

No. 760,151.

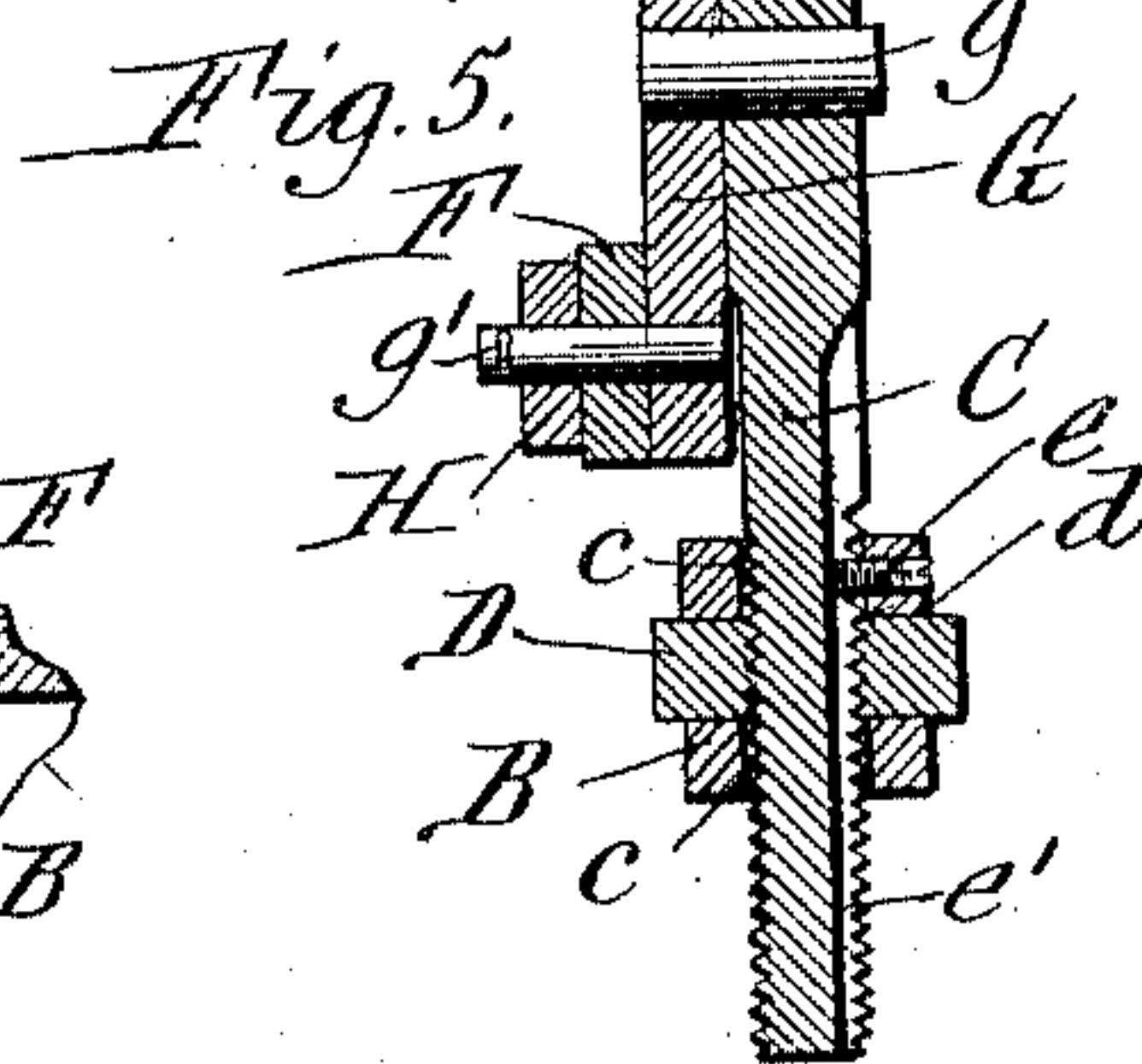
