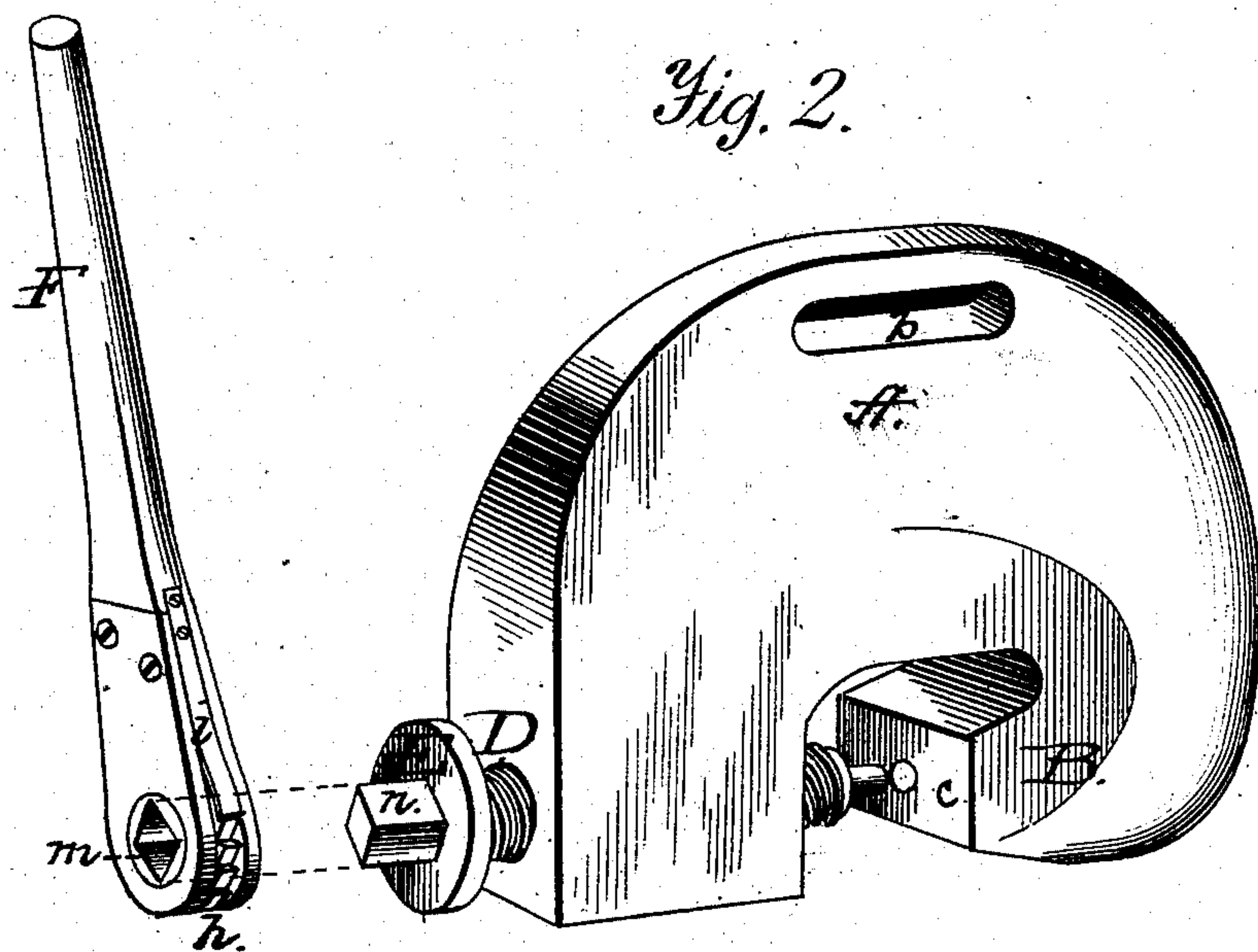
