

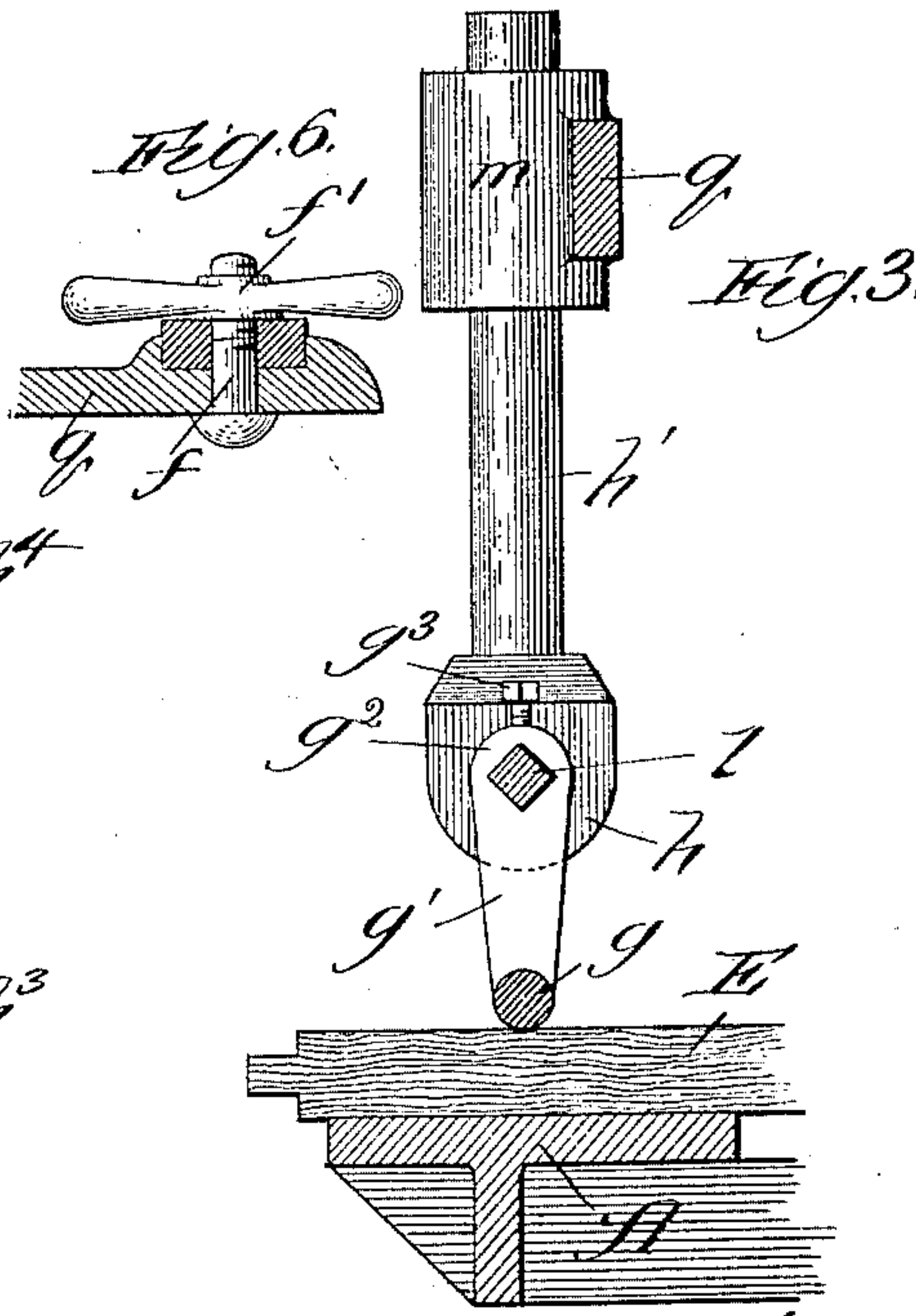
