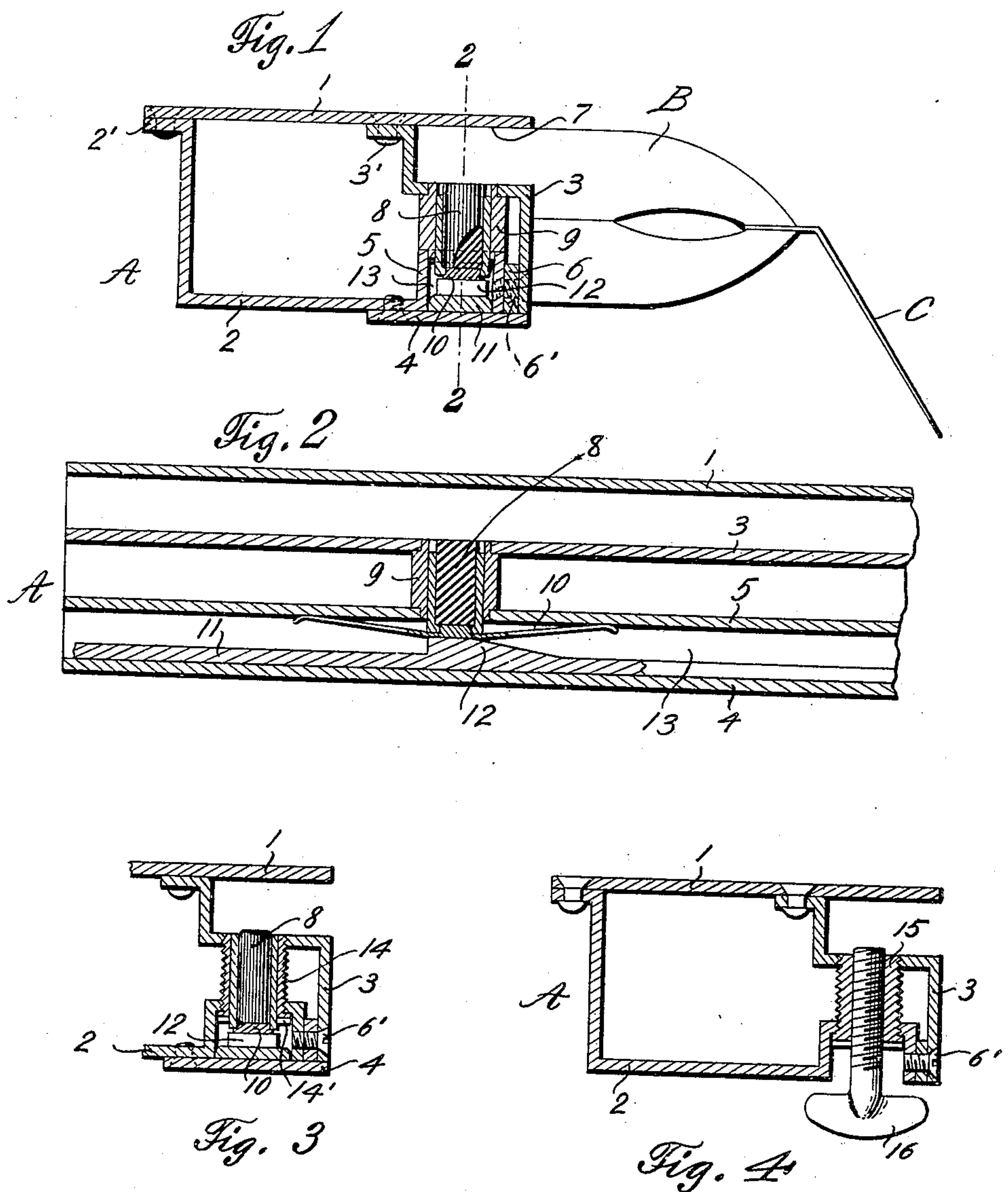


979,126.

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PEN BEAM.  
APPLICATION FILED APR. 26, 1910.

Patented Dec. 20, 1910.



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# UNITED STATES PATENT OFFICE.

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PEN-BEAM.

979,126.

Specification of Letters Patent. Patented Dec. 20, 1910.

Application filed April 26, 1910. Serial No. 557,771.

*To all whom it may concern:*

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

My invention relates to improvements in the construction of pen beams for ruling machines.

At the present time the above devices are made of wood covered by a metal plate, such construction being disadvantageous for a number of reasons among which are the weight of the beam, the tendency of the wood to split, the necessity of providing a metal covering plate to prevent the ink from running between the pen clamps and the beam, and other objections incidental to use of any wooden part.

The present invention provides a metallic form of pen beam eliminating the wood construction entirely, whereby a light hollow structure is secured, unusual strength, rigidity, and durability are obtained, and the torsional twist inherent with regard to the use of the old style wooden beam eliminated, resulting in increased steadiness of the pens when operating with the pen beam lifting and dropping to strike.

