

No. 707,680.

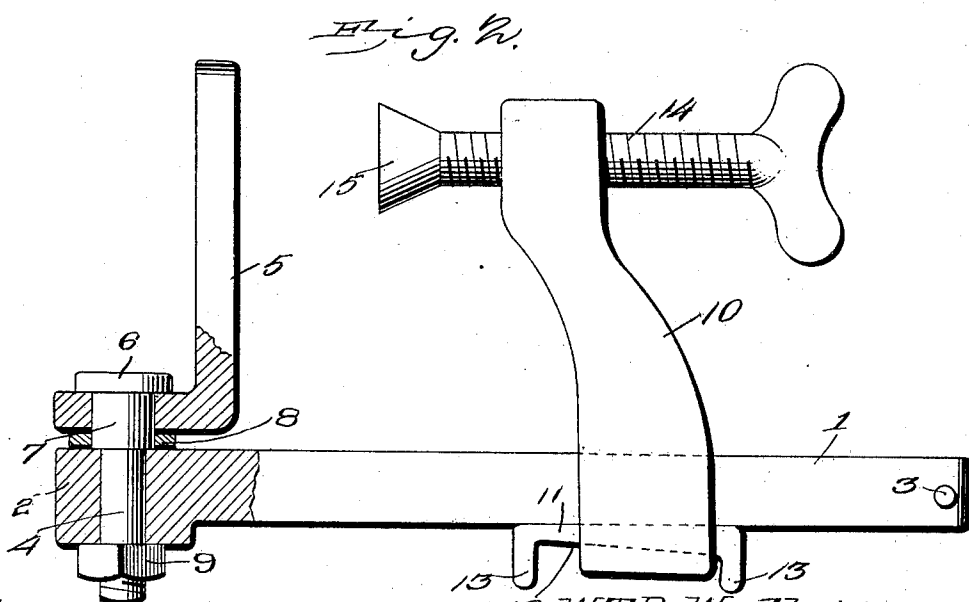
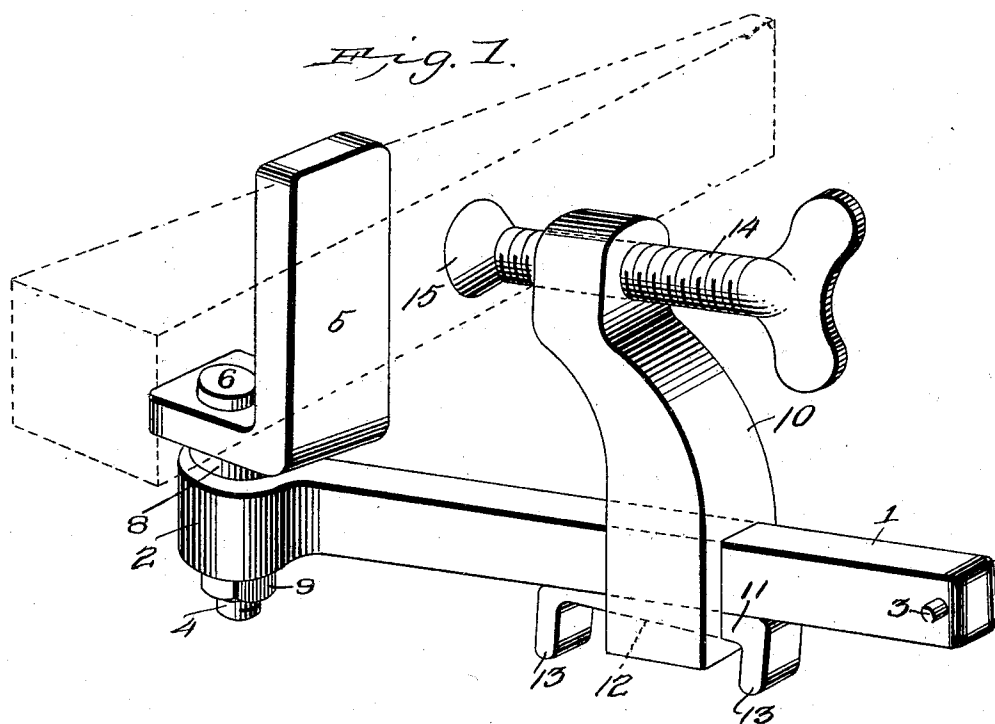
Patented Aug. 26, 1902.

W. T. DE WORTH.

CLAMP.

(Application filed Apr. 10, 1902.)

(No Model.)



Witnesses
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R. M. Elliott

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UNITED STATES PATENT OFFICE.

