

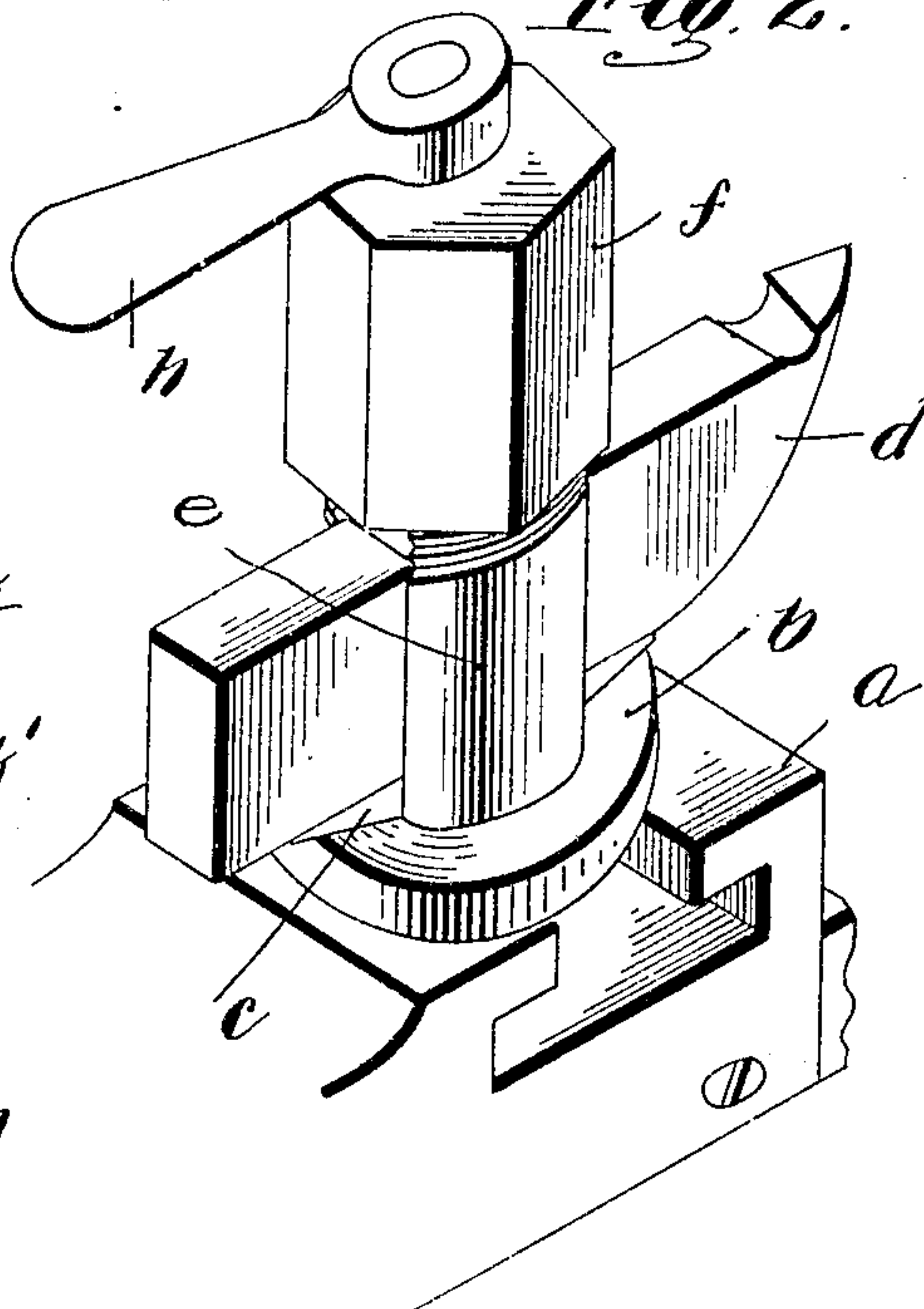
