J. M. HARGRAVE.

WORK HOLDING CLAMP.

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1,201,461. Patented Oct. 17, 1916.

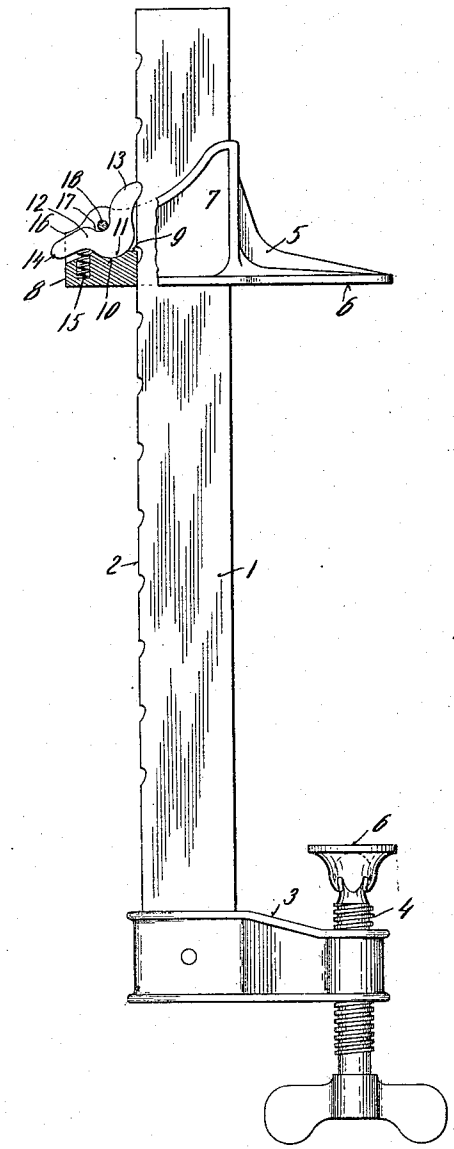


Fig. 1.

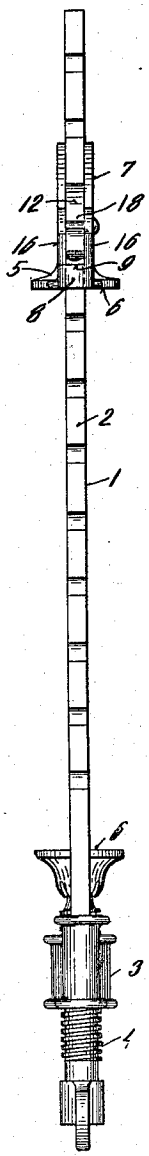


Fig. 2.

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UNITED STATES PATENT OFFICE.

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WORK-HOLDING CLAMP.

1,201,461. Specification of Letters Patent. Patented Oct. 17, 1916.

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To all whom it may concern:

Be it known that I, JOHN M. HARGRAVE, a citizen of the United States, and residing at Hyde Park, Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Work-Holding Clamps, of which the following specification is a full disclosure.

My invention relates to a work clamp of the type comprising a notched bar, a relatively fixed and a relatively adjustable jaw, the adjustable jaw having a notch engaging pawl to definitely position said jaw on the bar, in a work engaging position for a subsequent clamping of the work by the screw clamp in the fixed jaw.

The object of the invention is to provide a notch engaging pawl which fulcrums on and transmits all clamping strains directly to the jaw member.

Another object is to provide a notch engaging pawl fulcrumed on the jaw member and retained within the bracket portion thereof by a transverse pin or stud.

In ordinary types of pawl structures a pivot pin passes through the pawl and is secured in the walls of the bracket, compelling the pivot to assume the strains incident to a clamping operation. To avoid the use of a fulcrum pin and to transmit the strains directly to the jaw member, I provide a correlated structure of pawl and jaw member, whereby the pawl fulcrums on an integral portion of the jaw and is retained within the bracket portion thereof by a pin or stud which is subjected to no leverage strains.

The features of the invention are more fully set forth in the description of the accompanying drawings, forming a part of this specification, in which:—

Figure 1 is a side elevation with the wall of the pawl housing broken away. Fig. 2 is a rear view in elevation, showing the notched side of the bar.

The bar 1 has the notched or detent side 2, and the relatively fixed jaw 3, having the screw clamp 4. The coacting jaw 5 is adjustable on the bar, the work engaging portions 6 of the jaws being on the inside of the bar, the notches being on the outside of the bar. The jaw 5 has a collar portion 7, with the rearward extension 8, comprising a fulcrum shelf or seat 9, formed with a slightly concave surface 10, for seating and supporting the fulcrum elbow or knuckle 11 of the pawl 12. This pawl has the latch or detent end 13 for engaging the notches, and the lever end 14. A spring 15 being supported on the shelf under said lever end, to force the pawl end normally inward. The extension 8 has the vertical side walls 16, rising from the seat 9, forming a bracket-like housing or socket for said pawl. The crook of the elbow pawl provides a recess 17, on the other side of the fulcrum portion, through which the retainer 18 passes, its ends being secured in the walls 16, so that said member 18 is positioned crosswise over the medial portion of the pawl, but does not support or sustain the same. The thrust of the pawl leverage is entirely sustained by the jaw extension 8, so that the jaw is very strong and durable, as well as cheap and efficient, there being no detachable parts to be strained, or worn out, or renewed.

I claim:

In a work clamp, comprising a notched bar and a relatively fixed jaw, a second jaw embracing the bar and adjustable thereon, a pawl formed of an intermediate knuckle portion and oppositely projecting fingers, the knuckle portion engaged and fulcrumed within a seat socket in said second jaw, to adapt one finger to engage with said notched bar and the second providing a thumb piece for swiveling said pawl, and a pin concentric with said seat socket for confining the pawl within the seat socket of said second jaw.

In witness whereof, I hereunto subscribe my name, as attested by the two subscribing witnesses.

JOHN M. HARGRAVE.

Witnesses:

CLARENCE B. FOSTER,

L. A. BUCK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."