

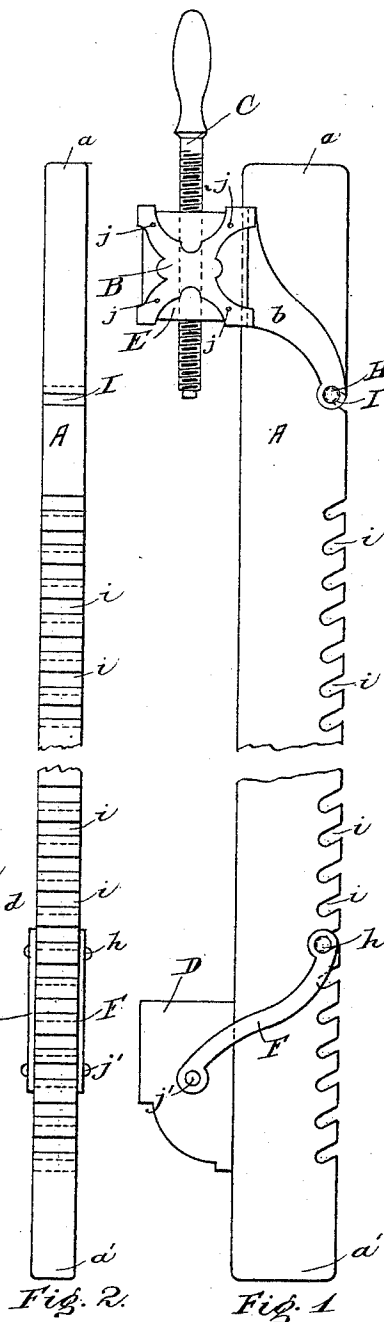
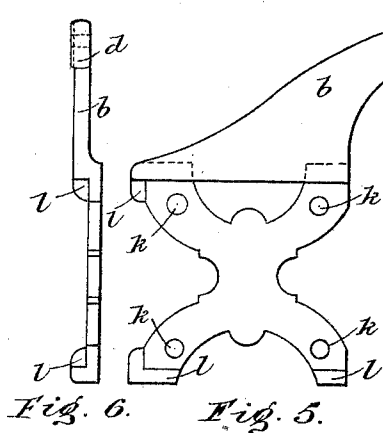
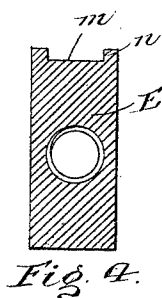
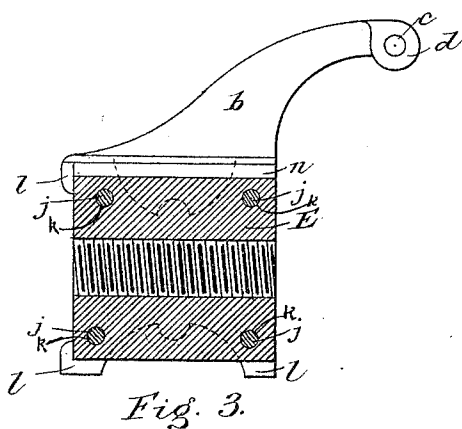
(No Model.)

P. E. BOURASSA.

CLAMP.

No. 491,633.

Patented Feb. 14, 1893.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

PIERRE E. BOURASSA, OF MONTREAL, CANADA.

## CLAMP.

SPECIFICATION forming part of Letters Patent No. 491,633, dated February 14, 1893.

Application filed October 7, 1891. Serial No. 408,071. (No model.)

*To all whom it may concern:*

Be it known that I, PIERRE ETIENNE BOURASSA, cabinet-maker, residing in the city and district of Montreal, county of Montreal, and Province of Quebec, Canada, have invented certain new and useful Improvements in Screw Joints or Clamps, of which the following is a specification.

My invention has reference to improvements in clamps in which the head and the shoe are made partly of wood and partly of iron, thus bringing the cost of manufacturing same to a minimum, the hand-screw is also made of wood. The head is like the shoe made detachable and is held to the perch by means of a cramp fitting in a notch, and the objects of my improvements are; first, to provide a greater resisting power or tightening strength; second to afford such facilities that perches of any lengths may be promptly interchanged; third, economy. I attain these objects by the arrangements illustrated in the accompanying drawings in which:

Figure 1 is a general view of my invention; Fig. 2 is a bottom plan view of same; Fig. 3 is a section through the head of my clamp; Fig. 4 is a section through block E; and, Figs. 5 and 6 are different views of plates B. B.

Similar letters refer to similar parts throughout the several views.

A is the perch having at its lower side a series of transversal notches *i* and I.

B are two metallic plates which are affixed securely on each side of the block E, (as shown in sectional view, Fig. 3,) by means of four rivets *j* passing through the holes *k*; having forwardly and downwardly extending arms *b* united at their extremity by the cramp H which passes through the hole *c* at the ends *d* and engages, when set, in the notch I; three stays *l* maintain tightly in place, independently of the rivets *j*, the wooden block E.

E is a wooden block having a groove *m* in which slides freely the perch A, and two tongues *n* projecting on both sides of the perch to protect the inner sides of the arms *b*; and a screw hole for the wooden screw C; the whole constituting what is commonly called the head.

D is a wooden block having a hole through

which passes a rivet *j'* uniting on both sides of said block the arms F.

F are two metallic arms united at one end to the block D by a rivet *j'* and at the other by a cramp *h* which engages, when set, in any of the notches *i*; the whole constituting what is commonly called the shoe.

The block E is not only maintained in position between the plates B B by the rivets *j j j j* but is also imprisoned by the stays *l l l*, therefore, this wooden block E cannot split when bearing a heavy pressure, as it would likely do were it only held by the rivets. As the ends *d* of the arms *b* are bored out for the insertion of the cramp H, I have made that part double in thickness so as not to weaken it by the hole *c*. As the arms *b b* extend forward they give the head an unlimited resisting power as it tends to adhere firmly under the perch. The principles in the construction of the head are identical to those of the shoe, and the latter when properly constructed, has never failed, even under the most severe tests. The tongues *n n* between which slides the perch A serve to protect the arms *b b* at their base.

The end *a'* of the perch A (Fig. 2) is introduced between the arms F F, and the cramp *h* is allowed to drop in one of the notches *i*; the end *a* is, likewise, introduced between the two half arms *b b* and in the groove *m*, and is pushed in until the cramp H drops in the notch I (Fig. 2) when the clamp is ready for use. If long or short clamps are required, the perch is drawn out from the head and the shoe, and one of the desired length is introduced instead.

The plates B B are made of malleable iron, but they can also be made in any other suitable metal, such as brass, &c.

I am aware that prior to my invention clamps have been made with detachable heads, I, therefore do not claim such a combination broadly, but

What I do claim as my invention and desire to secure by Letters Patent is:

1. In a clamp, the combination with the perch A having at its lower face a series of transversal notches with the shoe having wooden block D with arms F, of plates B cramp H and

block E having tongues *n* and groove *m*, all constructed and arranged to operate substantially as and for the purpose set forth.

2. In a clamp, the combination with the  
5 perch A having notches *i* and I with the shoe having block D, arms F, cramp *h* and rivet *j'*, the plates B having arms *b* projecting forward, ends *d* having holes *c* for the cramp H, stays *l*

to hold securely the block E, said block having a groove *m* and tongues *n*, all constructed and arranged to operate substantially as and for the purpose set forth. 10

P. E. BOURASSA.

Witnesses:

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