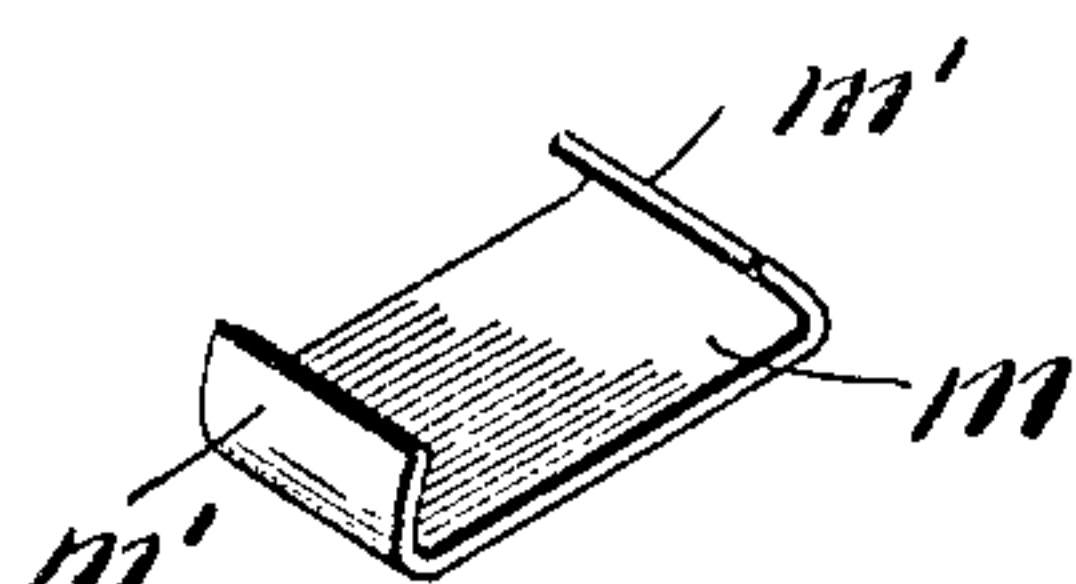
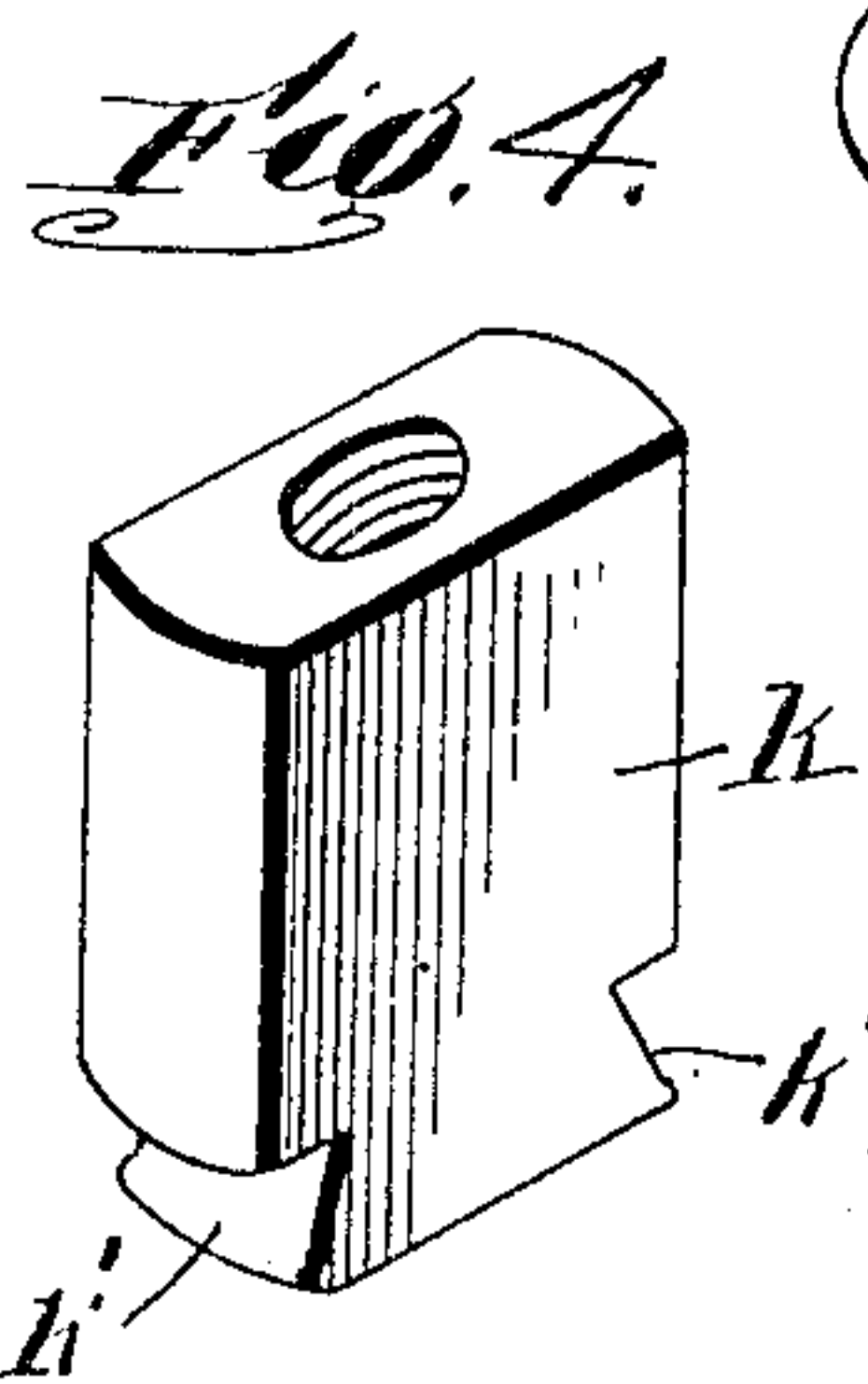