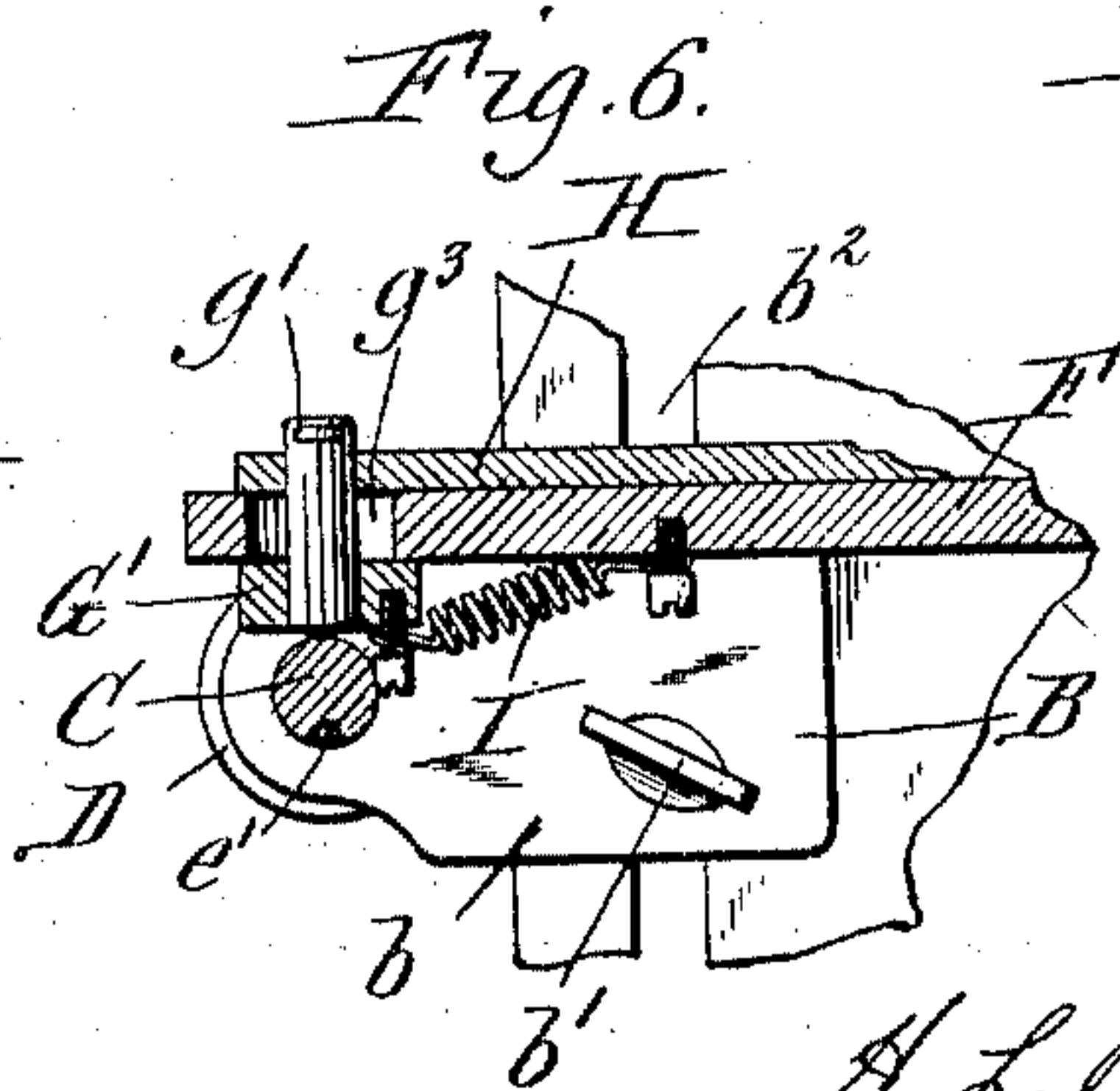
