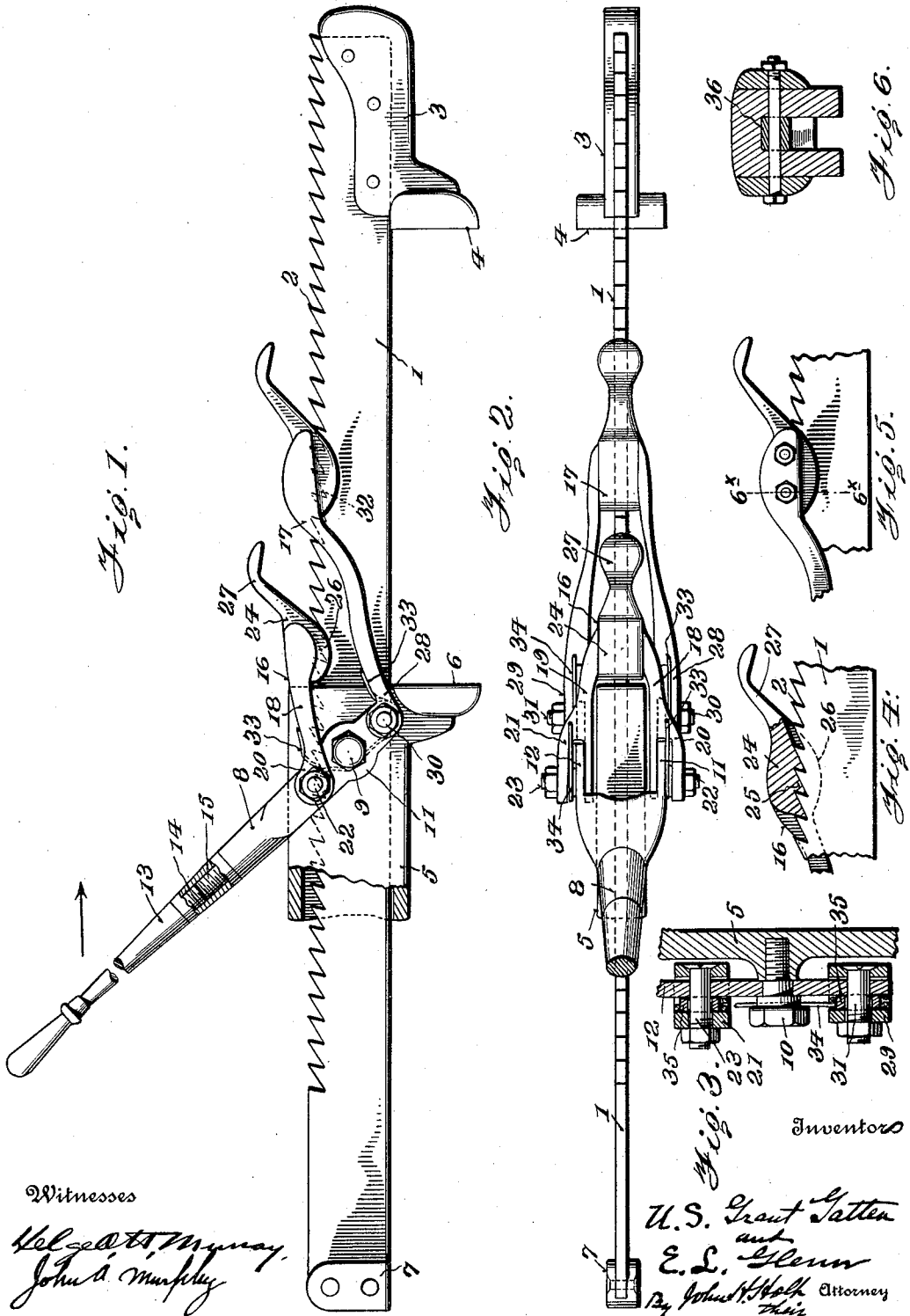


U. S. G. GATTEN & E. L. GLENN.
CLAMP.

APPLICATION FILED MAR. 18, 1911.

1,036,093.

Patented Aug. 20, 1912.



UNITED STATES PATENT OFFICE.

ULYSSES S. GRANT GATTEN AND EDWARD L. GLENN, OF NEWARK, OHIO; SAID
GATTEN ASSIGNOR TO SAID GLENN.

CLAMP.

1,036,093.

Specification of Letters Patent.

Patented Aug. 20, 1912.

Application filed March 18, 1911. Serial No. 615,263.

To all whom it may concern:

Be it known that we, ULYSSES S. GRANT GATTEN and EDWARD L. GLENN, citizens of the United States of America, residing at Newark, in the county of Licking and State of Ohio, have invented certain new and useful Improvements in Clamps, of which the following is a specification.

This invention relates more especially to improvements in that class of clamps which are adapted for use by cabinet makers, carpenters and others, for clamping parts of material together; and the principal object of the said invention is to provide a clamp of this nature which shall be simple in construction, inexpensive to manufacture, and efficient in its action.

In order that our said invention may be better understood, reference will be had to the accompanying drawings in which:

Figure 1, represents a form of our improved clamp in side elevation with a portion of the handle in section; Fig. 2, a top plan view thereof with the handle broken away, and Fig. 3, an enlarged detail fragmentary section of the movable shoe and lever connection; Fig. 4, a fragmentary detail section of one of the dogs, shown in Figs. 1 and 2, showing a portion of the rack bar in side elevation; Fig. 5, a detail fragmentary side elevation, showing in addition to a portion of the rack, a modified form of dog, and, Fig. 6, an enlarged section of the dog shown in Fig. 5, taken on line 6^a—6^a.

