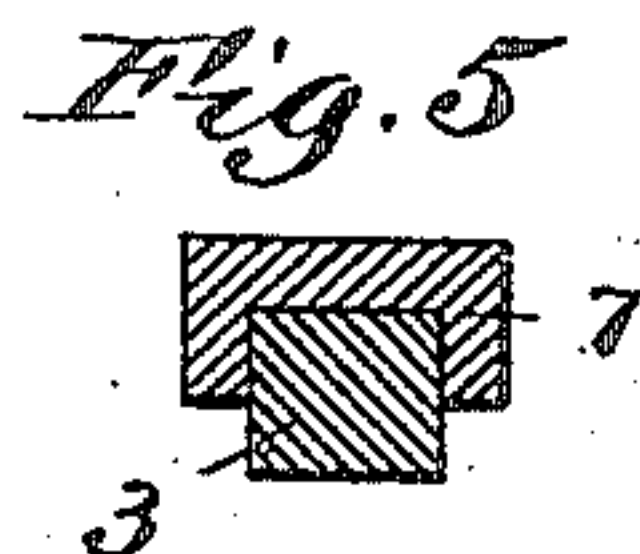
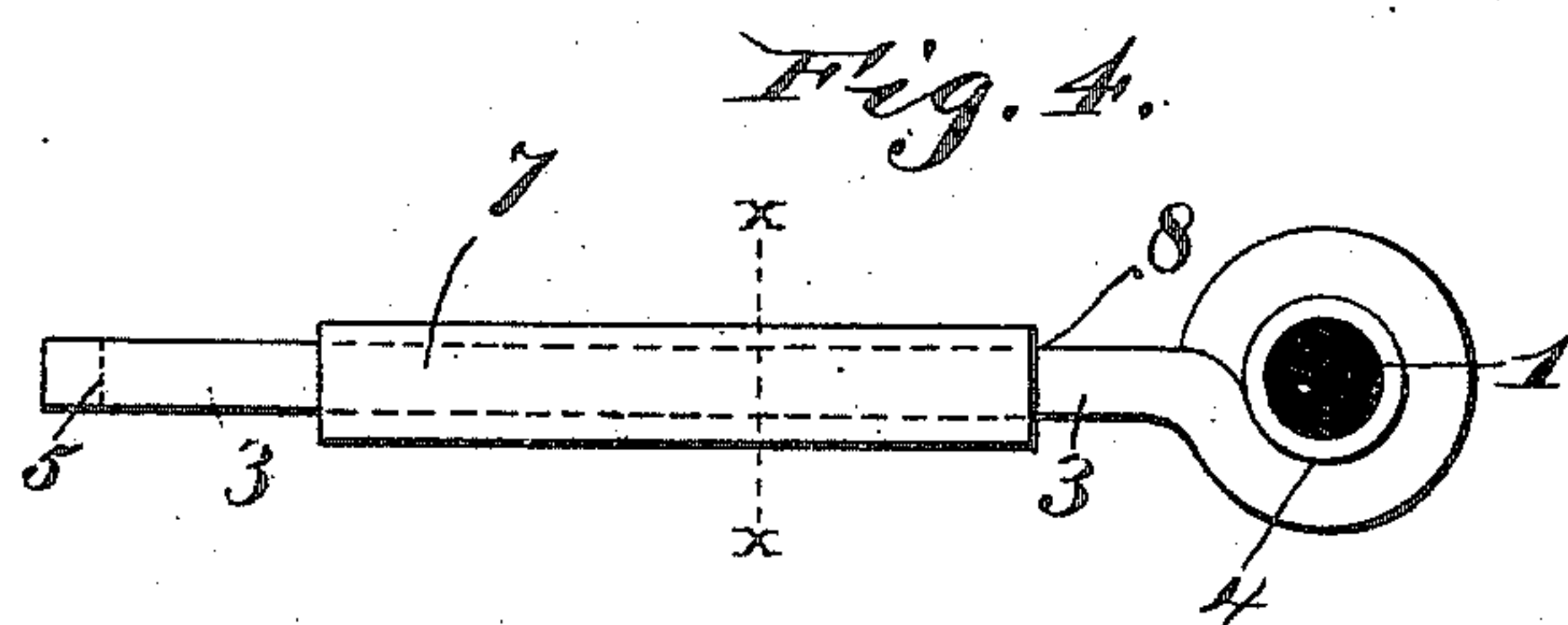