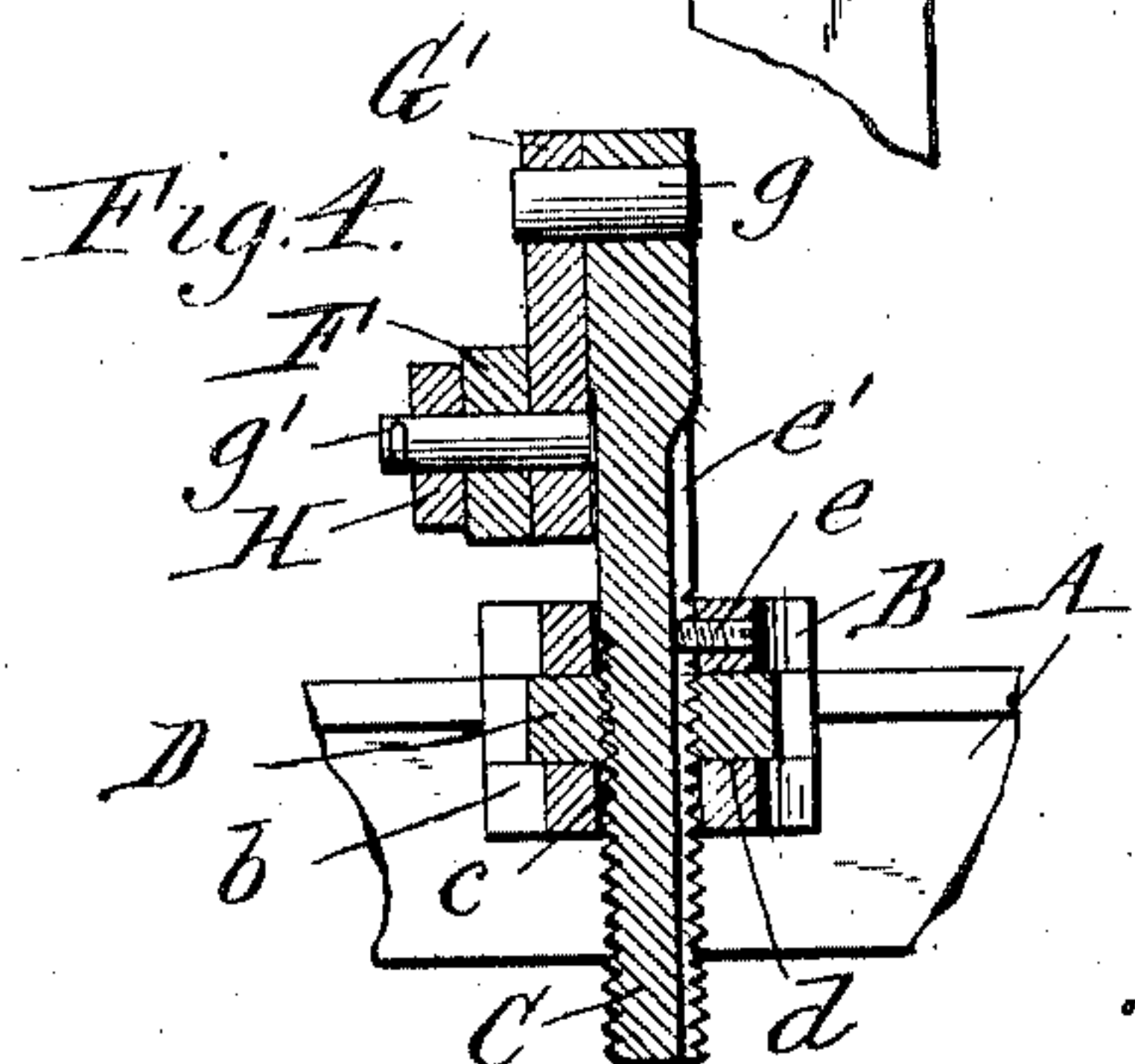
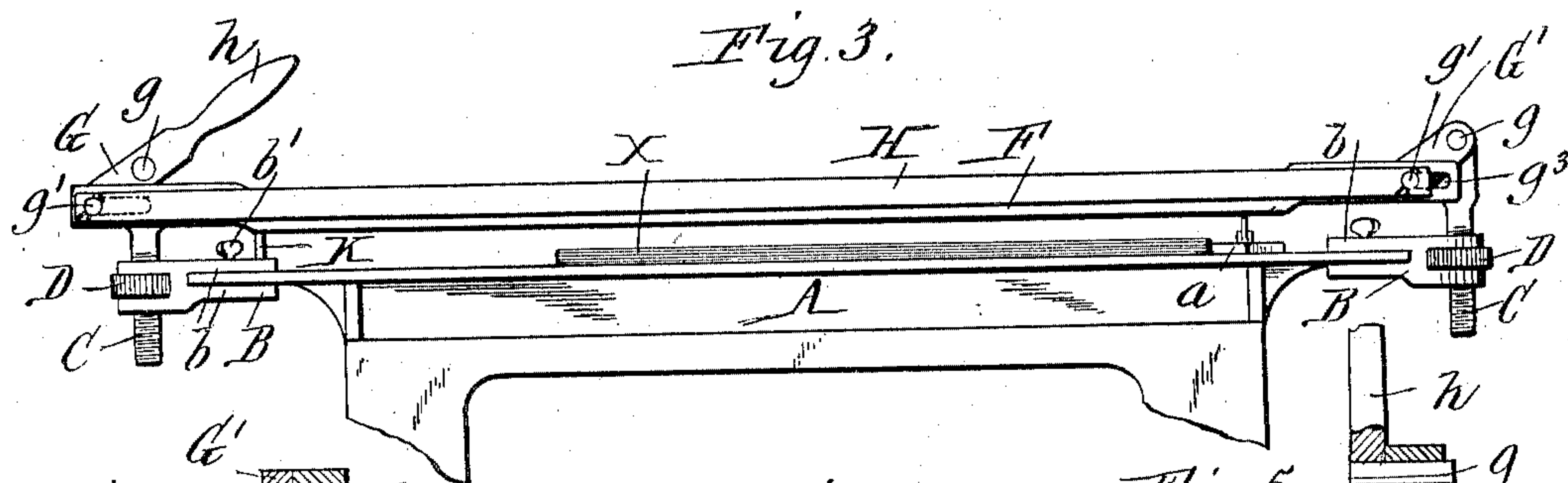
