

No. 891,606.

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J. E. DOLDT & H. L. CHENERY.

LOCK MORTISER.

APPLICATION FILED FEB. 14, 1907.

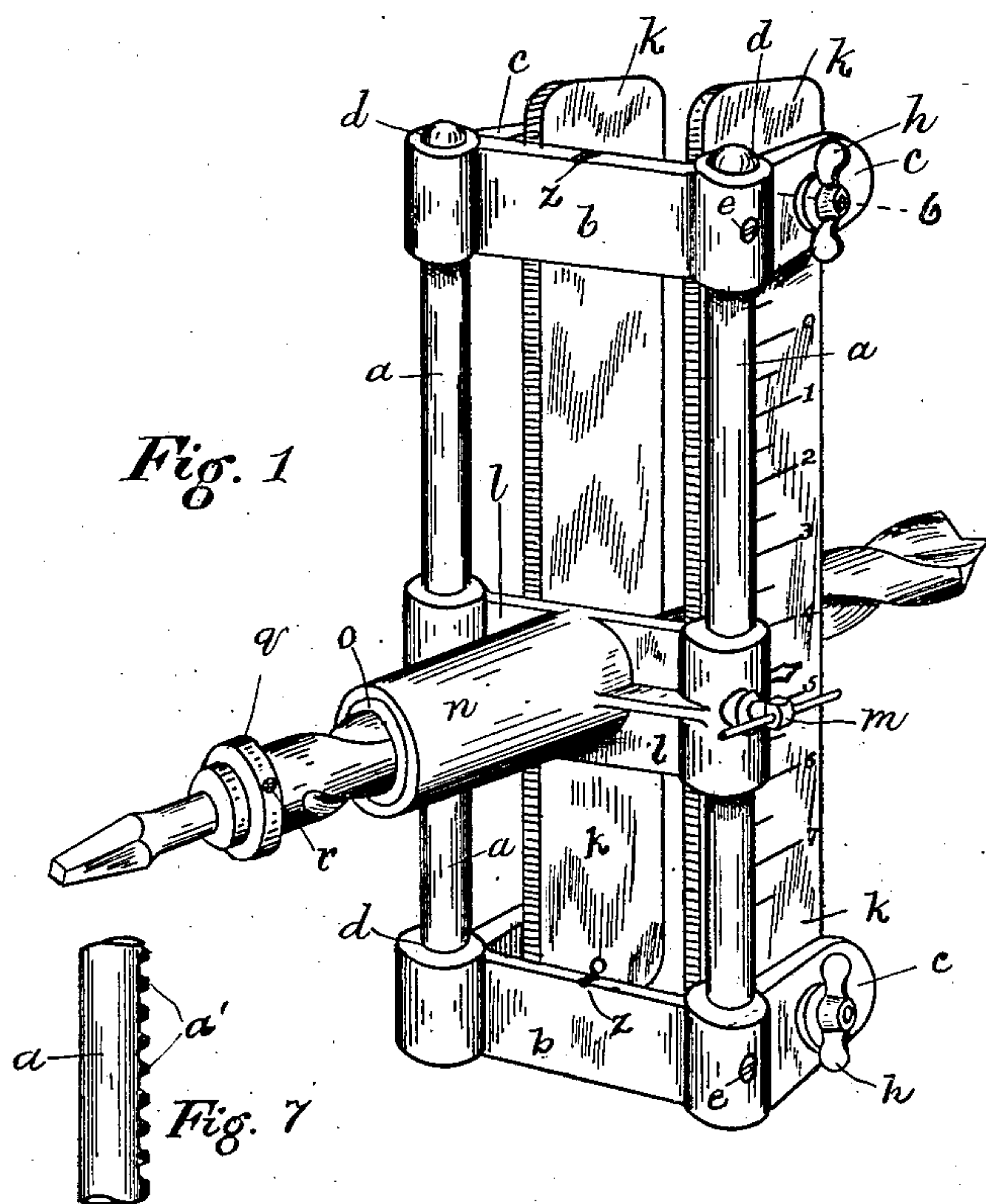


Fig. 1

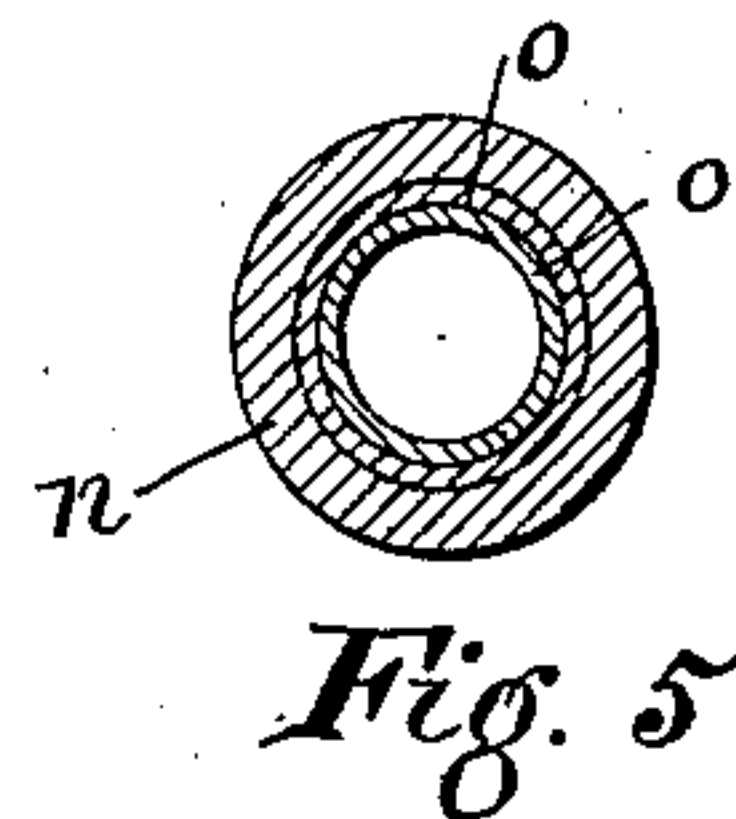


Fig. 5

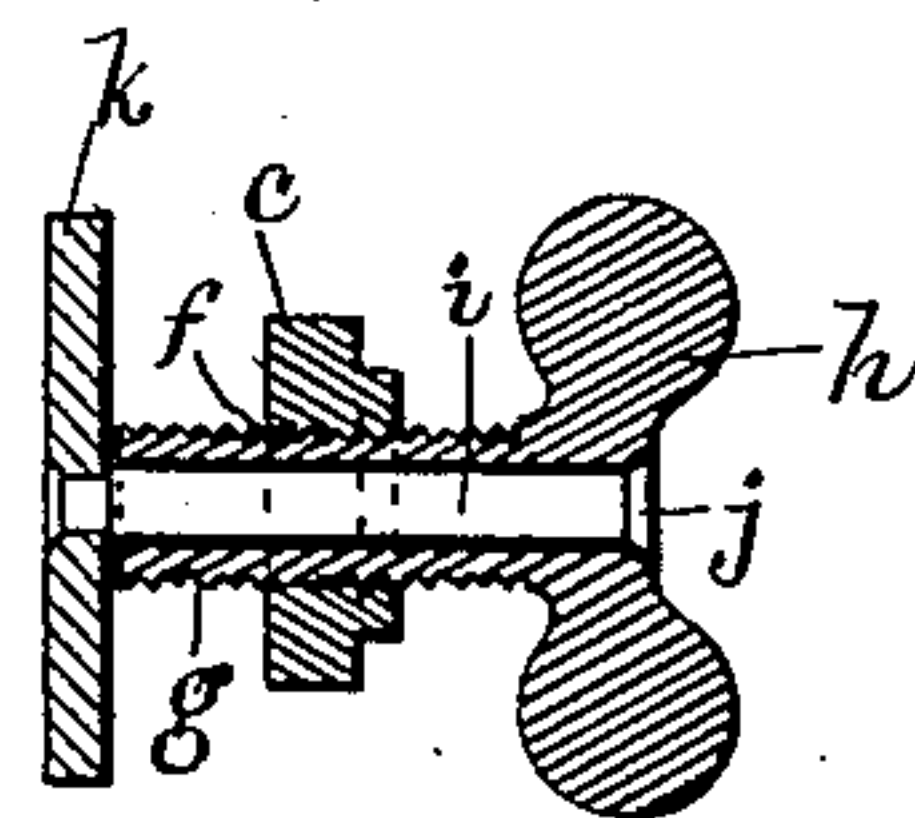


Fig. 6

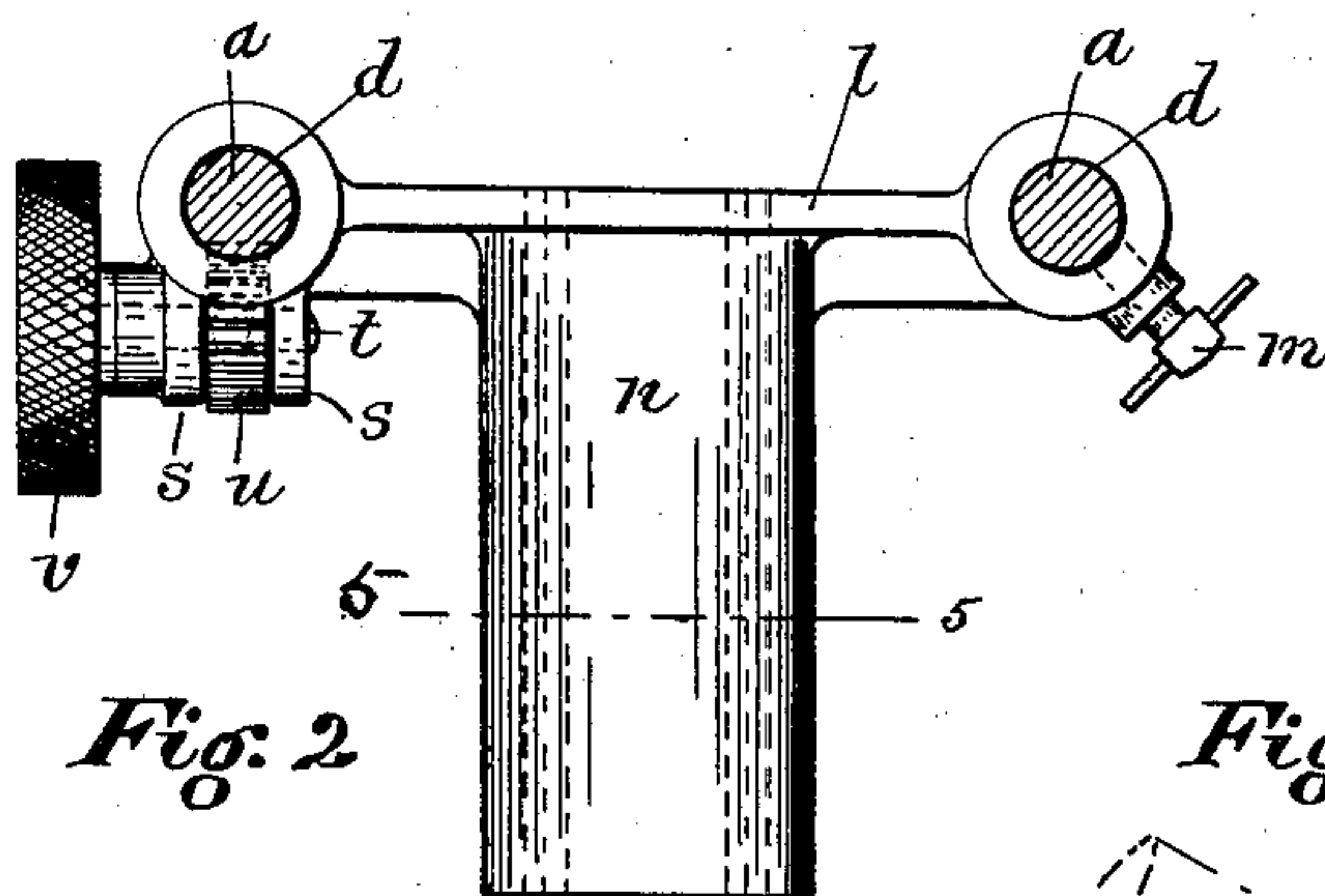


Fig. 2

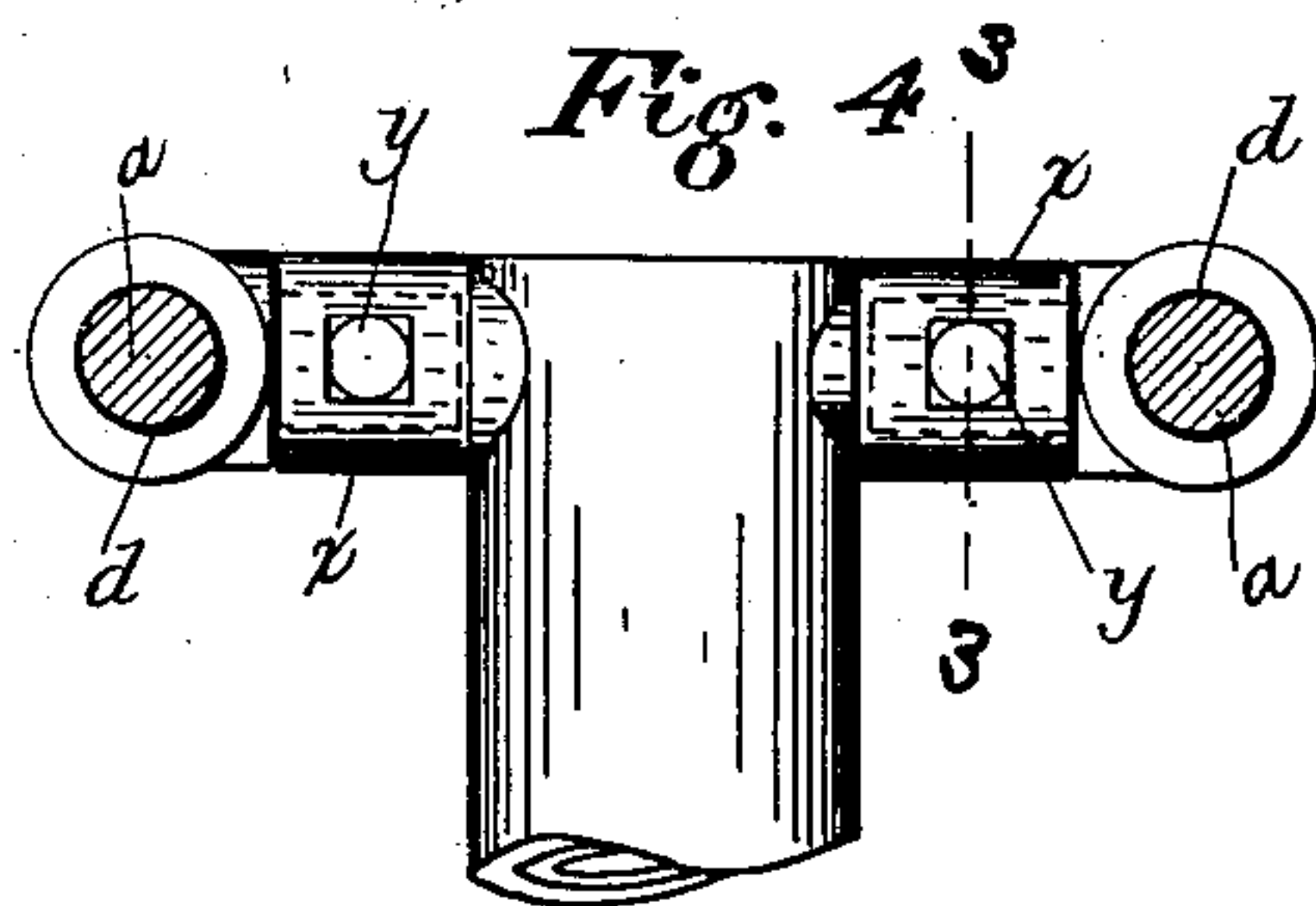


Fig. 4

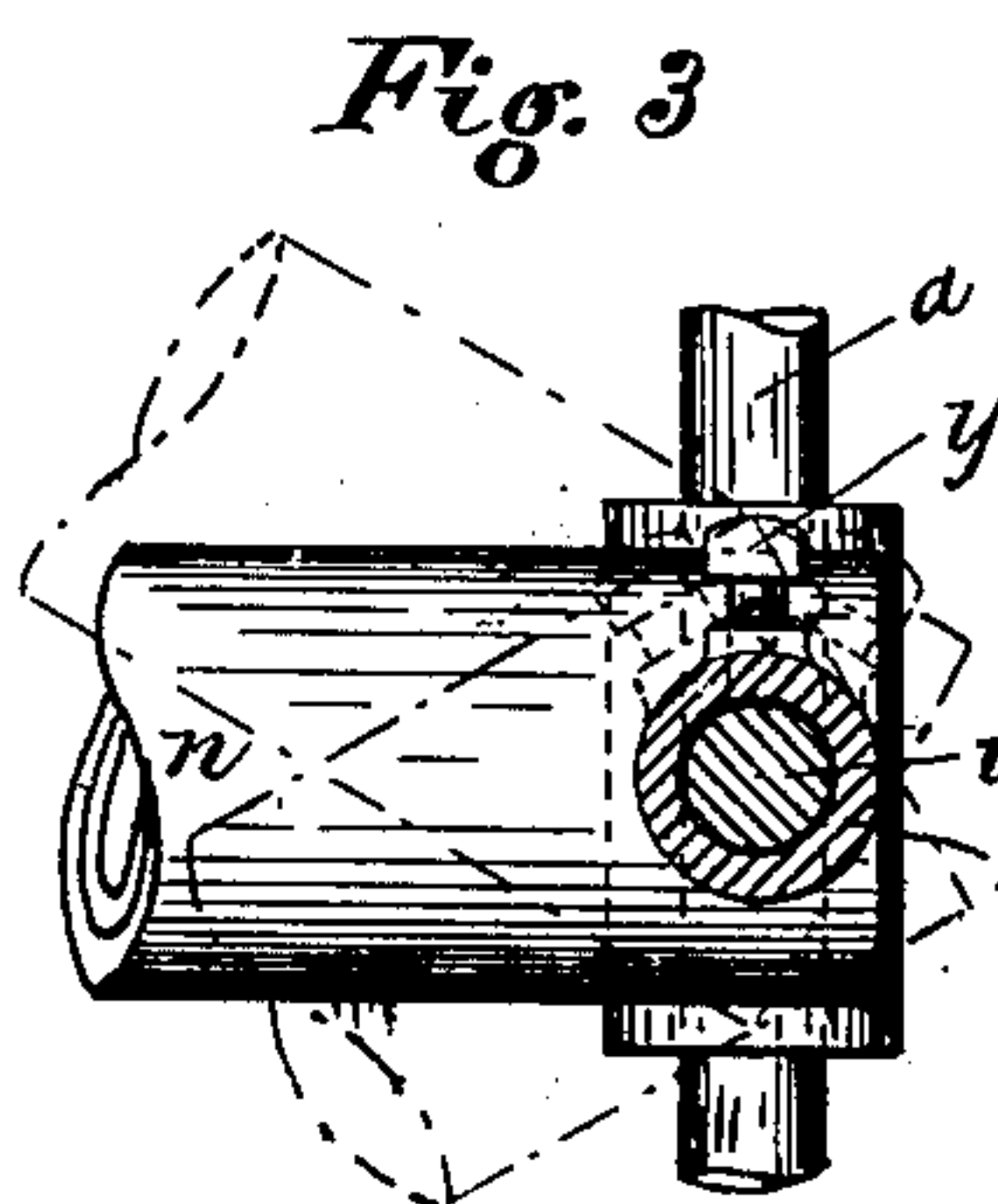


Fig. 3

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# UNITED STATES PATENT OFFICE.

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## LOCK-MORTISER.

No. 891,606.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed February 14, 1907. Serial No. 357,350.