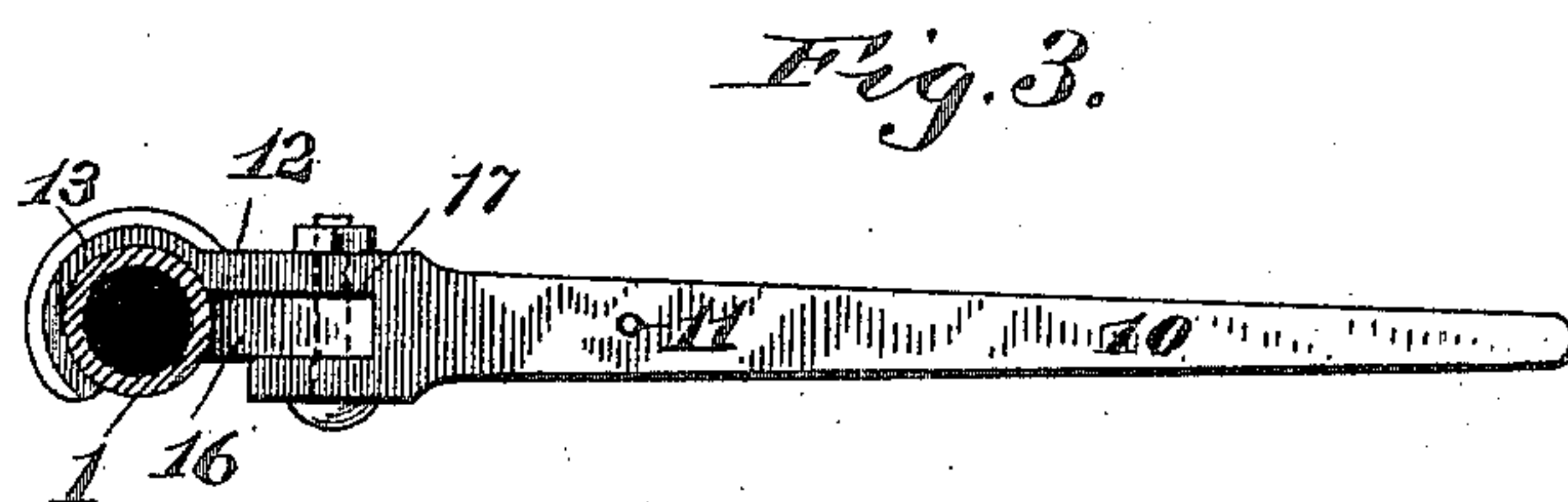