For a full understanding of the invention including its merits and advantages under actual conditions of service, reference is to be had to the following detailed description, and to the accompanying drawings, in which:

Figure 1 is a transverse sectional view of a metallic pen beam embodying the essential features of my invention, the pen clamp being arranged in operative positions; Fig. 2 is a fragmentary vertical sectional view taken about on the line 2—2 of Fig. 1; Fig. 3 is a view similar to Fig. 1, the pen clamps omitted, and screws for holding the clamps being illustrated, the whole being a modification of the preferred form of the invention; Fig. 4 is a fragmentary sectional view of a further modification.

Similar parts are referred to in the drawings and description by similar reference characters.

Specifically describing my invention, it will be observed that the pen beam A is made of a plurality of parts including a top plate 1, angular shaped plates 2 and 3, and

a bottom or lowermost plate 4. At its upper portion near the rear side of the beam, the plate 2 has a flange 2' secured by suitable fastening means to the plate 1, the lower portion of the plate 2 having a longitudinal U-shaped web 5 projecting upwardly therefrom at its outer edge, a spacing member 6 being interposed between the outermost portion of the web and the lowermost portion of the plate 3. Fastenings 6' pass through the adjacent portions of the web 5 and plate 3, said member thus securing said portions together in spaced relation. Suitable fastenings 3' connect a flange at the upper portion of the angle plate 3 with the top plate 1. The horizontal portion of the plate 3 is spaced with respect to the adjacent portion of the top plate 1 forming a recess 7 extending the entire length of the beam A, and in which recess the pen clamp B is secured by means of locking mechanism, set forth and described in my Letters Patent No. 927634, dated July 13, 1909, the construction of the beam A however being somewhat modified to accommodate said locking means.

The locking means just mentioned includes one or more plungers 8 mounted to slide in bushings 9, said plungers being connected with springs which tend to only disengage the plungers from the clamp B. A slide 11 carrying cams 12 is movable lengthwise of the recess 13 formed by the spaced sides of the web 5. Movement of the member 11 will cause engagement and disengagement of the locking members or plungers 8 with respect to the clamp B. The means for actuating slide 11 is not illustrated herein since it forms no part of the present invention. The plate 4 is really a closure plate at the base of the recess 13 for holding the locking means just described from displacement, the slide 11 being movable between the springs 10 and the upper face of the plate 4. The pen clamp B and the pens C carried thereby are of the ordinary form.

In the modification in Fig. 3 it is contemplated that the locking means illustrated in Figs. 1 and 2, by which the pen clamp B is secured to the beam A, shall be mounted on the beam somewhat differently than first described. A hollow screw bushing 14 is adapted to be screwed into the openings provided in the web 5 and plate 3. The plunger 8 operates in said bushing 14 and the latter is removable by means of a suit-



able tool such as a screw driver adapted to engage a recess 14' of the bushing. If the bushing 14 is removed, and a somewhat similar member 15 provided with a threaded bore, shown in the modification in Fig. 4, substituted therefor, the ordinary clamping screws 16 may be employed to secure the pen clamp B in place on the beam A. It is highly desirable to have a beam construction permitting of use of the screws 16, commonly employed at the present time, and hence the advantage of the construction or interchangeability of parts shown in the drawings.

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

1. A pen beam for ruling machines comprising a top plate, angle plates secured thereto, one angle plate having its vertical portion connected with the rear edge portion of the top plate and being provided at its front portion with an outwardly extending U-shaped web, the outermost portion of which is attached to the other angle plate, the second angle plate comprising vertical portions and an intermediate horizontal portion arranged in spaced relation to the front edge portion of the top plate forming a recess to receive a pen clamp.

2. A metal pen beam consisting of the top plate 1, the angle plates 2 and 3 secured at their uppermost portions to the top plate 1, the plate 3 having a horizontal portion, the plate 2 having a U-shaped web 5 arranged in spaced relation to the horizontal portion of the plate 3, pen clamp locking means mounted on the web 5, and a clamp having its rear portion disposed between the top plate 1 and the horizontal portion of the plate 3.

3. In combination, a pen beam for ruling machines comprising the top plate 1, the

angle plates 2 and 3, said plate 2 having the web 5 of U-shape located near its front portion, the plate 3 comprising a horizontal portion spaced from the front portion of the plate 1, a closure plate closing the space between the sides of the web 5, a pen clamp having a portion entering the space between the top plate 1 and the horizontal portion of the plate 3, and locking means for retaining said clamp and held in position by the closure plate aforesaid.

4. In combination, a pen beam for ruling machines comprising the top plate 1, the angle plates 2 and 3, the plate 2 having the web 5 of U-shape the top portion of which is spaced from the portion of the plate 3, bushings removably mounted in openings in the plate 3 and web 5, locking members in said bushings, and devices for actuating said members and operating in the space between the sides of the web, the plate 3 having a horizontal portion spaced from the top plate 1 and forming a clamp recess, and a clamp having a portion received in said recess.

5. A pen beam for ruling machines comprising the top plate 1, the angle plates 2 and 3, fastenings connecting the lower portions of said angle plates, fastenings connecting the upper portions of said angle plates with the top plate, the plate 3 having a horizontal portion spaced from the top plate and forming a recess, a clamp a portion of which is received in said recess, and locking means for preventing displacement of said clamp from the beam.

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

CHARLES BURROWS.

Witnesses:

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