*To all whom it may concern:*

Be it known that we, JOHN E. DOLDT and HENRY L. CHENERY, citizens of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented an Improvement in Lock-Mortisers; and we hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to a device designed for making mortises in doors and in similar articles.

It consists of a frame with plates whereby it may be adjusted laterally upon the door, a cross-head with suitable means whereby it may be raised or depressed, a tool holder attached to the cross-head, means which may be employed for depressing or lowering the cross-head and means which may be employed when it is desired to bore or mortise at an angle, other than a right angle, with the edge of the door or other article.

In the drawing: Figure 1 is a perspective view of our device; Fig. 2 is a top plan showing means for depressing or lowering the cross-head; Fig. 3 is a detail in side elevation of means whereby the tool holder upon the cross-head may be placed and fixed at an angle other than a right angle, the cross bar being shown in section on line 3—3 of Fig. 4; Fig. 4 is a detail in top plan of the means shown in Fig. 3; Fig. 5 is a vertical transverse section of the sleeve upon the line 5—5 of Fig. 2; Fig. 6 is a vertical transverse section on the line 6 of Fig. 1. Fig. 7 is a detail showing the rack upon the rod *a*.

The frame consists of the rods *a a* which are provided at the top and bottom with cross bars *b b* provided with wings or ears *c c* and also at the point of the attachment of the ears to the cross bars with circular openings for the reception of the rods *a a*. The rods *a a* are secured in the openings *d d* by means of the set screws *e e*, see Fig. 1. Each ear *c* is provided with a threaded aperture *f* similarly located and adapted to receive the threaded screw *g* which is provided with a thumb piece *h*. The screw *g* is made hollow for the reception of the pin *i*, the outer end of which is headed as seen at *j*, see Fig. 6. The other, or inner, end of the pin *i* in each instance is fixed to the plates *k k* respectively. These two plates are located upon either side

of the frame in planes normally parallel with each other and at right angles with the common plane of the rods *a, a*. The plates are preferably somewhat longer than the length of said rods and may be of rectangular shape as shown in Fig. 1. The cross-head *l*, see Figs. 1 and 2, is adapted to slide upon the rods *a a*. At one side, it is provided with a set screw *m*, as shown in Figs. 1 and 2. The front face of the cross-head is provided with a tool holder *n* which is shown in Figs. 1 and 2, as fixed to the face of the cross-head at a right angle to the plane of the rods *a a*. The interior diameter of the tool holder *n* should be that of the bit or tool which is intended to be used. Bushing, however, may be provided for use within the tool holder whereby bits or tools of varying shapes and sizes may be used. The bit *p* or tool used may be provided with a collar *q* near its outer end which may be set by means of the set screw *r* in varying positions to operate as a guide in determining the depth of the cut made by the tool. A scale may be placed upon the side of one of the plates whereby the position of the successive operations may be regulated or determined.