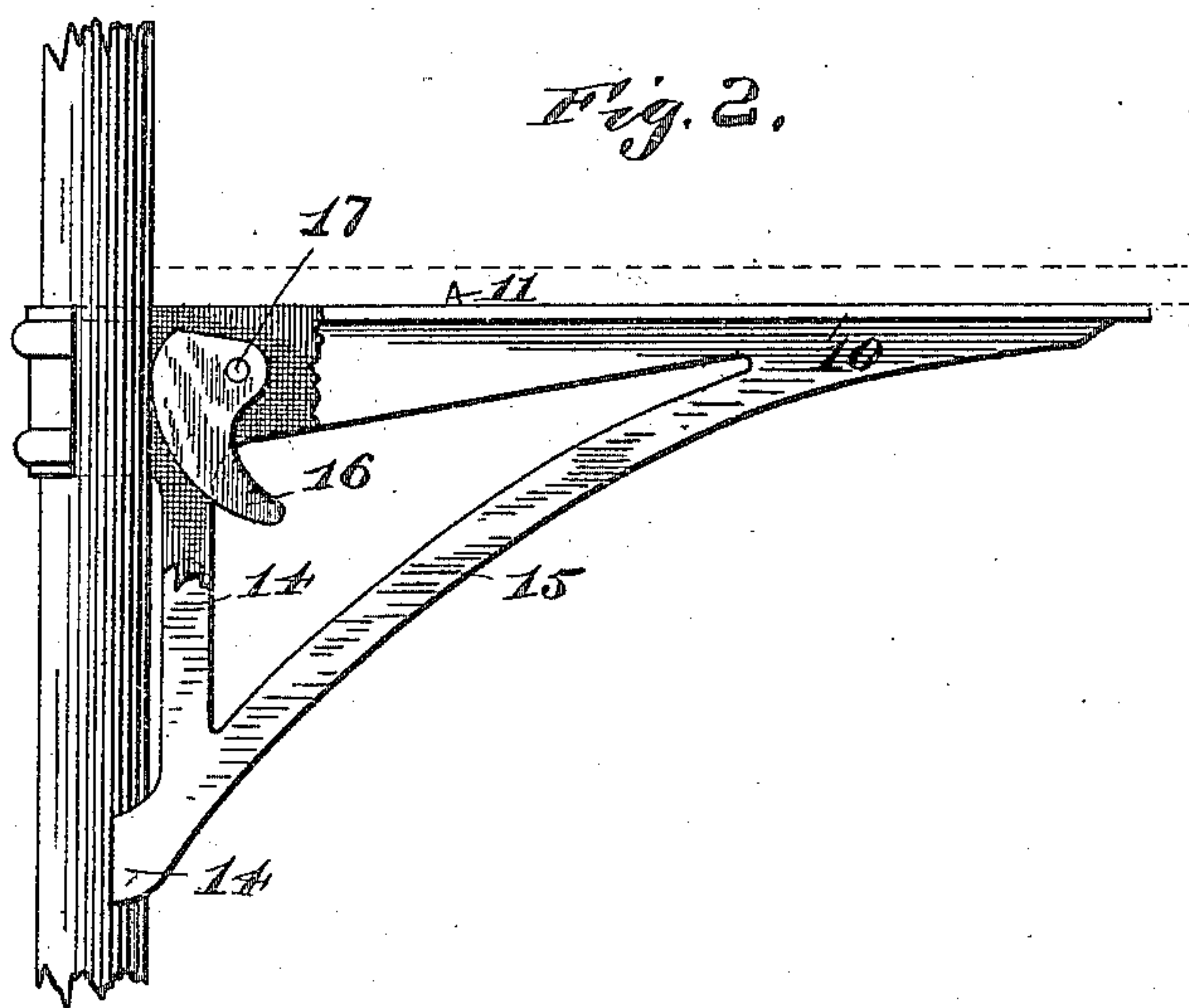
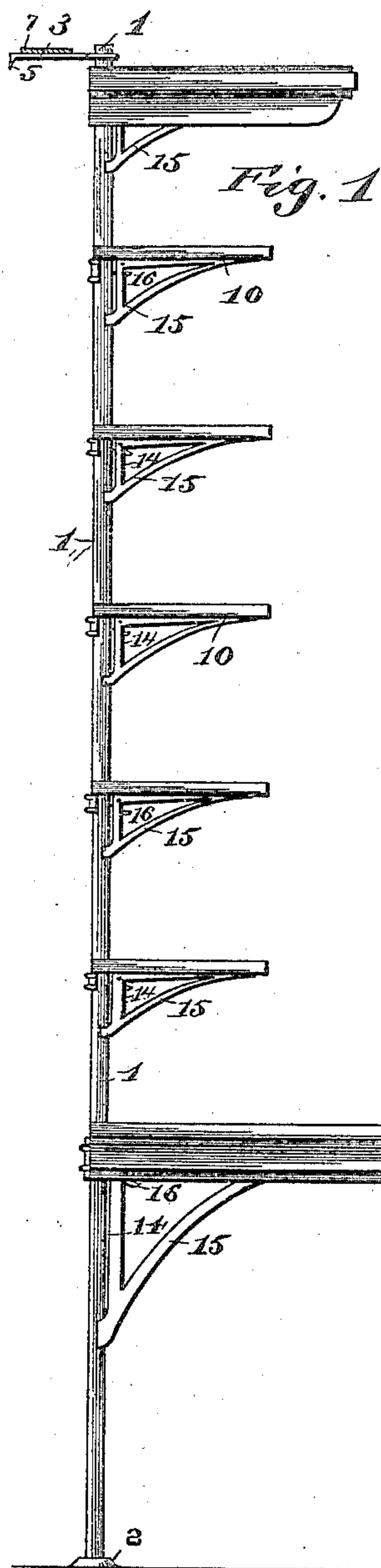