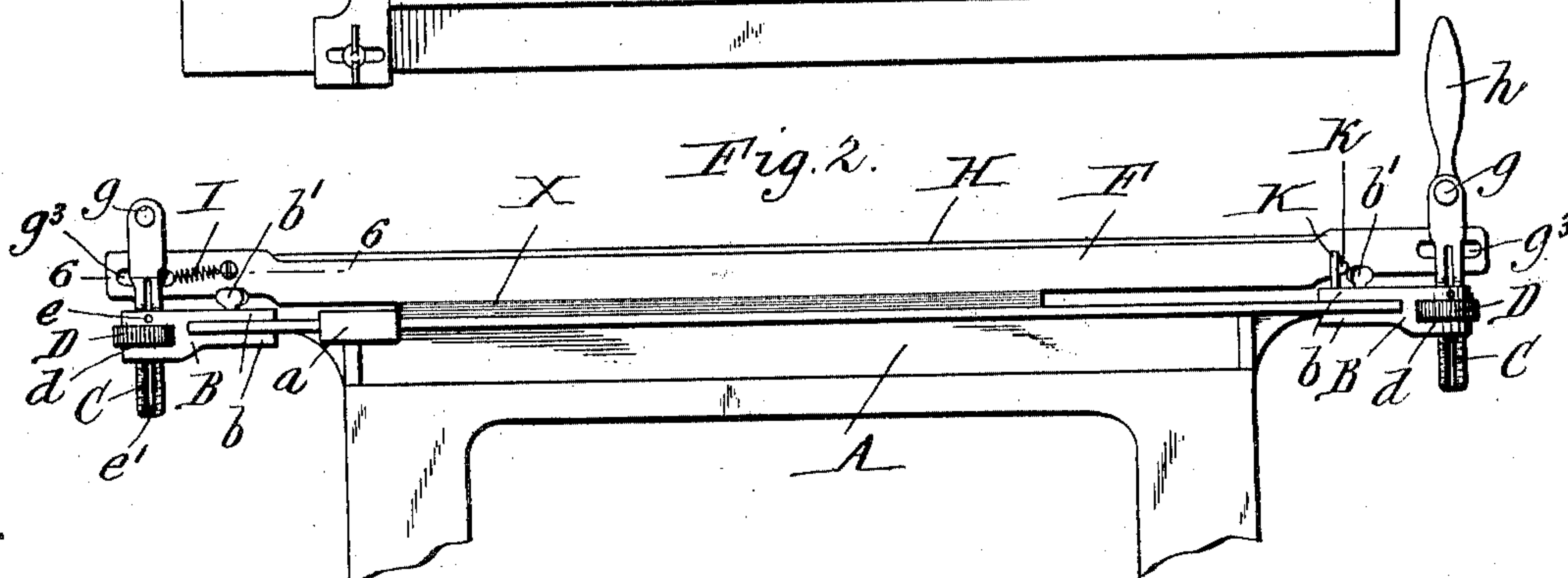