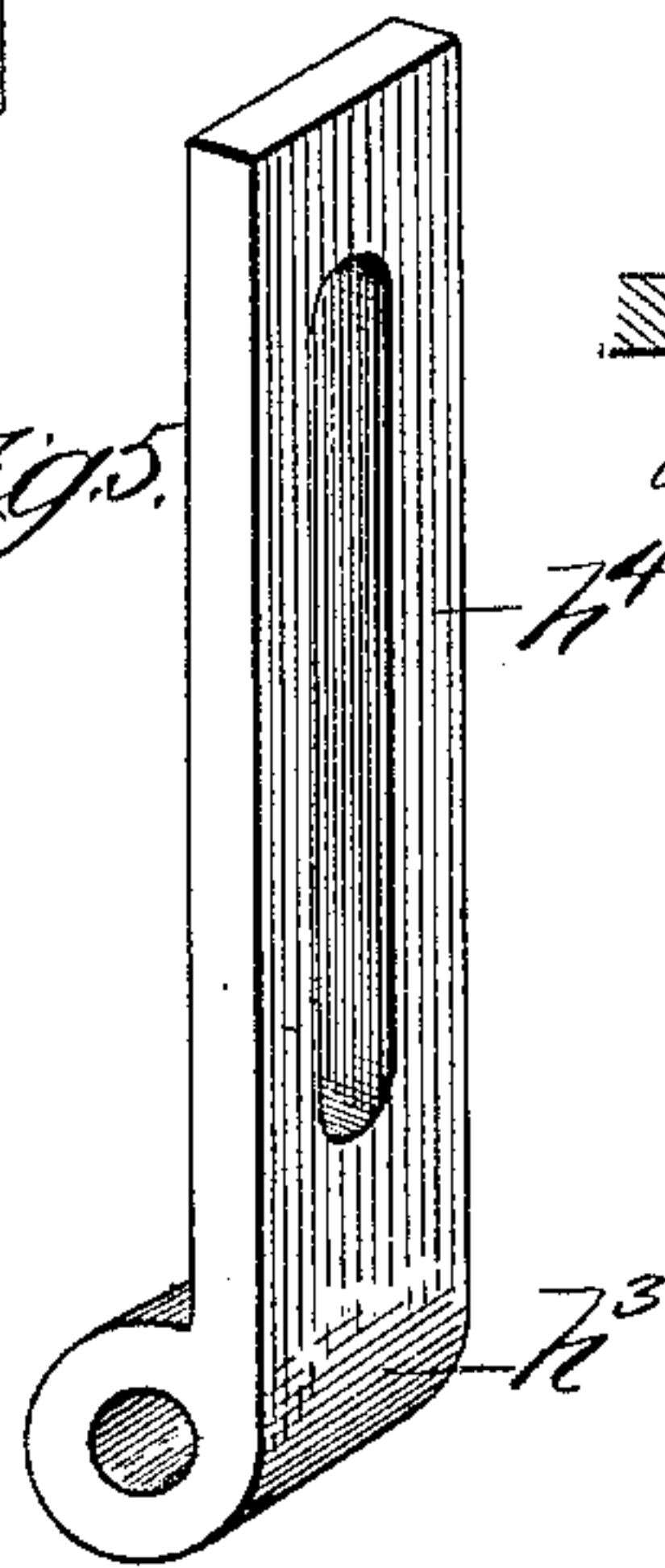
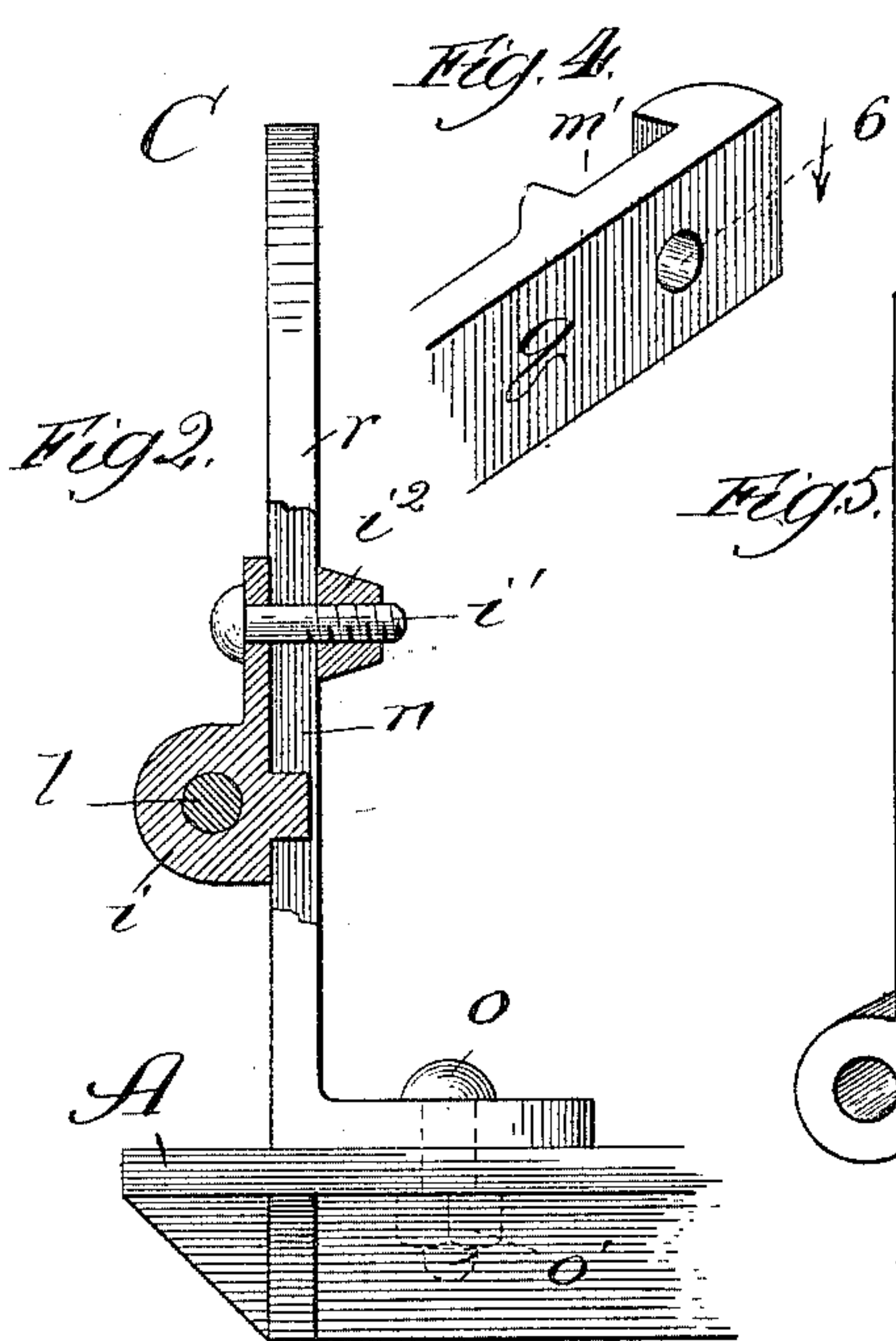