WILLIAM T. DE WORTH, OF BORDENTOWN, NEW JERSEY.

CLAMP.

SPECIFICATION forming part of Letters Patent No. 707,680, dated August 26, 1902.

Application filed April 10, 1902. Serial No. 102,306. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. DE WORTH, a citizen of the United States, residing at Bordentown, in the county of Burlington and State of New Jersey, have invented a new and useful Clamp, of which the following is a specification.

This invention relates to clamps.

The object of the invention is to present a clamp which in operation shall be equally as effective for clamping a tapered object as one that is straight and in which the operative parts may with readiness and ease be brought into engagement with the object to be clamped.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a clamp for use by machinists, bridge-builders, and other mechanics, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof, and in these drawings—

Figure 1 is a view in perspective of a clamp characterizing the present invention and showing in dotted lines a wedge-shaped object clamped thereby. Fig. 2 is a view in side elevation, partly in section.

Referring to the drawings, 1 designates the beam of the clamp, which by preference is rectangular in cross-section and is provided at one end with a transversely-orificed head 2 and at its opposite end with a stop 3, consisting of a pin, the ends of which project laterally beyond the beam. Engaging the orifice of the head 2 is a bolt 4, which operates to associate the head-block 5 with the beam, the said block being an L-shaped structure in elevation and being mounted for swiveled movement on the bolt, to effect which the bolt below its head 6 is provided with an enlarged portion 7, which engages the orifice in the

base of the head-block and an orifice in a washer 8, interposed between the head-block and the beam, the shoulder formed by the enlargement being adapted to bear upon the beam and to be clamped thereagainst by a nut 9, carried by the bolt 4. The washer is just enough thinner than the space between the under face of the base of the head-block and the upper face of the beam to permit the head-block to have free rotary movement about the bolt without binding, whereby the head-block will automatically adjust itself to tapered surfaces, as clearly shown in Fig. 1, wherein a wedge-shaped piece of material is exhibited as being held by the clamp. To adapt the clamp for holding or being attached to objects that are other than straight, it will generally be preferred to have the head-block swiveled; but, if preferred, it may be rigidly clamped on the beam by having the washer 8 of a thickness to project below the shoulder of the enlarged portion of the bolt.

Mounted for longitudinal movement on the beam is a tail-block 10, the lower portion of which is provided with an opening for the reception of the beam, the said opening being somewhat longer than the width of the beam in order to receive a clamping-wedge 11, the wall of the opening upon which the wedge bears being inclined, as shown at 12 in Fig. 2. The wedge is provided with downturned projections 13, which perform the double function of preventing accidental separation of the wedge from the tail-block and also presenting means by which the wedge may be moved in either direction when desired. That portion of the tail-block which engages the beam is of such width as to assure its stable association therewith and thence is gradually reduced in longitudinal diameter to its upper end, and associated with the upper portion of the tail-block is a clamping-screw 14, having a swiveled head 15 by which to permit of the screw being turned after the head is in engagement with the object to be clamped, as is common in devices of this character. By the provision of the movable tail-block the necessity of a clamping-screw of considerable length is obviated, thereby overcoming an objection inherent in such devices, as where the screw is of considerable length it cannot resist heavy torsional strain,

- and, moreover, when clamped against an object is not in some instances as rigid as desired. Under the provision herein illustrated the tail-block can be moved up close to the object to be clamped and secured there by the locking-wedge, the head being in engagement with such object, and by giving the screw a half or three-quarters turn the object will be clamped.
- 10 It will be seen from the foregoing description that although the clamp of this invention is exceedingly simple of construction it possesses novel and important features not found in clamps in common use and which
- 15 will render it of great utility to mechanics requiring such an implement.
- Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—
- 20 A clamp comprising a beam having a transversely-orificed head, an L-shaped head-block having its longer member disposed at right angles to the beam and its shorter member disposed parallel therewith and provided with

an orifice of greater diameter than that in the head, a bolt having that portion of its length engaging the orifice in the head-block circumferentially enlarged, presenting thereby a shoulder to rest upon the beam and to limit the movement of the bolt with relation thereto, a washer interposed between the head-block and the beam, the washer being of a thickness to permit free swiveled movement of the head-block without rocking, thereby to render it automatically adjustable to tapered surfaces, a tail-block carrying a clamping-screw, and a locking-wedge associated with the tail-block and provided with lateral extensions to present means for locking and unlocking the wedge, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM T. DE WORTH.

Witnesses:

W. H. DE WORTH,
FRANK S. LAMSON.