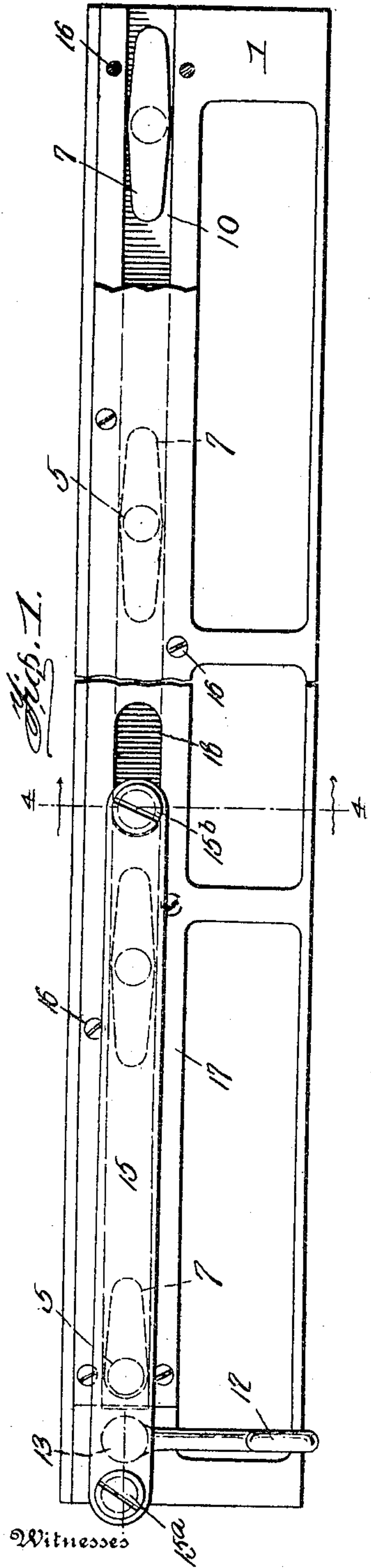


C. BURROWS.  
PEN CLAMPING DEVICE FOR RULING MACHINES.  
APPLICATION FILED NOV. 24, 1908.

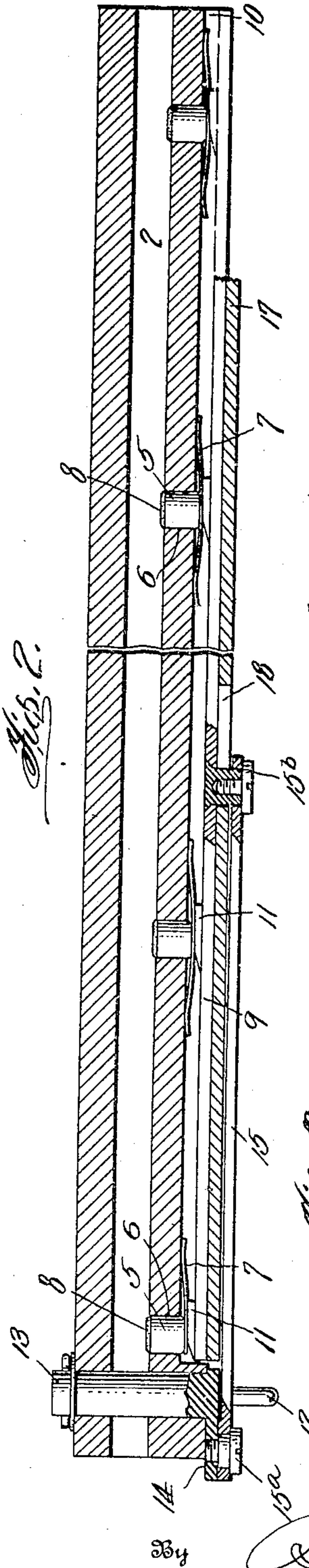
927,634.

Patented July 13, 1909.