Means whereby the cross-head *l* may be raised or depressed are shown in Fig. 2 which consist of the ears *s s* which are fixed upon one end of the cross-head, preferably that opposite that which carries the set screw *m*. These ears are provided with suitable apertures for the reception of a small shaft *t* which carries between the ears a gear *u*, a portion of the side of the cross head being removed for its reception. This gear inter-matches with a rack upon the rod *a*. The outer end of the shaft *t* is provided with the thumb piece *v* (see Fig. 2). In Figs. 3 and 4 are shown means whereby the tool holder *n* may be placed in and set at an angle other than a right angle with the plane of the rods *a a*. The ends of the cross head *l* are provided on the inside with gudgeons or circular studs *w*, the plane of which is at right angles with the plane of the rods *a*. The central portion of the cross head is provided with sockets *x x* for the reception of the gudgeons *w* as shown in Figs. 3 and 4. In suitable apertures through the sockets *x x* are placed the set screws *y y*.

The operation of the device is as follows: The central vertical line of the edge of the door to be operated on having been located,



the plates *k k* are placed on either side of the door at the proper height and by means of the set screws *h h* are so placed that the center of the front of the frame as indicated by the gage *z z* shall be directly in line with the center of the door when the frame is securely clamped by means of the thumb screws *h* upon the door. The tool to be used is placed in the tool holder *n*, the requisite number of bushings being used to make an aperture of the required size. The gage or collar *q* is now fixed upon the tool at such point as to prevent the penetration of the tool to greater depth than desired. The cross head *l*, the set screw *m* being retracted, is raised to such point as is needed in order to make a mortise of the proper height. As generally operated, an ordinary bit stock is now used and a bore made. The tool is then withdrawn from the door, the cross head *l* lowered a distance equal to one half the diameter of the aperture made by the previous operation and another hole made. The operation is thus repeated until the door has been cut to the dimensions of the mortise required. The tool is now withdrawn to permit the cross head *l* to be raised to the point at which it was when the first boring was made and the tool reinserted in the first hole made, and being turned at the proper speed, the cross head is simultaneously depressed by means of the thumb piece *v* until the lower end of the mortise has been reached, the result of the operation being that all the irregularities of either side of the mortise will have been removed by the tool. In addition to the accuracy and speed with which the work of mortising is accomplished, the plates *k k* serve a further office of preventing the splitting of the door which sometimes occurs in the ordinary method now employed.

In depressing and lowering the cross head *l*, we do not depend upon the use of the rack and pinion operated by the thumb screw *v*, but ordinarily prefer to use the device as shown in Fig. 1 as a slight downward pres-

sure of the hand on the tool holder will accomplish the desired result, especially when the softer woods are being operated upon.

What we claim is:

1. The combination of a frame, means whereby it may be clamped to the object to be operated on, a cross-head adapted to slide upon said frame, a tool holder having a fixed location upon said cross-head and means whereby said cross-head may be moved upon said frame, substantially as described.

2. The combination of a frame, means whereby it may be clamped to the object to be operated on, a cross-head adapted to slide upon said frame, a tool holder having a fixed location upon said cross-head, means whereby said cross-head may be raised or depressed and means for holding said cross-head in a desired position, substantially as described.

3. The combination of a frame having a movable cross-head carrying a tool holder having a fixed location thereon, movable plates on either side of said frame, means whereby said plates may be clamped to the object to be operated on and the relative position of the tool holder to said plates varied as desired, substantially as described.

4. The combination of a frame provided with plates upon either side, means whereby each of said plates may be adjustably clamped to the object to be operated on, a cross-head adapted to slide upon said frame and a tool holder having a fixed location upon said cross-head, substantially as described.

In testimony, that we claim the foregoing as our invention we have hereunto set our hands this thirteenth day of February, A. D. 1907.

JOHN E. DOLDT.  
HENRY L. CHENERY

Signed in presence of—

GEO. E. BIRD,  
A. C. BERRY.