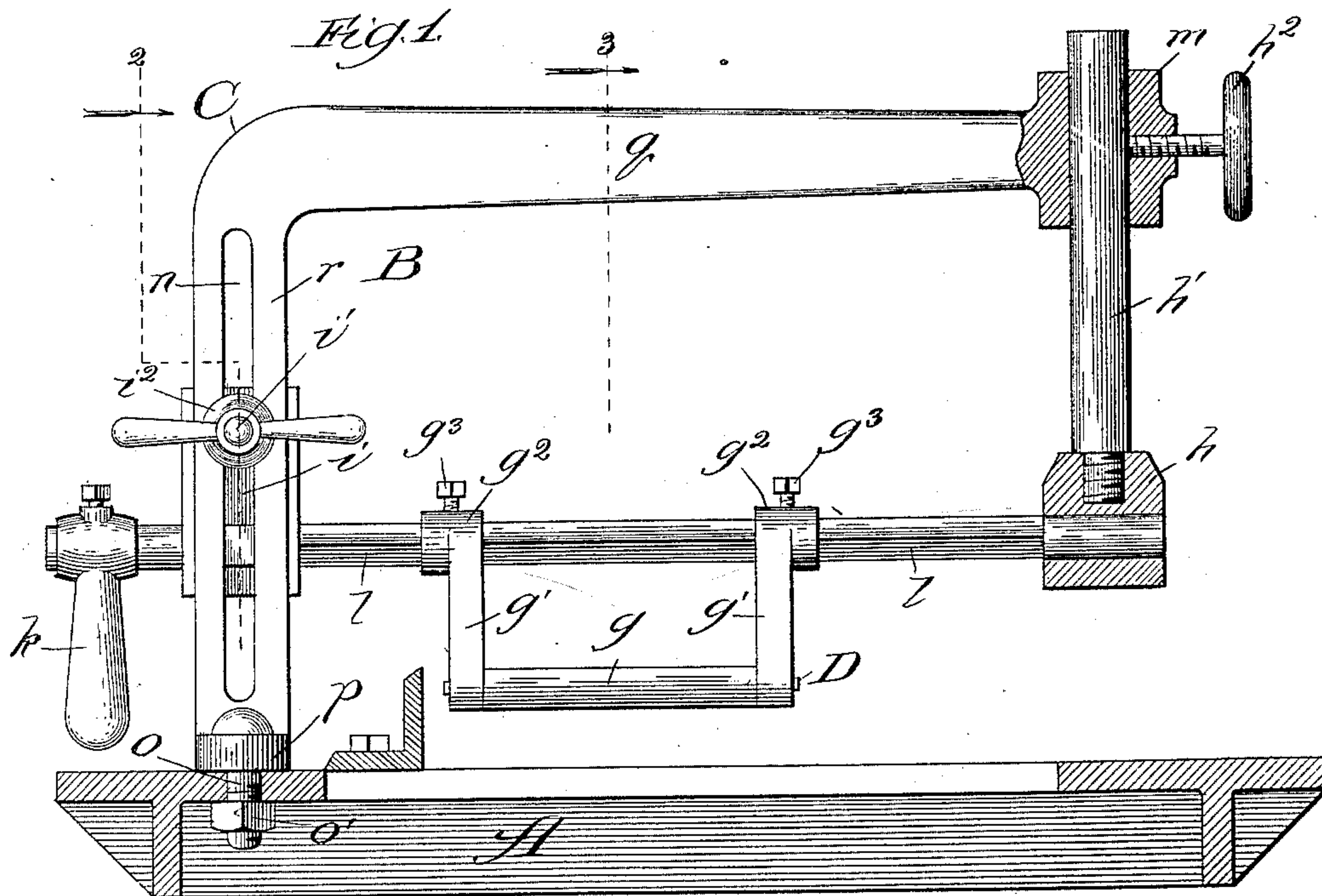
(No Model.)