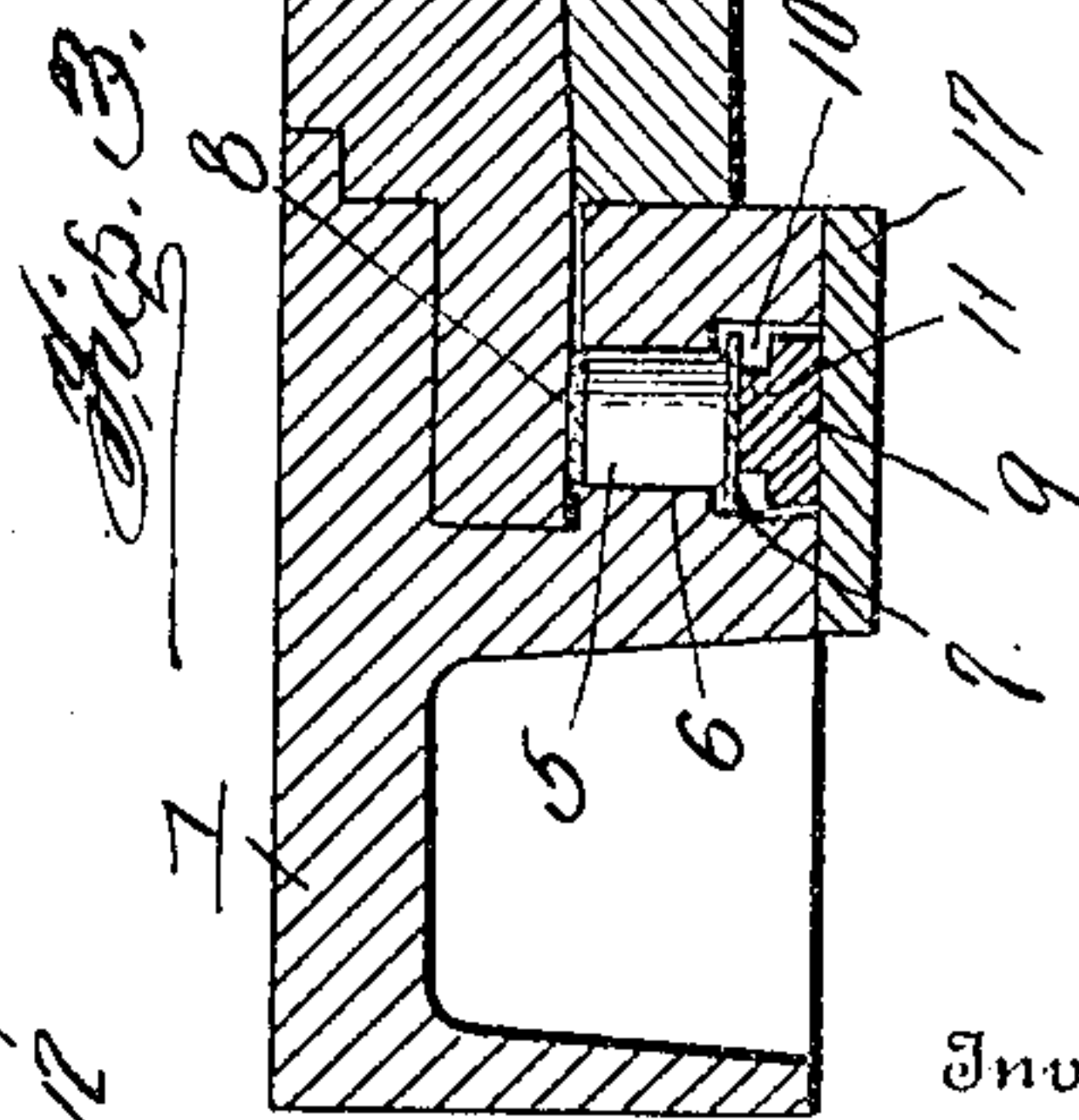