(No Model.)

B. F. ROBERTS.
ADJUSTABLE SHELVING.

No. 446,472.

Patented Feb. 17, 1891.



Witnesses:
J. B. McGraw.
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UNITED STATES PATENT OFFICE.

BENJAMIN F. ROBERTS, OF FREMONT, NEBRASKA, ASSIGNOR TO THE
NATIONAL SHELVING COMPANY, OF SAME PLACE.

ADJUSTABLE SHELVING.

SPECIFICATION forming part of Letters Patent No. 446,472, dated February 17, 1891.

Application filed December 18, 1889. Serial No. 334,170. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. ROBERTS, a citizen of the United States, residing at Fremont, in the county of Dodge and State of Nebraska, have invented certain new and useful Improvements in Adjustable Shelving; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in adjustable shelving of that class which employ a vertical standard and a series of horizontal shelf-supporting arms adapted to be adjusted vertically at any desired elevation on the standard; and the object of my invention is, first, to simplify the construction and cheapen the cost of manufacturing shelving of this class by the provision of appliances which enable me to employ smooth-faced standards or tubular piping in lieu of ratchet-standards; second, to clamp the shelf support or bracket on the smooth-faced standard with a positive grip, and thus rigidly secure the shelf bracket or support thereon, and, third, to provide an improved device for anchoring the standard to an adjoining wall or surface and for holding the standard securely and steadily in place.

With these and other ends in view my invention consists in the combination of devices and peculiar construction and arrangement of parts, as will be hereinafter fully described and claimed.

To enable others to understand my invention, I will now proceed to a detailed description thereof, in connection with the accompanying drawings, in which—

Figure 1 is an elevation showing a single standard and a series of shelf supports or brackets applied thereto. Fig. 2 is an enlarged view in side elevation, partly broken away, of the shelf support or bracket and a part of a standard. Fig. 3 is a plan view of the parts shown in Fig. 2, and Fig. 4 is an enlarged detail view of the wall-anchor for the vertical standard. Fig. 5 is a vertical transverse section on the line $x x$ of Fig. 4.

Referring to the drawings, in which like numerals denote corresponding parts in all

the figures, 1 designates a vertical smooth-faced standard or upright made from tubular piping or a round rod or polygonal bar of metal, which is suitably stepped at its lower end in a fixed bearing 2, which may be secured either on the floor of a room or upon a horizontal shelf, beneath which a series of drawers may be placed.

If it is desired to employ drawers for storage purposes below the shelving, I place the standards for the shelving above the drawers on a suitable shelf or platform, which is braced by means of vertical struts or braces between the drawers, which, however, I have not deemed it necessary to illustrate, as it is readily apparent to any person skilled in the art to which my invention relates.

The upper end of the smooth-faced standard (which may be either square, polygonal, or other desired shape in cross-section) is held securely in place by means of an anchor 3, which may, however, be connected to the standard at a point intermediate of its length or at its extreme upper end, or a series of these anchors may be used along the length of the standard; but this is optional. This anchor consists of a bar having an eye 4 at its outer extremity, which fits around the standard, and the inner end of the anchor-arm is provided with a hook 5, which is adapted, when the anchor is driven into a wall of masonry or other surface, to securely hold the anchor-bar in place. When the anchor is adapted for masonry or brick walls, a hole is cut therein, the hooked end of the anchor-arm inserted therein, and the hook engages the wall, and a key 7 is inserted in said hole, the key 7 being provided with a longitudinal groove 8 in one of its faces, which groove receives the arm 3, so that the key is connected to and held from displacement on the anchor-arm, whereby the key serves to prevent withdrawal of the anchor-arm from the hole in the wall; but when the key is removed the anchor can be readily turned to permit its hook to be withdrawn from the wall, as is obvious.

Upon the smooth-faced standard 1 is mounted a series of adjustable shelf supports or brackets 10, arranged one below the other in a manner similar to all shelving of this

character. Each bracket or support is of suitable length and width to support the shelf and provided at an intermediate point of its length with a prong or spur 11, which
 5 is adapted to be forced into the shelf to hold the latter securely on the shelf support or bracket.