W. H. BENNETT.

CLAMPING ATTACHMENT FOR TENONING MACHINES.

No. 462,526.

Patented Nov. 3, 1891.



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UNITED STATES PATENT OFFICE.

WILLIAM H. BENNETT, OF CHICAGO, ILLINOIS.

CLAMPING ATTACHMENT FOR TENONING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 462,526, dated November 3, 1891.

Application filed November 18, 1890. Serial No. 371,774. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BENNETT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Clamping Attachments for Tenoning-Machines, of which the following is a specification.

My present invention is of the nature of the improvement set forth in my application for Letters Patent, Serial No. 369,191, filed October 24, 1890; and my object is to provide a simple construction of the clamping attachment and one which will facilitate the adjustment upon the machine of the timber to be tenoned and permit such adjustment to be readily effected with any of different widths of the timber without requiring to that end previous adjustment of the attachment.

In the accompanying drawings, Figure 1 shows my improved clamping attachment in side elevation, partly broken and sectional, and attached to a bed. Figs. 2 and 3 are sections taken, respectively, on the lines 2 and 3 of Fig. 1 and viewed in the direction of the arrows. Figs. 4 and 5 are perspective views, the former being broken, of details of a modified construction of the attachment. Fig. 6 is a broken sectional detail view, the section being taken at the line 6 of Fig. 4.

My improvement relates exclusively to the clamp for attachment to the tenoning-machine, which is well known and therefore not shown in the drawings, the bed of the carriage being merely indicated to illustrate the application of my improvement.

A denotes the carriage-bed of a tenoning-machine, and B is my improved clamping attachment, which, as shown in Fig. 1, involves the following construction:

C is a support for the clamping-tool employed, and comprises, preferably, an angle-arm formed with two branches *r* and *q* at right angles to each other, the former having a foot *p* at one end, at which it is secured, as by a bolt *o* and nut *o'*, to the bed A, and being also provided, preferably, with a longitudinal slot *n*, and the latter terminating in a socket-head *m*. A shaft *l* is journaled at one end, where it is provided with a handle *k* in a bearing *i*, having a threaded stem *i'* projecting through the slot *n* and held by a

thumb-nut *i''*, which clamps the bearing to the vertical branch *r* at any position to which it may be vertically adjusted thereon, according to the thickness of the timber.

The details described of the bearing *i* and slotted branch *r* are not essential to afford the advantages of my improvement, but may be variously changed without departing from my invention. The opposite end of the shaft is supported in a bearing *h* on the end of a rod or bar *h'*, passed through the socket-head *m* and thereon adjustably held by a set-screw *h''*.

On the shaft *l* is supported the clamp proper or clamping-tool D, which is essentially of the nature of an eccentric compressor, and should be shorter than and adjustable lengthwise of the shaft to adapt it to be readily centered on different widths of work, and the preferred form of which is that of a roller *g*, journaled in bearings afforded by arms *g'*, having heads *g''*, at which they surround the shaft *l*, being adjustably and rigidly fastened to the latter by set-screws *g'''*. That part of the shaft between its journals to which the tool D is secured should be angular in cross-section, as represented.