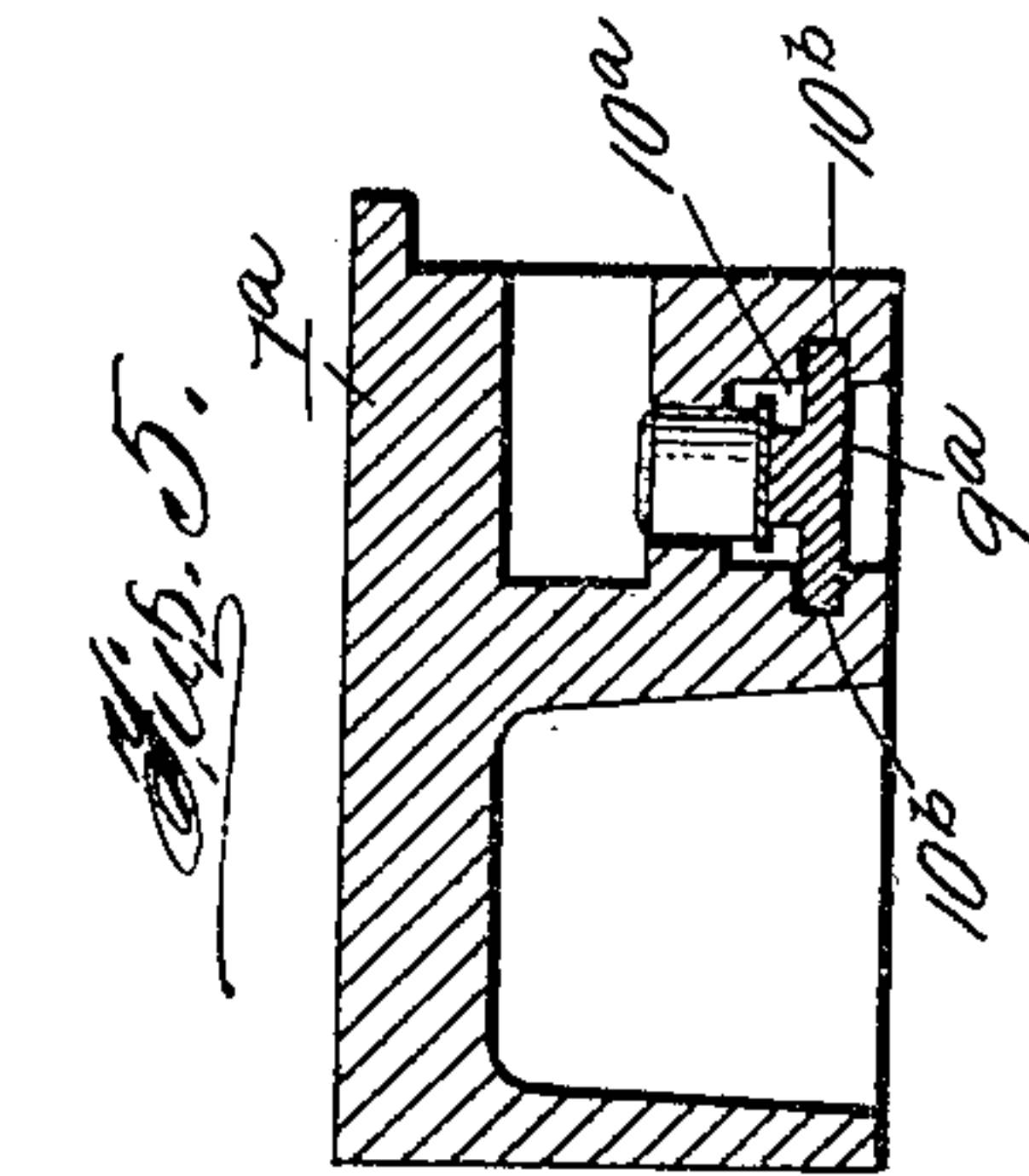