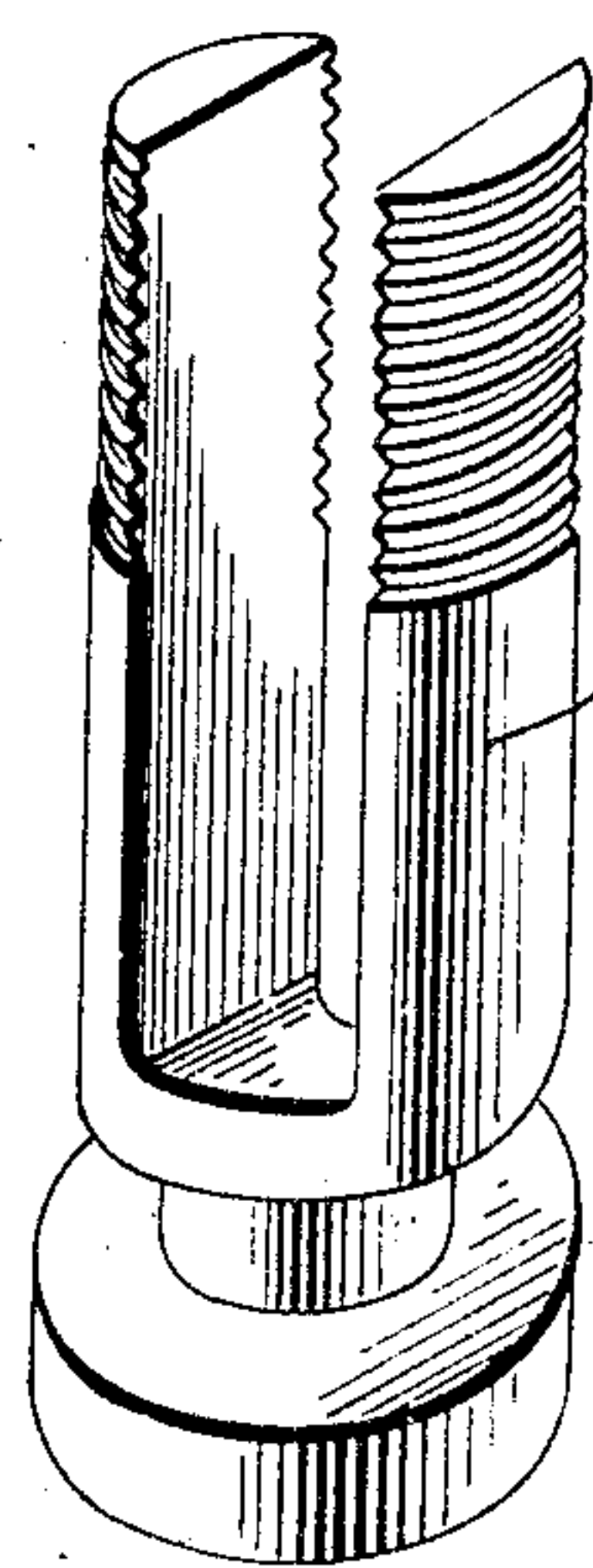