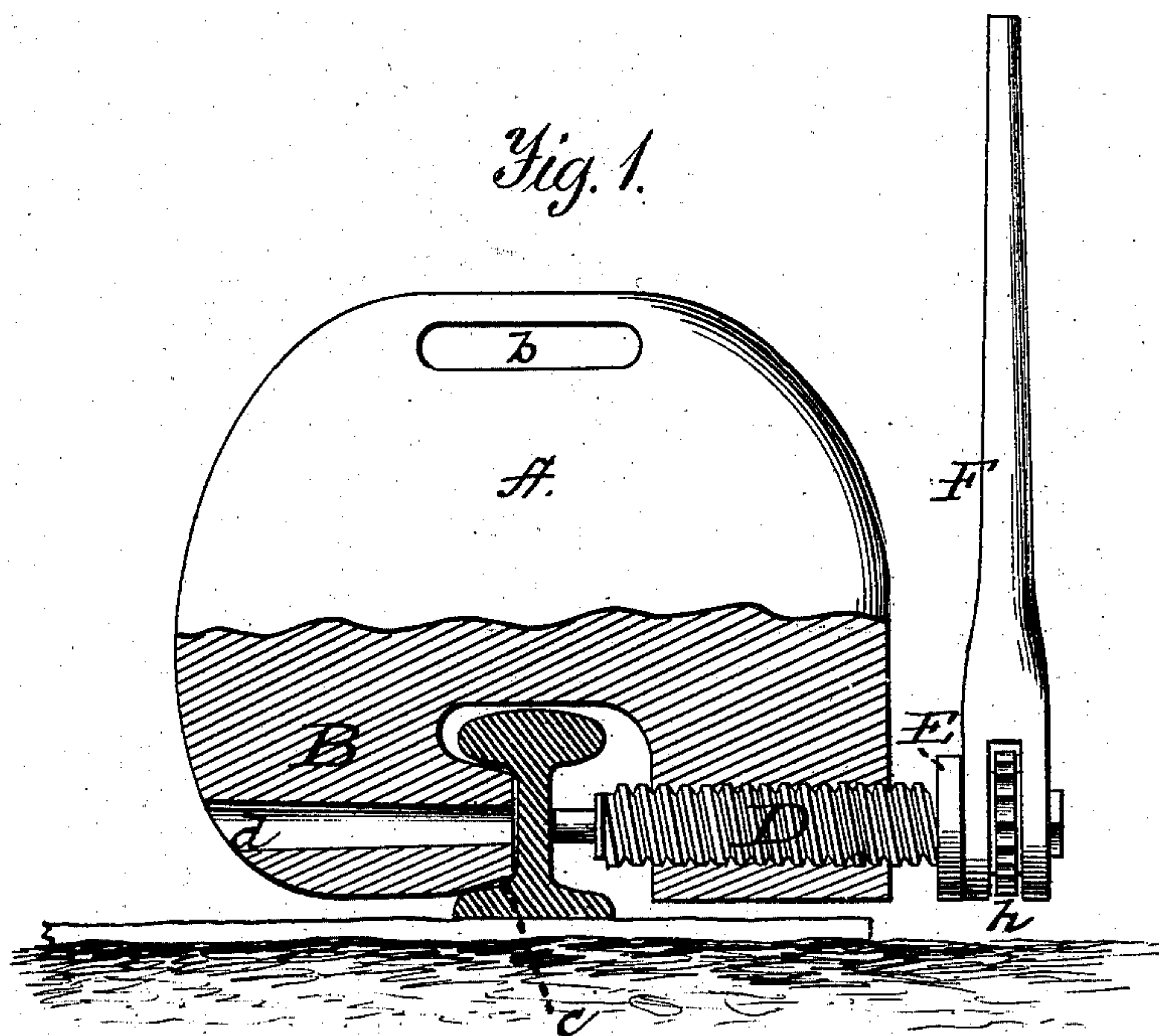