Witnesses

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# UNITED STATES PATENT OFFICE.

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## PEN-CLAMPING DEVICE FOR RULING-MACHINES.

No. 927,634.

Specification of Letters Patent.

Patented July 13, 1909.

Application filed November 24, 1908. Serial No. 464,201.

*To all whom it may concern:*

Be it known that I, CHARLES BURROWS, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Pen-Clamping Devices for Ruling-Machines, of which the following is a specification.

This invention relates to ruling machines of the type in which a transverse pen-beam is employed to support the paper ruling devices.

Ordinarily the ruling pens are attached to this beam in an adjustable manner by means of pen clamps, and the present invention consists primarily in improved means for connecting the clamping means and pen-beam.

The pen-clamp, in the type of machines above referred to, is usually secured in proper position on the beam by means of thumb screws arranged at intervals in the length thereof, and adapted to engage the clamp. This construction is disadvantageous for many reasons, it being necessary to operate all of the clamping screws every time the ruling devices are adjusted, which happens quite often; furthermore, the thumb screws cut or indent the pen clamp resulting in a damaged face against which the screws bear. The loss of time, wear and tear on the clamping means, and lack of efficiency of the latter after continued use, due to the above structure, have given rise to this invention in which novel means are provided, whereby to eliminate the disadvantages described, and permitting of simultaneous operation of a plurality of clamping members used to secure the pen-clamp to the pen-beam, as well as avoiding other defects in the form and operative principle of existing mechanisms for the same purpose.

For a full understanding of the invention, reference is to be had to the following detail description and the accompanying drawings, in which—

Figure 1 is a bottom plan view of a pen-beam showing the pen-clamp attaching mechanism applied thereto; Fig. 2 is a longitudinal sectional view bringing out more clearly the arrangement of the clamping members and operating mechanism therefor; Fig. 3 is a section of the beam showing the pen-clamp mounted and secured thereon; Fig. 4 is a transverse sectional view taken about on the line 4—4 of Fig. 1; and Fig. 5

illustrates a modified construction of the invention.

Throughout the following detail description and on the several figures of the drawings similar parts are referred to by like reference characters.

Referring particularly to the drawings the numeral 1 denotes the pen-beam, said beam being in general form of a construction very similar to those most commonly in use and adapted to be supported in coöperation with the other mechanism of the ruling machine, in the customary way. The beam 1 is preferably of metal, though the mechanism constituting the present invention is adapted to be applied to wooden beams of the old type. Longitudinally thereof the beam 1 is formed with a slot 2 to receive the inner end of the pen-clamp 3, the latter being of the usual form and supporting the ruling devices or pens 4 in the well known manner.

As before premised the present invention consists in the peculiar means employed to secure the pen-clamp 3 to the beam 1. Mounted in the lower portion of the beam 1 are a plurality of clamping members 5 adapted for free movement in openings 6 provided in such portion of said beam, the upper ends of the members 5 being adapted to enter the slot 2 and engage with or impinge the portion of the pen-clamp 3 received in said slot. Springs 7, however, are connected with the outer ends of the members 5 and normally tend to withdraw said members from the slot 2 and hold them out of engagement with respect to the pen-clamp 3. To prevent the engaged surface of the pen-clamp 3 from being damaged, the upper extremities of the several clamping members or pins 5 may be provided with tips 8 of soft substance such as rubber, or the like.

The members 5 are operable by means of a sliding bar 9 which is housed in a recess 10 in the bottom of the beam 1, said sliding bar being provided upon its upper inner side with a plurality of cams 11, each of which is adapted to engage an adjacent one of the clamping members 5 in order to force said clamping members into engagement with the pen-clamp 3. The sliding bar 9 is actuated by means of a small hand-lever 12 having a round extension 13 journaled in a suitable bearing near one end of the beam 1, and also having an arm 14 pivotally connected by an operating rod 15 with the sliding bar 9, as shown at 15.