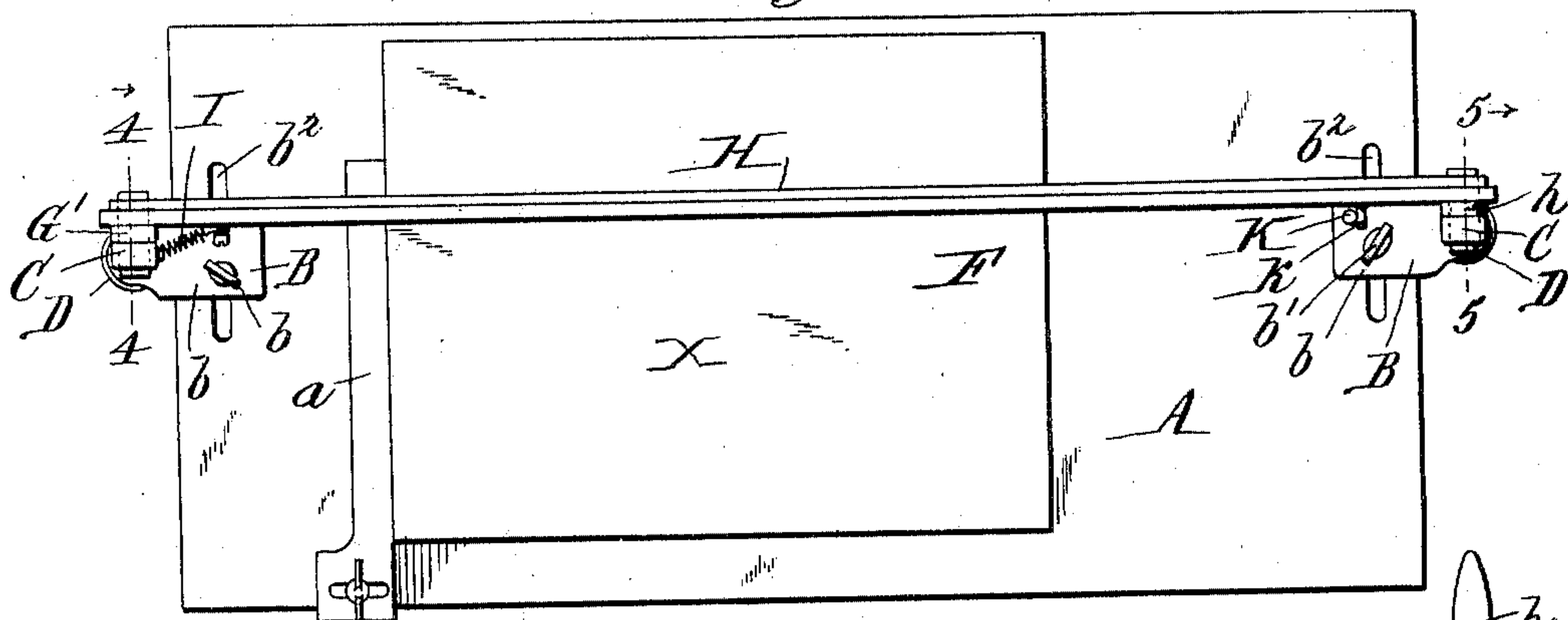
PATENTED MAY 17, 1904.