The rear end of the shelf support or bracket is provided with a longitudinal slot or recess
 10 12 and with a jaw 13, which projects rearward from the support or bracket and joins the same on one side of the slot or recess 12 therein. This jaw is shaped to conform to the shape of the standard, and the jaw fits
 15 snugly around said standard, the jaw being enlarged, as shown in Fig. 2, to increase the bearing-surface between the jaw and the standard. The jaw bears against the rear side of the standard, and the bracket or sup-
 20 port is provided with a bearing 14, which presses against the front side of the standard, said bearing being arranged below the plane of the jaw on the lower side of the support or bracket 10 and made integral with vertical
 25 and inclined arms 14 15, which join the support or bracket, the whole bracket or support, with its jaw and bearing, being made or cast in a single piece.

The bracket or support is positively clamped
 30 or gripped on the smooth-faced standard by means of a clamp 16, which is arranged in the longitudinal recess or slot 12 in the bracket or support in juxtaposition to the standard, and it is pivoted on a fulcrum or shaft 17,
 35 which is supported in the bracket. This clamp is provided with a cam-surface, which is adapted when the clamp is depressed to bind against the standard and hold the support or bracket thereon with a firm positive
 40 grip thereon, and this clamp is provided with an extended arm 18, which projects below the bracket, so that ready access can be had by hand to the clamp to operate the latter to
 45 force the clamp firmly against the standard or release the same therefrom.

The operation and advantages of my invention will be readily understood and appreciated by those skilled in the art from the foregoing description, taken in connection
 50 with the drawings. Each bracket can be readily fitted on the standard by placing the jaw thereof around the standard and the bearing against the front side thereof, after which the bracket or support can be moved on the
 55 standard longitudinally thereof until it reaches the desired position, after which the clamp is depressed to bind against the standard, and thus draw or force the jaw and bearing firmly against the standard, whereby the
 60 bracket or support is firmly and rigidly clamped on the standard. The bracket or support is held and arranged in such manner that the weight on the shelf operates to more firmly hold the same on the standard, and at
 65 the same time the bracket can be raised or

lowered when the shelf is removed by simply releasing the clamp from the standard.

By using a smooth-faced standard which is devoid of ratchet-teeth and other projections I am enabled to simplify the construction and
 70 cheapen the cost of manufacturing the shelving, and I also provide simple and effective means for positively clamping the bracket to the standard.

I am aware that changes in the form and
 75 proportion of parts can be made without departing from the spirit or sacrificing the advantages of my invention, and I would therefore have it understood that I reserve the right to make such modifications as fairly fall
 80 within the scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In adjustable shelving, the combination
 85 of a vertical standard adapted for carrying a shelf-supporting bracket, an anchor-arm extended outward from said standard and having an eye at one end to receive the standard and a hook or jaw at its other end to engage
 90 a wall or other surface, and a grooved key fitted on the anchor-arm, for the purpose described, substantially as set forth.

2. In adjustable shelving, the combination
 95 of a smooth-faced imperforate standard, a horizontal shelf support or bracket having at its inner end a projecting arm or jaw which fits closely around the standard, said bracket extending outwardly from said standard and
 100 lying substantially at right angles thereto, and a clamp carried by the shelf support or bracket at the inner end thereof and arranged at one side of the arm or jaw to forcibly bind against the standard, for the purpose described, substantially as set forth. 105

3. In adjustable shelving, the combination
 110 of a smooth standard, a shelf support or bracket extending outwardly from the standard and having a projecting jaw or arm and a bearing, the jaw bearing against one side of the standard and the bearing resting against the reverse side of the standard, and a clamp carried by the support or bracket and arranged to positively bind on the standard, whereby the shelf-support is rigidly held
 115 on the standard and can be adjusted at any desired elevation thereon, substantially as and for the purpose described.

4. In adjustable shelving, the combination
 120 of a smooth standard and a shelf support or bracket extending outwardly from said standard substantially at right angles thereto, said shelf-support having a rearward-extending jaw or hook which is fitted around the standard, and a bearing arranged below the hook
 125 or jaw and resting against the front of the standard, for the purpose described, substantially as set forth.

5. In adjustable shelving, the combination
 130 of a smooth-faced standard, a recessed or slot-

ted support or bracket provided with a jaw
and with a depending bearing arranged to
bear against the rear and front sides of said
standard, as described, and a cam-faced
5 clamp pivoted in the slot or recess of the
support or bracket above the depending bear-
ing and adapted to bind on the standard, as
and for the purpose described.

In testimony whereof I affix my signature in
presence of two witnesses.

BENJAMIN F. ROBERTS.

Witnesses:

CHALE OSTERMAN,
T. F. MARK.