(Model.)

O. A. GOSS.
Portable Punch.

No. 237,178.

Patented Feb. 1, 1881.



Witnesses.
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UNITED STATES PATENT OFFICE.

ORVILLE A. GOSS, OF SHREVEPORT, LOUISIANA.

PORTABLE PUNCH.

SPECIFICATION forming part of Letters Patent No. 237,178, dated February 1, 1881.

Application filed July 1, 1880. (Model.)

To all whom it may concern:

Be it known that I, ORVILLE A. GOSS, a citizen of the United States, residing at Shreveport, in the parish of Caddo and State of Louisiana, have invented certain new and useful Improvements in Portable Hand-Punches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to the special class of hand portable punches for punching holes in the rails while on the track without being heated, removed, or at all disturbed in their position.

Heretofore a portable punch for the same object as mine has been constructed, but it requires auxiliary means in the clamp to make the attachment to the rail on the track. These auxiliary means for fitting the web of the rail are detachable from the clamp, thereby rendering them difficult to adjust, consuming much time, and are liable to become lost in transportation, in which event the clamp becomes of no practical utility, and under no circumstance can the device be used without the auxiliary die.

The main object of my improvement is to overcome these serious objections, and to construct a clamp that can be readily and quickly adjusted to a T-shaped rail for mending broken rails on the track.

Another object of my improvement is to simplify the construction and make the tool in a few parts, all properly united, without any possible danger of the parts being detached and becoming lost.

The improvement therefore consists in constructing one of the jaws of the clamp an integral part thereof, so as to fit snugly the web, flange, and under surface of the tread of a rail, thereby forming a firm base for the punch, operated by a ratchet device.

It also consists in the novel construction and arrangement of the parts, as will be hereinafter more fully set forth, and pointed out in the claims.

Figure 1 represents a cross-section of the T-shaped rail on the track, with my improved clamp in position for use. Fig. 2 is a perspective view of my improved portable hand-punch, with the lever detached at one side.

In the annexed drawings, forming a part of this specification, the letter A represents my improved clamp constructed of metal of sufficient size and weight so as to permit of its being used in punching railroad-rails on the track. The upper portion of the rail-clamp is provided with elongated opening *b* for the passage of the hand to carry and handle the same.

The outer jaw, B, of the clamp extending inwardly is reduced to a width that is equal to the space between the upper surface of the base-flange and the under flange of the tread of an ordinary T-shaped rail, substantially as shown in the drawings. The vertical wall *c* of this jaw is designed to rest or fit exactly against the web portion of the rail to sustain the pressure or resistance from the rail. Also, this portion of the jaw or rail-clamp is provided with a tapering passage, *d*, to receive and discharge the punch wads or pieces of the rail. This construction of the jaw B, extending inwardly and forming an integral part of the clamp, is material, since great strength is secured at this point, where it is needed to meet the pressure and resistance from the opposite jaw with its punch. The opposite jaw of the clamp is vertical or straight, as shown, and receives the right-hand screw D, which is provided or formed at its rear end with an ordinary metal punch, but of a size sufficient to punch the hole to receive the bolt that connects the rails on the tracks; and near the outer end of this screw is formed a collar, E, against which the ratchet-lever rests, and is maintained in vertical position from displacement.

The ratchet-lever F is about three feet long, and is formed at its lower end with a slot and circular opening to receive the ratchet-wheel *h* and spring-pawl *i*. This pawl is so arranged that its point comes in contact or engages with the teeth of the ratchet-wheel, and allows the pawl to slip over the edges of the teeth and re-engage whenever said lever is drawn backward.

After the clamp is adjusted over the rail, the passage between the jaws being sufficiently

large for the clamp to straddle the rail, the outer jaw fitting snugly against the web and the flange portions of the rail, as seen in Fig. 1 of the drawings, the socket *m* of the ratchet-lever is passed over the shouldered portion *n* of the screw *D* and against the collar *E*, thus obtaining a proper and firm adjustment of the lever upon the feeding-screw. The ratchet-lever thus adjusted upon the head of the screw is worked by one man, giving a reciprocating motion, so that the punch will be fed uniformly and with positive force.

Of course the punch has the usual center-point on its end to register with the center hole and facilitate an entrance into the iron.

The tapering passage to receive the metal wads displaced from the rail is on a line with the punch.

The punch may be turned or not in the punching process. If an elongated or oblong hole is required in the rail for contraction or expansion of the metal, a punch of this character will be employed, so as to form a hole of that desired shape.

By the employment of a rail-clamp constructed on the principle herein set forth the quick adjustment of the clamp over the rail, and the quick and positive movement of the feed-screw, carrying a punch at the inner end, in punching out the hole in the rail, will consume but a few minutes, which is a very important result on railroads having numerous

trains. Also, by operating the feed-screw of the punch by a ratchet-lever no time is lost in removing and adjusting the lever on the feed-screw.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a portable hand-punch for punching holes in railroad-rails, the outer jaw, *B*, of the clamp forming an integral part thereof, extending inwardly and reduced to a width that is equal to the space between the upper surface of the base-flange and the under flange of the tread of an ordinary T-shaped rail, substantially as described.

2. In a portable hand-punch for punching holes in railroad-rails, the combination of the clamp, having its outer jaw forming an integral part of the clamp, and extending inwardly and reduced to a width that is equal to the space between the upper surface of the base-flange and the under flange of the tread of an ordinary T-shaped rail, and its inner jaw provided with a feed-screw and punch, and a lever provided with a ratchet mechanism, all operating in the manner substantially as described.

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

ORVILLE A. GOSS.

Witnesses:

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WILAM DENET.