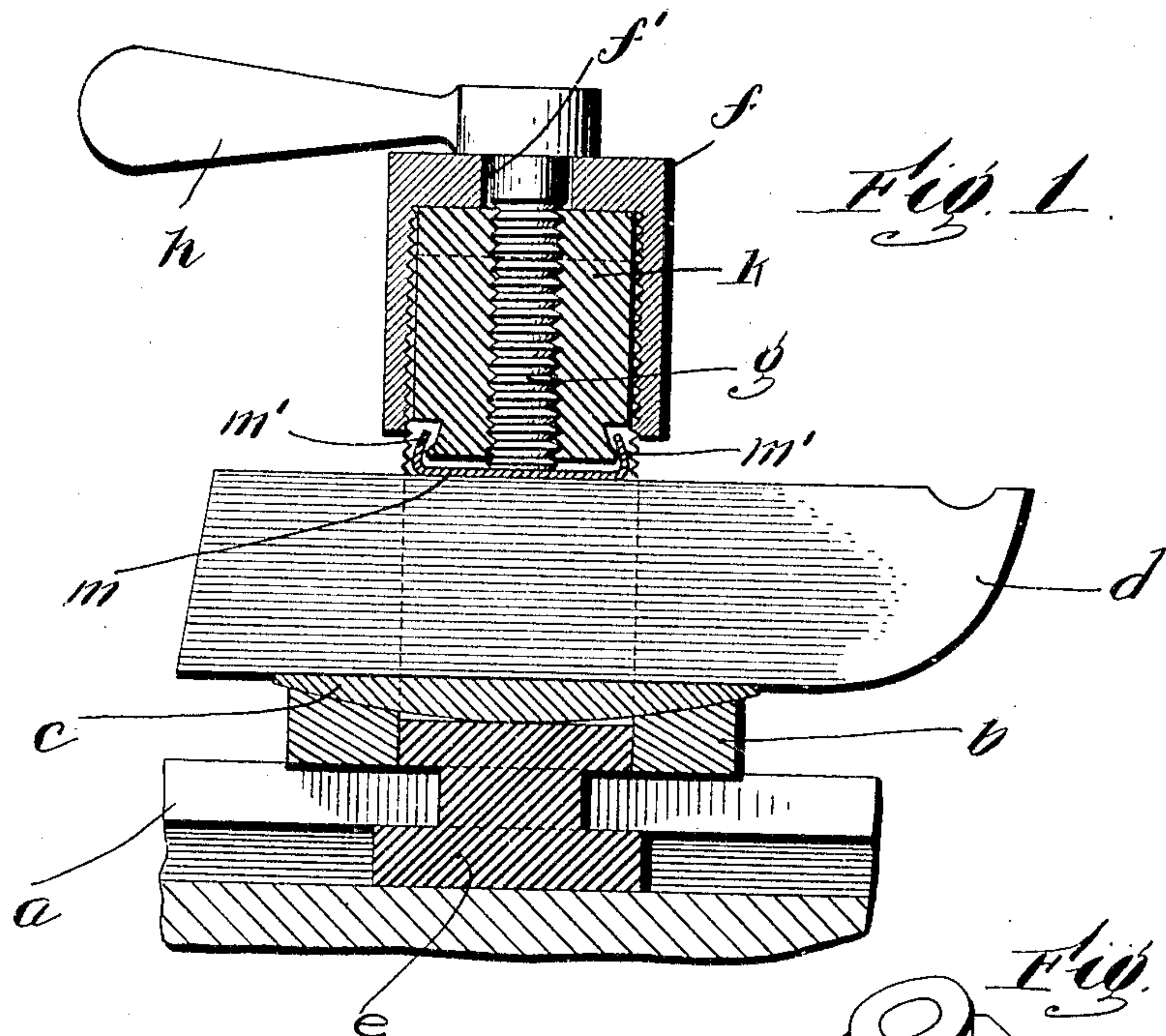
No. 871,798.