This clamp comprises, among other parts, a rack bar 1, preferably of cast steel, having teeth 2, along its top edge, and the opposite edge smooth, that is, without teeth. One end of this rack bar fits into and is riveted to a casting 3, which constitutes a fixed head block or clamping member and is provided with a clamping face 4. This block may, if desired, be cast integral with the bar 1.

The movable clamping member comprises a hollow shoe 5, preferably a steel casting, which surrounds the rack bar and is slidable thereon. This shoe is provided with a clamping face 6 in line with the fixed clamping face 4.

The bar 1 carries at its end opposite the block 3, a casting or block 7, riveted to or cast integral with it, the said block preventing the movable shoe 5 from slipping off that end of the rack bar. Of course, both

heads or blocks 3 and 7 would not be cast integral with the bar 1; one would have to be removable to permit the shoe 5 to be slipped on the rack bar.

Pivotally mounted on the movable shoe 5, is a lever 8, one end of which is bifurcated and straddles the shoe 5. The pivotal supports for said lever comprise two shouldered screw studs 9 and 10 passing respectively through openings in the arms 11 and 12 of the lever, and screwing into the sides of the shoe 5, as shown most clearly in the detail section Fig. 3. Lever 8 is provided with a handle 13 for operating it, and the portion carrying said handle may be separable by the screw threaded connection shown, the handle carrying portion having an extension 14 which screws into a cavity 15 in the end of the portion pivoted to the shoe. Pivotally secured to the arms 11 and 12 of this lever on opposite sides of its pivots 9 and 10 are two bifurcated dogs 16 and 17 which straddle the rack bar as shown. The dog 16 comprises, among other parts, two arms 18 and 19 bifurcated as at 20 and 21 at their ends where they receive the arms 11 and 12 of the lever 8, and are pivotally secured thereto by bolts 22 and 23 respectively. The other ends of these arms 18 and 19 are joined by a yoke or head 24, having a series of teeth 25 adapted to engage those of the rack bar and oppositely directed with relation thereto. These teeth are located within a guide-way formed by two flanges or extensions 26, which are adapted to extend down along the sides of the teeth and upper edge of the rack bar. The head of this dog is provided with an extension 27 for lifting the dog from the rack when desired.

The dog 17 is or may be of substantially the same construction as the dog 16. The arms of the dog 17 are longer than those of the dog 16 and as shown are of slightly different shape. The arms of the dog 17 receive at their bifurcated ends 28, 29, the ends of the lever arms 11, 12 to which they are pivotally connected by bolts 30 and 31, the teeth 32 of dog 17 engaging the teeth of the rack bar in advance of those of the dog 16. These dogs are held down on the teeth of the rack bar under the tension of springs 33 and 34, which coil around washers 35 on pivot bolts 22, 23, 30 and 31.

When the handle of lever 8 is carried

forward, in the direction of the arrow Fig. 1, this sends the shoe 5 forward and also the dog 16 which grips another set of rack teeth. When the lever 8 is oscillated in the opposite direction, the shoe 5 will be sent forward by the dog 17, while the dog 16 will be fed up to grip another set of rack teeth, and so on, the dogs acting alternately to pull the shoe along as the lever 8 is oscillated on its pivot.

In Figs. 1, 2 and 4, the arms of the dogs are shown as integral with the heads thereof. These arms, however, may be detachably connected to said heads in any desired way, as for example, by being bolted thereto as shown in Figs. 5 and 6. Moreover, instead of having the teeth of the dogs formed integral with these heads, they may be cut in a piece of hardened steel 36 or other suitable material, and mounted in the dog head as in Fig. 6, or any other desired way.

Other changes and modifications may be made in our invention without departing from the spirit of the same.

What we claim is:

A clamp comprising an elongated rack bar having teeth along one of its longitudinal edges only, a shoe mounted to slide on said bar over said teeth and provided with a clamping face on the opposite side of said

bar from said teeth, a fixed head block on said rack bar near one end thereof provided with a clamping face on the opposite side of said bar from said teeth and in alinement with said clamping face of said movable shoe, a lever pivotally secured to said shoe substantially midway between the upper and lower edges of said bar, a single acting dog pivoted to said lever and engaging the rack of said bar, a second single acting dog also pivoted to said lever and engaging the said rack on the same side of said bar as said aforesaid dog, and in advance thereof, said dogs being pivotally connected to said lever on each side of said shoe at points diametrically opposite each other and at substantially equal distances above and below the pivotal connection of said arm with said shoe, the pivotal connections between said dogs and said lever acting, upon the angular movement of said lever, alternately as fulcrum points for said lever to advance said movable shoe, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ULYSSES S. GRANT GATTEN.

EDWARD L. GLENN.

Witnesses:

WILLIAM A. GLENN,

ANDREW S. MITCHELL.

It is hereby certified that Letters Patent No. 1,036,093, granted August 20, 1912, upon the application of Ulysses S. Grant Gatten and Edward L. Glenn, of Newark, Ohio, for an improvement in "Clamps," were erroneously issued to Edward L. Glenn, as sole owner of said invention, whereas said Letters Patent should have been issued to *William A. Glenn*, as assignee of said Gatten, and *Edward L. Glenn*, *jointly*, as shown by the record of assignments in this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 17th day of September, A. D., 1912.

[SEAL.]

C. C. BILLINGS,
Acting Commissioner of Patents.