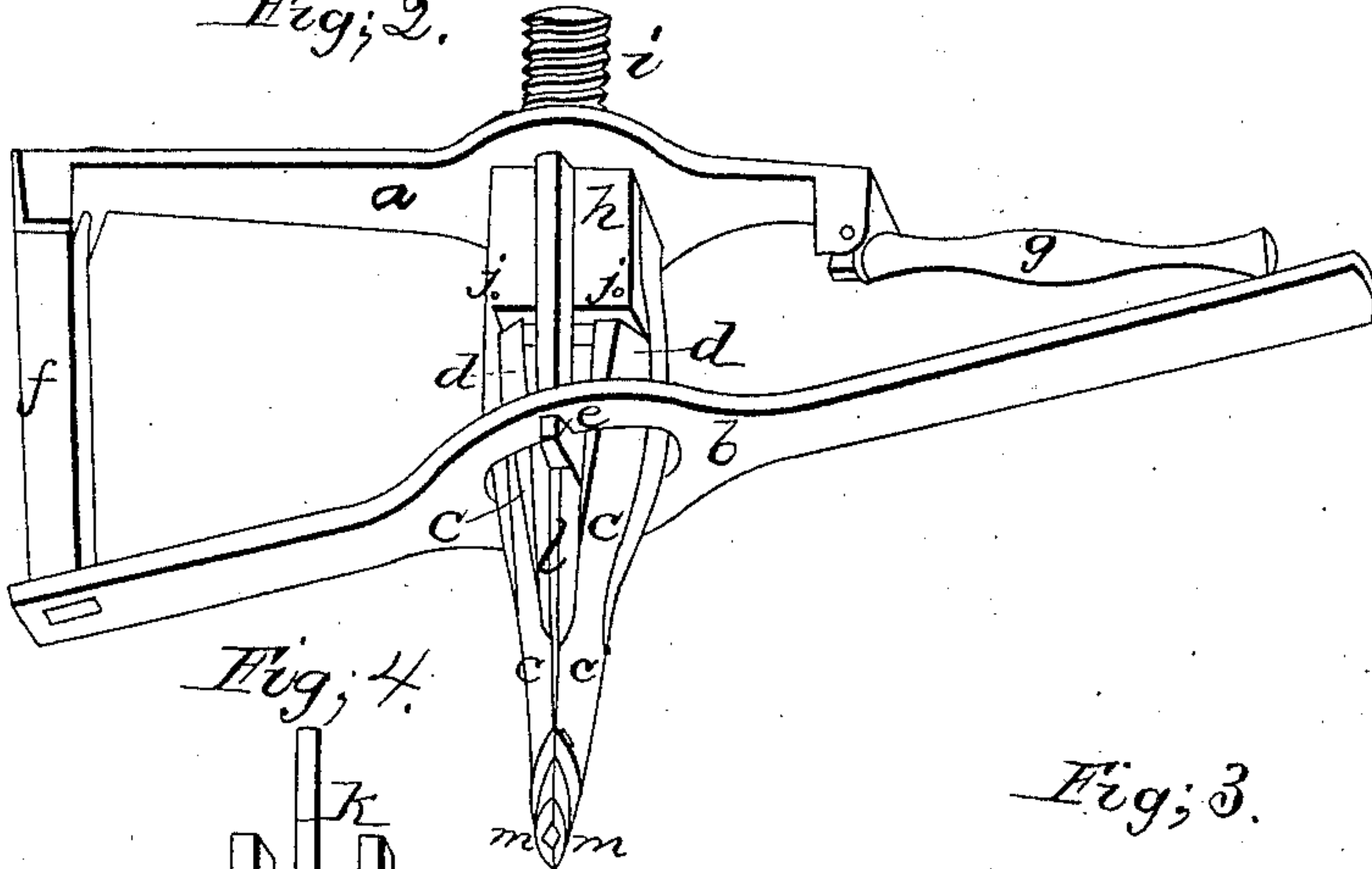


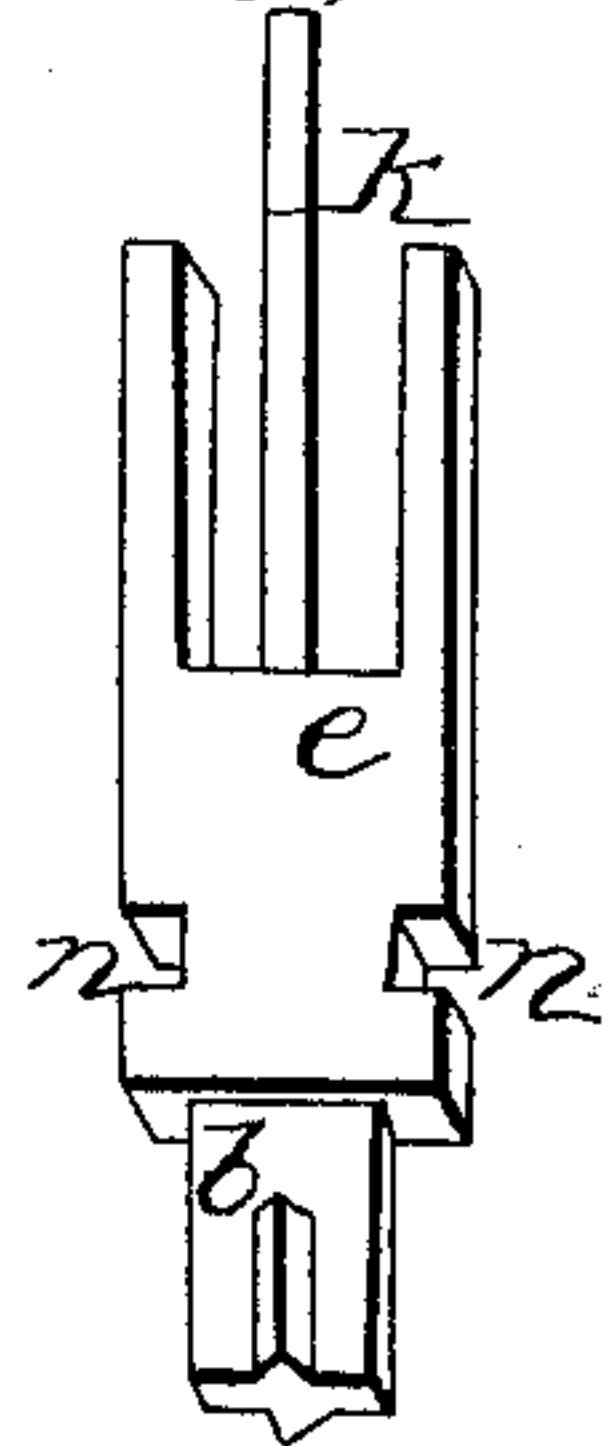
*O. Newton,*  
*Making Pottery.*  
*No 8,547. Patented Nov. 25, 1851.*  
*Fig; 1.*



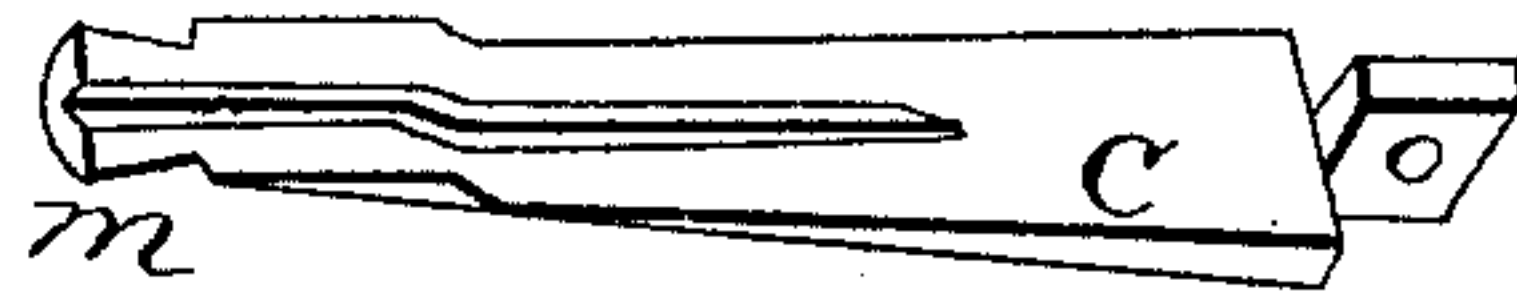
*Fig; 2.*



*Fig; 4.*



*Fig; 3.*



*Witnesses;*  
*John C. ...*  
*Samuel M. ...*

*Inventor;*  
*Orrin Newton*



# UNITED STATES PATENT OFFICE.

ORRIN NEWTON, OF PITTSBURGH, PENNSYLVANIA.

## MANUFACTURE OF DOOR-KNOBS.

Specification of Letters Patent No. 8,547, dated November 25, 1851.