PATENTED NOV. 26, 1907.

C. C. HARRIS.

TOOL POST.

APPLICATION FILED NOV. 20, 1906.



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# UNITED STATES PATENT OFFICE.

CARL C. HARRIS, OF ORANGE, MASSACHUSETTS.

## TOOL-POST.

No. 871,798.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed November 20, 1906. Serial No. 344,240.

*To all whom it may concern:*

Be it known that I, CARL C. HARRIS, a citizen of the United States, residing at Orange, in the county of Franklin and State of Massachusetts, have invented a new and useful Tool-Post, of which the following is a specification.

My invention relates to a tool-post for lathes and other machine tools.

Although attempts have been made heretofore to provide tool-posts with permanent handles, yet these attempts have not been successful in practice so far as I am aware, and it is practically the universal custom to so construct tool-posts that it is necessary to operate them by means of a removable wrench which is liable to get out of place and cause considerable trouble and annoyance. Furthermore when a tool is removed and one of a different size is placed in the tool-post, it is necessary to turn the binding screw by means of the wrench until the proper adjustment is made. When this adjustment is long the operation is quite inconvenient. Also, if it be desired to leave the wrench on the tool-post there is no way to determine or adjust its position and it is liable to be in the way.

The principal objects of my invention are to provide a tool-post with a permanent handle in such a way as to make a practicable, convenient, and inexpensive construction; to provide means in connection with the permanent handle for quickly adjusting the binding screw either up or down without the use of a removable wrench or the like; to provide a construction in which after the adjustment is made the clamping action can be secured in a quick and efficient manner, leaving the permanent handle, which takes the place of the removable wrench, in any desired position with relation to the tool; to provide a convenient guard for preventing the end of the binding screw from unnecessarily marring the top surface of the tool; and to generally improve the construction of tool-posts in such a manner as to increase their efficiency, and also to enable them to be made in an attractive form.

For an example of a tool-post exhibiting my invention, reference is to be had to the accompanying drawings, in which

Figure 1 is a vertical central sectional view of such a tool-post. Fig. 2 is a perspective view of the same. Fig. 3 is a perspective view of the standard which is part of the

tool-post. Fig. 4 is a perspective view of a nut employed in connection with the standard, and Fig. 5 is a perspective view of a protecting plate which can be used as a part of the invention.

The device can be employed in connection with the usual construction of carriage or with any which may be desired. The carriage *a* is shown as carrying a ring *b* operating in substantially the usual manner and supporting a block *c* on which the tool *d* is carried. Passing through the ring is a standard *e*, the lower part of which is preferably constructed in the usual manner. This standard has a slot therein through which the block *c* and tool *d* pass in the usual way.

In order to provide for exerting proper pressure on the top of the tool and quickly adjusting the parts to accommodate tools of different characters, the standard is provided with screw-threads at the upper end thereof. These screw-threads may be of a coarse character, and are illustrated as in the form of double threads in order to give a quick adjustment to a cap-piece *f* which is fitted upon them. This cap-piece is provided with a perforation *f'* in its upper surface through which passes the tool binding screw *g*. This screw passes downwardly into the cap-piece *f* and is threaded through a rectangular nut *k* which is located therein. This nut may conveniently be made of tool steel so that it can be tempered, thus giving an increased length of life to the tool post, without necessitating the expense of making the entire tool post of tool steel, as would be necessary in the ordinary construction to get this increased length of life. The screw has a permanent handle *h* to take the place of the ordinary removable wrench. This handle bears on the top of the cap-piece and with the screw is supported thereby. The nut *k* is of such length that when the bottom of it is near the lower end of the cap-piece *f* its upper surface will engage the inner face of the horizontal portion of the cap-piece.

It will be understood that the screw-threads on the screw *g* are finer than those on the standard *e*, consequently, the coarse adjustments are made by turning the cap-piece, and the clamping action is secured by a final turn on the handle *h*, which forces the screw against the tool.