The timber E to be tenoned, as represented in Fig. 3, is applied to the bed A, as usual, the open side of the angle-arm C permitting the timber to be applied laterally in contradistinction to its endwise insertion, which would be necessary were the attachment not open at one side of the machine. When the timber has been brought into place, the shaft *l* is adjusted with reference to the thickness thereof by raising or lowering it, as the case may be, through adjustment of the bearing *i* on the branch *r* and of the rod *h'* in the socket-head *m*, the proximity of the shaft to the work to be such as will permit the clamp D to be wedged against it by turning the shaft at the handle *k*. Then by thus turning the handle the work E is firmly clamped to the bed and ready to be acted on by the cutters of the tenoning-machine, the rolling function of the roller *g* reducing friction to the minimum and thereby enabling a tight clamping effect to be produced without great exertion.

As shown in Figs. 4, 5, and 6, the socket-head *m* is supported by an open rectangular

socket m' at the end of the branch q , to receive a longitudinally-slotted arm h^4 , having a journal-bearing h^3 at its lower end for one end of the shaft l , the arm h^4 being adjustably secured to the branch q by a threaded bolt or stem f , Fig. 6, passing through the slot in the arm h^4 and fastened by a thumb-nut f' .

What I claim as new, and desire to secure by Letters Patent, is—

10 1. In a tenoning-machine clamp, the combination of a support C, adapted to be fastened at one end to the carriage-bed of the machine to extend across the said bed over the work E and permit lateral insertion of the work, a clamping-tool adjustably connected with the said support, and mechanism for operating the clamping-tool, substantially as described.

20 2. In a tenoning-machine clamp, the combination of a support C, adapted to be fastened at one end to the carriage-bed of the machine to extend across the bed over the work E and permit lateral insertion of the work, a shaft journaled in bearings on the said support, a clamping-tool extending laterally from the said shaft, and mechanism for operating the clamping-tool, substantially as described.

30 3. In a tenoning-machine clamp, the combination of a support C, adapted to be fastened at one end to the carriage-bed of the machine to extend across the bed over the work E and permit lateral insertion of the work, a shaft journaled in bearings on the said support, a clamping-tool extending laterally from the shaft and adjustable longitudinally thereof, and mechanism for operating the clamping-tool, substantially as described.

40 4. In a tenoning-machine clamp, a support for the clamping-tool adapted to be secured to the carriage-bed of the machine to extend across the bed over the work E, a shaft journaled in the said support, a clamping-tool comprising a roller g , journaled in bearings secured to the shaft and adjustable longitudinally thereof, and mechanism for operating the clamping-tool, substantially as described.

5. In a tenoning-machine clamp, the combination of a support C, adapted to be fastened at one end to the carriage-bed of the machine to extend across the bed over the work E and permit lateral insertion of the work, a shaft journaled in bearings adjustably secured to the said support, a clamping-tool D, comprising arms g' , adjustably secured to the shaft, and a roller g , journaled in their free ends, and mechanism for operating the clamping-tool, substantially as described.

60 6. In a tenoning-machine clamp, the combination of a support C, adapted to be fastened at one end to the carriage-bed of the machine to extend across the bed over the work E and permit lateral insertion of the work, a shaft l , vertically-adjustable journal-bearings for the shaft, and a clamping-tool on the shaft and adjustable longitudinally thereof, substantially as described.

70 7. In a tenoning-machine clamp, the combination of an angle-arm C, comprising a branch r , having a foot p with which to secure it in place, and a branch q , having a socket at one end, a journal-bearing i , adjustably secured to the branch r , a journal-bearing on a support adjustably secured in the said socket on the branch q , a shaft journaled in the said bearings, a clamping-tool on the shaft and adjustable longitudinally thereof, and mechanism for operating the clamping-tool, substantially as described.

80 8. A tenoning-machine clamp comprising, in combination, an angle-arm C, having a branch r , and a branch q , provided with a socket, a journal-bearing i , adjustably secured to the branch r , a bar adjustably secured in the said socket of the branch q and provided with a journal-bearing, a shaft l , journaled in the said bearings and provided with a handle k , a clamping-tool D, comprising arms g' , adjustably secured to the shaft and carrying a roller g , and mechanism for operating the clamping-tool, substantially as described.

WILLIAM H. BENNETT.

In presence of—

J. W. DYRENFORTH,
M. J. FROST.