H. L. ROBERTS.
CLAMP.

APPLICATION FILED SEPT. 9, 1903.

NO MODEL.

Fig. 1.



Witnesses
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UNITED STATES PATENT OFFICE.

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CLAMP.

SPECIFICATION forming part of Letters Patent No. 760,151, dated May 17, 1904.

Application filed September 9, 1903. Serial No. 172,492. (No model.)

To all whom it may concern:

Be it known that I, HORACE L. ROBERTS, a citizen of the United States, residing at the city of New York, in the county and State of New York, have invented new and useful Improvements in Clamps, of which the following is a specification.

This invention relates more particularly to a clamp designed for use in connection with an index cutting and printing machine for holding the index sheets or book firmly on the cutting-table; but the clamp is also applicable to numerous other uses.

The object of the invention is to provide a clamp of simple and practical construction which is quick and reliable in action and has no tendency to shift the sheets or objects to be held on the support or relative to each other.

In the accompanying drawings, Figure 1 is a plan view of a clamp embodying the invention, showing the sheets clamped on the support or table for the same. Fig. 2 is a front elevation thereof. Fig. 3 is a rear elevation thereof, showing the clamp in released position. Fig. 4 is a vertical transverse section, on an enlarged scale, in line 4 4, Fig. 1. Fig. 5 is a similar view in line 5 5, Fig. 1. Fig. 6 is a horizontal section, on an enlarged scale, in line 6 6, Fig. 2.

Like letters of reference refer to like parts in the several figures.

A represents a table or other relatively stationary part or support for the clamp and index-sheets or other object or objects to be held, which are indicated at X, resting upon the support against a suitable gage *a*.

B represents two supporting-brackets for the clamp, which are slotted or provided with jaws *b* to straddle the edges of the table, on which they are clamped by thumb-screws *b'*. Each thumb-screw passes through a smooth hole in the upper jaw of the bracket and a transverse elongated slot *b²* in the table and screws into a threaded hole in the lower jaw of the bracket. By tightening the thumb-screws the upper and lower jaws of the bracket are drawn together and firmly grip the table. The slots *b²* in the table permit the brackets

to be adjusted transversely thereon. The brackets may be constructed and secured to the table in any other suitable manner.

C represents upright pivot-posts which are secured to the brackets B, preferably adjustably, in the following manner: Each post is provided with a screw-threaded stem, which passes loosely through smooth holes *c* in the outer end of the bracket and through the threaded hole of a nut D, which is located in and held from vertical or endwise movement in a pocket or slot *d* in the bracket. By turning the nut, which preferably has a circular milled periphery, the post is raised or lowered and is held by the nut at the desired height. The post is held from turning by a screw or other device *e*, secured to the bracket and engaging in a longitudinal groove or channel *e'* in the post.

F represents a clamping-bar between which and the support or table the index-sheets or other object or objects to be held are clamped. The clamping-bar is hung at its opposite ends on and carried by parallel swinging links G G', which are pivoted at their upper ends on pins *g*, secured to the upper ends of the pivot-posts and are provided at their lower ends with pins *g'*, which pass loosely through elongated slots *g²* in the end portions of the clamping-bar. The lower ends of the swinging links are joined by a connecting-rod H, arranged parallel with the clamping-bar and pivoted on the pins *g'* at the lower ends of the swinging links. This connecting-rod causes the links to retain their parallelism, whereby the clamping-bar always maintains a position with its lower gripping edge parallel with the upper face of the table or support. One of the swinging links is extended upward to constitute an operating lever or handle *h*.

A spring I, Figs. 1, 2, and 6, is connected at one end to the clamping-bar and at its other end to the adjacent swinging link. The spring normally holds the clamping-bar with the right-hand ends of its slots in engagement with the pins at the lower ends of the swinging links, as shown in Fig. 3.

K represents a stationary stop-pin or pro-

jection on one of the brackets B, and *k* represents a cooperating stop-pin or projection on the clamping-bar.