*To all whom it may concern:*

Be it known that I, ORRIN NEWTON, of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Machine for Pressing and Forming Holes or Cavities in Knobs for Doors and other Purposes; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of this invention consists in the combination of the parts of a machine so modified and arranged as to enable it to be used with great facility for the purpose of forming a hole or cavity in molten glass or any other substance which may be used for pressing into molds while in a semi-fluid or plastic state and which is solidified therein by the pressure or otherwise; which hole or cavity shall not pass through the substance in which it is formed, but shall partake of a conical form, or be larger at the lower part or bottom than at the orifice, and which cavity after it has been formed and the substance has become sufficiently set or fixed in the form it is intended to retain when taken from the mold, has the former, or part of the machine which gives the required shape to the cavity, removed by a quick and convenient method of altering the position of the several parts of the machine so as to permit the base of the conical shaped former to be withdrawn through the smaller part or orifice of the cavity.

Figure 1 is a perspective view of the machine in position to be forced into the mold containing the substance in which it is desired to form the cavity. Fig. 2 is a perspective view of the machine in position to be withdrawn from the substance in the mold through the smaller part or orifice of the cavity after its formation. Fig. 3 represents one of the arms of the machine with its peculiarities. Two of these arms are used in one machine. Fig. 4 represents the sliding plate of the machine, used for the purpose of forcing the arms asunder and also to give proper size to the cavity.

The lever, brace, springs and other parts of the machine are so fully displayed in the Figs. 1 and 2 that any separate drawings of them are considered unnecessary to elucidate their several functions.

Like letters represent like parts in the different figures.

The machine is composed of a plate *a*,—a lever *b*,—two arms *c*, *c*—two springs *d*, *d*,—a sliding plate *e*,—a connecting link *f*,—and a brace *g*. The block *h*, to which the arms and springs are attached may be considered a part of the plate *a*. The screw *i*, above the plate is intended for the purpose of attaching the machine to the press by screwing it into a socket in the sliding mandrel prepared to receive it. It may however be dispensed with and the machine attached by any other mode in common use,—as by means of screws passing through the plate *a*. The object of attaching the machine to a press is for the purpose of forcing the former of the machine into and raising it clear of the mold at pleasure.

The arms *c*, *c*, are jointed into the block *h*, and are retained therein by means of pins *j*, *j*. The arms are so fitted in the joints and on the pins as to work freely to and from each other. The springs *d*, *d*, extend down and alongside of the arms *c*, *c*, against which they press, thus producing in the arms a constant tendency to go together.

The sliding plate *e*, has a motion both ways between the arms *c*, *c*, in the direction of their length. It also has a guide pin *k* Fig. 4, projecting from its upper end and passing into a hole in the block *h*, prepared for it, which pin serves to guide it properly in its motion.

The bars on either side of the guide pin *k* serve only to show that the sliding plate may be guided by other means than simply by a guide pin. The lever *b* has near the middle of its length, a yoke or ring passing around the springs and arms, and in passing the edges of the sliding-plate *e*, it takes hold of the said plate by passing through notches *n*, *n*, on either edge of the sliding plate, by means of which notches *n*, *n*, holding to the lever the sliding plate is raised and depressed at will, by raising and depressing the handle of the lever.

When the sliding plate is forced down as in Fig. 1, the end *l* of the plate is forced and takes position between the conic sections or parts *m*, *m*, of the former, separating and retaining them in a separate position; while thus positioned they or the combined parts constituting the former are forced by the press into the substance in which it is desired to form a cavity. When the former is to be withdrawn from the substance, the brace *g* is thrown back from



its bracing position, the lever *b* is thrown up as shown in Fig. 2 carrying up with it the sliding plate *e*. The end *l* passes from between the conical shaped parts of the former above which there is an offset or shoulder on each of the arms *c*, *c*, which gives space between the arms for the reception of the sliding plate *e*, while the lower ends of the arms and the parts *m*, *m*, of the former are permitted to be forced together by the action of the springs *d*, *d*; the space above the shoulders, between the arms permitting the lower ends of the arms to come together without meeting with any restraint by coming in contact with the sliding plate, when in the position shown in Fig. 2. When the parts *m*, *m*, of the former are thus together, they can be withdrawn through the orifice of the cavity without meeting with restraint.

For the purpose of bringing the several parts of the former into proper position with regard to each other, when the sliding

plate is forced down by the lever; there is a sloat or groove on the flat sides of the arms, and a ridge or cone on either side of the end *l* of the sliding plate corresponding in form to the groove or sloat in the arms, into which it is made to fit. When the sliding plate is down, the action of the springs on the arms forces the sloats or grooves onto the corresponding cone or ridge on either side of the sliding plate keeping them properly seated thereon and all the several parts of the former in proper position as shown at Fig. 1.

I claim—

The combination and arrangement of the arms, sliding plate, springs, and lever; substantially as described; operating in the manner, or in any analogous way, and for the purpose set forth.

ORRIN NEWTON.

Witnesses:

JAMES A. CREVER,  
N. BUCKMASTER.