It will be apparent that in the operation of the invention, should it be necessary at any time to adjust the pens 4, carried by the pen-clamp 3, the lever 12 may be swung outwardly with respect to the beam 1 and this will move the sliding bar 9 longitudinally of the beam 1 and away from the axis 13 of said lever. Such movement will cause the cams 11 of the bar 9 to move into positions permitting the springs 7 cooperating with the members 5 to withdraw said members from engagement with the pen-clamp 3. The clamp 3 may then be adjusted readily. To again secure the clamp 3 it is only necessary to force the lever 12 in the direction opposite that above referred to and the cams 11 will force the members 5 into engagement with the clamp. The pivotal connection 15<sup>a</sup> between the rod 15 and the arm 14 of the lever is so located that when the lever 12 is moved into the position shown in Fig. 1, said pivotal connection 15<sup>a</sup> will be slightly above alinement with the pivotal connection 15<sup>b</sup> and the axis 13 of the lever, the latter being thereby locked from movement in a manner which will be readily apparent. Not only therefore does the lever 12 constitute an actuating device for the clamping members 5 but said lever forms a locking device for locking the members 5 in engagement with the pen-clamp 3, thus forming a dual function so to speak.

To prevent displacement of the sliding bar 9 from the recess 10 it is contemplated to secure to the underside of the beam 1, and covering recess 10, a housing plate 17 fastened to the beam by fastenings 16 such as screws. This plate 17 is formed between its ends with an elongated opening 18 through which the pivotal connection 15<sup>b</sup> passes.

As shown in Fig. 5 the housing plate 17 may be dispensed with if desired and the sliding bar 9<sup>a</sup> mounted in the recess 10<sup>a</sup> of the beam 1<sup>a</sup> with its edges received in guide grooves 10<sup>b</sup> in the opposite sides of said recess, said guide grooves readily preventing displacement of the bar 9<sup>a</sup> in an evident manner. The construction shown in Fig. 5 may be employed in connection with the other parts above described, and is advantageous under certain conditions.

In the practical operation of the invention it will be apparent that all of the clamping members used to secure the pen clamp in position are adapted for simultaneous operation by the actuating devices employed, and the same are also locked in a peculiar and effective manner from accidental disengagement from the pen-clamp.

The various features of the invention will

be readily appreciated from the foregoing description.

Having thus described the invention, what is claimed as new, is:

1. In combination, a pen-beam for ruling machines, a detachable pen-clamp mounted thereon, a plurality of clamping members carried by the beam and engageable with the pen-clamp, spring means normally tending to disengage the clamping members from the pen-clamp, and means for causing engagement of the clamping members with the pen-clamp.

2. In combination, a pen-beam for ruling machines, a detachable pen-clamp mounted thereon, a plurality of clamping members carried by the beam and engageable with the pen-clamp, spring means normally tending to disengage the clamping members from the pen-clamp, and an operating device for effecting simultaneous engagement of the clamping members with the pen-clamp.

3. In combination, a pen-beam for ruling machines, a pen-clamp mounted thereon, clamping members carried by the beam and engageable with the pen-clamp, means normally tending to disengage the clamping members from the pen-clamp, a sliding bar mounted on the beam, means for actuating said bar, and cams carried by said bar for effecting simultaneous engagement of the clamping members with the pen-clamp.

4. In combination, a pen-beam, a pen-clamp mounted thereon, a clamping member engageable with said pen-clamp and carried by the beam, a spring connected with said clamping member and normally tending to disengage the same from the pen-clamp, and operating means including a cam for effecting engagement of the clamping member with the pen-clamp.

5. In combination, a pen-beam for ruling machines having a slot, a pen clamp mounted thereon and partly received in said slot, a plurality of clamping members arranged to engage the pen-clamp and carried by the pen-beam, a sliding bar provided with cams cooperating with the clamping members to force the same into engagement with the pen-clamp, an operating lever having an off-standing arm, and a connection between said arm and the sliding bar for effecting movement of the bar and operation of the clamping members.

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

CHARLES BURROWS.

Witnesses:

EMILY D. BURROWS,  
IRVING L. BURROWS.