When the clamping-bar is in released position or out of contact with the index-sheets X, as shown in Fig. 3, the stops *k* K on the clamping-bar and bracket are out of contact. When the operating lever or handle *h* is swung over to the right or to the left, as shown in rear elevation in Fig. 3, the clamping-rod and connecting-rod swing, together with the links, downwardly toward the index-sheets and also endwise or longitudinally relative to the table or support until the stop *k* on the clamping-rod engages the stationary stop K on the bracket, when the clamping-bar is held from further longitudinal movement. In the continued movement of the operating handle or lever the swinging links and the connecting-rod are moved, so that the pins *g'* at the lower ends of the links slide in the slots at the ends of the clamping-bar. As the pins *g'* move downwardly in circular arcs toward the support or table they act as cams or eccentrics in the slots of the clamping-bar and force the latter, which is held from longitudinal movement, directly downward. The operating lever or handle is thrown to or slightly beyond the vertical or dead-center position, thereby locking the links and clamping-bar in clamping position. The vertically-adjustable pivot-posts enable the clamping-bar to be adjusted vertically to operate upon objects of greater or less thickness and so that the stop *k* thereon engages the cooperating stationary stop on the bracket at or slightly in advance of the contact of the clamping-bar with the upper index-sheet or top of the object to be held, and in the further movement of the operating-lever there is no endwise movement of the clamping-bar, but only the direct downward movement or movement perpendicular to the table or support. The sheets or objects are not, therefore, shifted longitudinally on the support or relatively to each other in the operation of the clamp.

I claim as my invention—

1. The combination of a relatively stationary part, a clamping-bar mounted to move toward said part and also lengthwise of itself, means for operating said clamping-bar, and means for arresting the endwise movement of said clamping-bar when in engagement with the object to be held without arresting its movement toward said part, substantially as set forth.

2. The combination of a support, a clamping-bar, swinging links on which said clamping-bar is hung and is movable toward and from the support, means for operating said clamping-bar, and means for arresting the endwise movement of said clamping-bar when in engagement with the object to be held without arresting its movement toward said support, substantially as set forth.

3. The combination of a support, links

mounted to swing on said support, a clamping-bar carried by and movable with said links toward the object to be clamped, means for arresting the endwise movement of said clamping-bar, and means for permitting movement of the links relative to said clamping-bar, substantially as set forth.

4. The combination of a support, a clamping-bar, swinging links on which said clamping-bar is hung and is movable toward and from said support, means connecting said links, whereby the same move together, means for arresting the endwise movement of the clamping-bar, and loose connections between said clamping-bar and said swinging links whereby the latter are movable longitudinally relative to said clamping-bar, substantially as set forth.

5. The combination of a support, a clamping-bar, swinging links provided with pins engaging in slots in said clamping-bar, a rod connecting said swinging links, and a part connected to said clamping-bar and adapted to engage a stationary part to arrest the endwise movement of said clamping-bar, substantially as set forth.

6. The combination of a support, a clamping-bar, swinging links, pins on said links engaging in longitudinal slots in said clamping-bar, a connecting-rod pivoted to said pins, a stationary stop, and a cooperating stop on said clamping-bar which engages said stationary stop to arrest the endwise movement of said clamping-bar, substantially as set forth.

7. The combination of a support, a clamping-bar, swinging links loosely connected to said clamping-bar, a rod connecting said links, means for arresting the endwise movement of said clamping-bar, and a spring connecting said clamping-bar and one of said links, substantially as set forth.

8. The combination of brackets, upright pivot-posts, means for adjusting the same vertically on said brackets, and a swinging clamping-bar supported by said upright pivot-posts, substantially as set forth.

9. The combination of a support, brackets adjustably connected to said support, upright pivot-posts vertically adjustable on said brackets, a clamping-bar, and swinging links pivoted on said pivot-posts and connected to said clamping-bar, substantially as set forth.

10. The combination of brackets, upright pivot-posts provided with threaded stems, nuts held from endwise movement on said brackets and having threaded engagements with the threaded stems of said posts, swinging links pivoted on said posts, and a clamping-bar carried by said swinging links, substantially as set forth.

Witness my hand this 31st day of August, 1903.

HORACE L. ROBERTS.

Witnesses:

F. C. CROFTS,
GEO. BRIGHT.