In order to protect the tool from being marred by the screw, and to more evenly distribute the pressure applied by the screw



5 *g*, the lower end of this nut is shown as provided with projecting flanges *k'* shown as constituting a dove-tail, and these flanges carry a protecting piece *m* which is shown in the form of a metal piece having lips *m'* doubled back on the ends to engage the dove-tail projections *k'*. These lips do not fit the projections exactly, but are of such shape as to permit a play of one-sixteenth to a quarter of an inch as desired. The screw *g* passes through the nut *k* and engages the upper surface of the sheet *m*. It will be understood, of course, that the piece *m* is a mere protecting piece which can be dispensed with if desired. It can be conveniently made of a steel stamping, spring tempered if desired, and is locked in position when the parts are assembled so that it is always supported to cover the end of the screw and to move therewith. It is so supported that it readily will take any position parallel with the top edge of the tool and is always in position for engagement therewith.

25 The operation of the device as illustrated is as follows:—The screw *g* is placed through the cap-piece *f* and screwed into the nut *k*, which is provided with screw-threads, until the top surface of the latter is drawn up to within a sixteenth of an inch or thereabout to the upper inside surface of the cap-piece. The latter is then screwed by hand onto the standard *e*, the nut *k* and screw *g* not turning during this operation, although they are lowered with the cap-piece until the strip *m*, if that is used, rests on top of the tool. When this occurs, the turning of the cap-piece is continued until the top of the nut *k* reaches the underside of the cap-piece *f*. This transfers the pressure to the screw *g*, and the coarse adjustment is at this time completed.

40 In order to securely clamp the tool in the tool-post the handle *h* is turned until the proper amount of pressure is obtained. This forces the screw through the nut as the nut is held from turning by being located in the slot in the standard. The experience of the operator will soon teach him how far to turn the cap-piece *f*, and how to locate the handle *h* in order that the final clamping action may bring the handle to any desired or convenient position with respect to the tool. Ordinarily it will be brought to a position parallel with the tool on some kinds of machines, and perpendicular thereto on others. By adopting this principle, whether in the form illustrated or otherwise, all the above mentioned advantages are obtained, and moreover, the tool-post is of such character that it readily can be made in a form which will be pleasing to the eye, and add to the attractiveness of the tool on which it may be placed.

60 While I have illustrated a particular form in which I at present prefer to embody my invention, I am aware that many changes

may be made therein by those skilled in the art without departing from the spirit of the invention as expressed in the claims. Therefore, I do not wish to be limited to the precise construction illustrated and described, but

What I do claim is:—

1. A tool post comprising a standard provided with a slot of uniform width open at the top, a nut guided for vertical movement in said slot, a tool clamping screw engaging said nut and a perforated cap-piece threaded onto said standard, said screw having a shoulder adapted to bear on said cap-piece.

2. A tool-post comprising a standard provided with a slot, the upper portion of which is of no greater width than the lower, tool-receiving portion, a nut guided for vertical movement in said slot, a cap-piece in external screw-threaded engagement with said standard and having an opening in its top, a tool clamping screw passing through said opening and engaging said nut, and actuating means carried by said screw above the top of said cap-piece.

3. A tool-post comprising a standard provided with a slot, the upper portion of which is of no greater width than the lower, tool-receiving portion, a nut guided for vertical movement in said slot, a cap-piece adjustably mounted on said standard, a tool clamping screw passing through said cap-piece and engaging said nut, and a handle projecting laterally from said screw above said cap-piece.

4. In a tool-post, the combination of a standard slotted from the top and having external screw threads, a hollow cap-piece engaging said screw-threads, a nut mounted within the cap-piece and adapted to be engaged thereby, and a tool clamping screw passing through the cap-piece and nut.

5. A tool-post comprising a vertically adjustable member, a clamping member adjustably mounted on the first named member, and a protecting piece having means for engaging the lower end of the first mentioned member and movably supported thereby, said protecting piece covering the end of the tool clamping member and serving to protect the tool therefrom.

6. A tool-post comprising a vertically adjustable nut, a clamping screw threaded through the nut, means for preventing the nut from turning, and a protecting piece movably mounted on the bottom of the nut for receiving the end of the screw.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

CARL C. HARRIS.

Witnesses:

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 E. S. HARRIS.