

(No Model.)

J. R. WATSON.

CLINCHING PUNCH.

No. 337,036.

Patented Mar. 2, 1886.

FIG. 1.

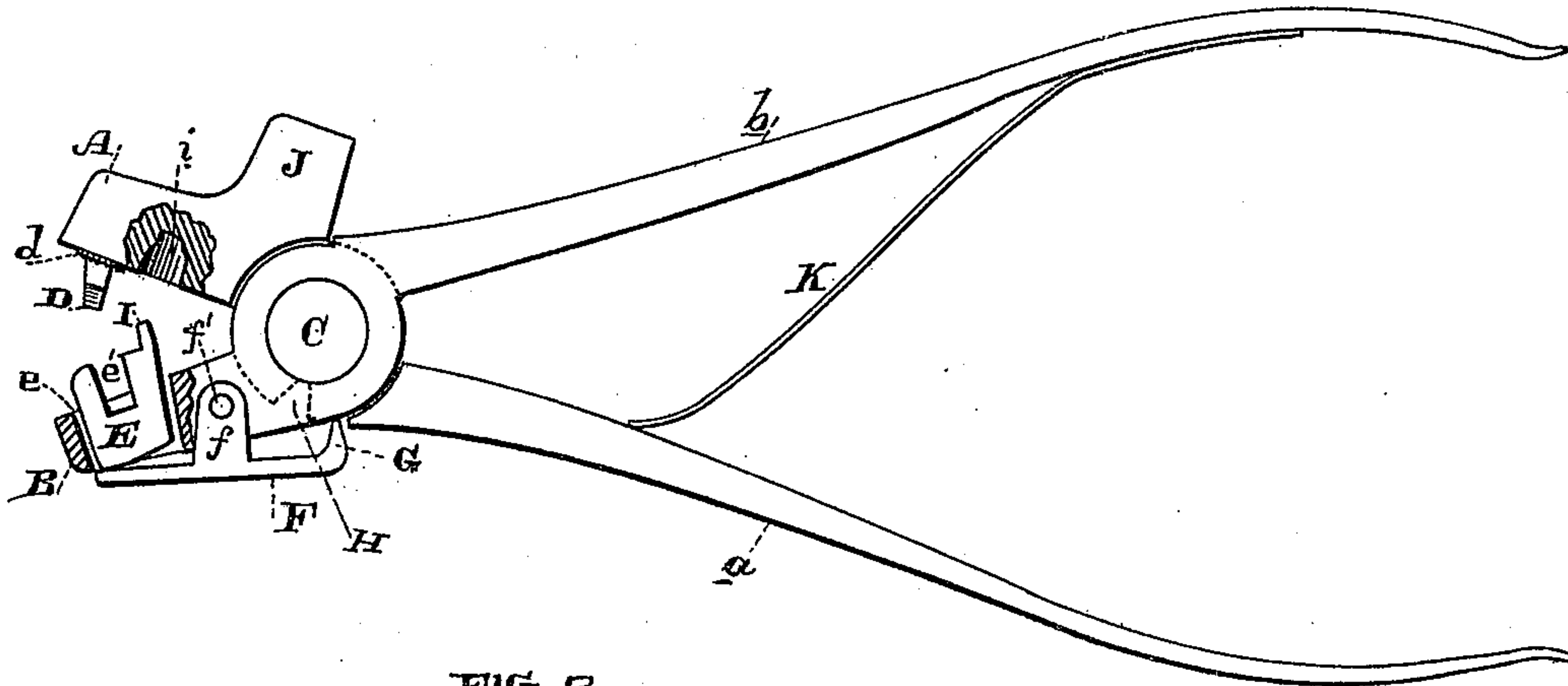
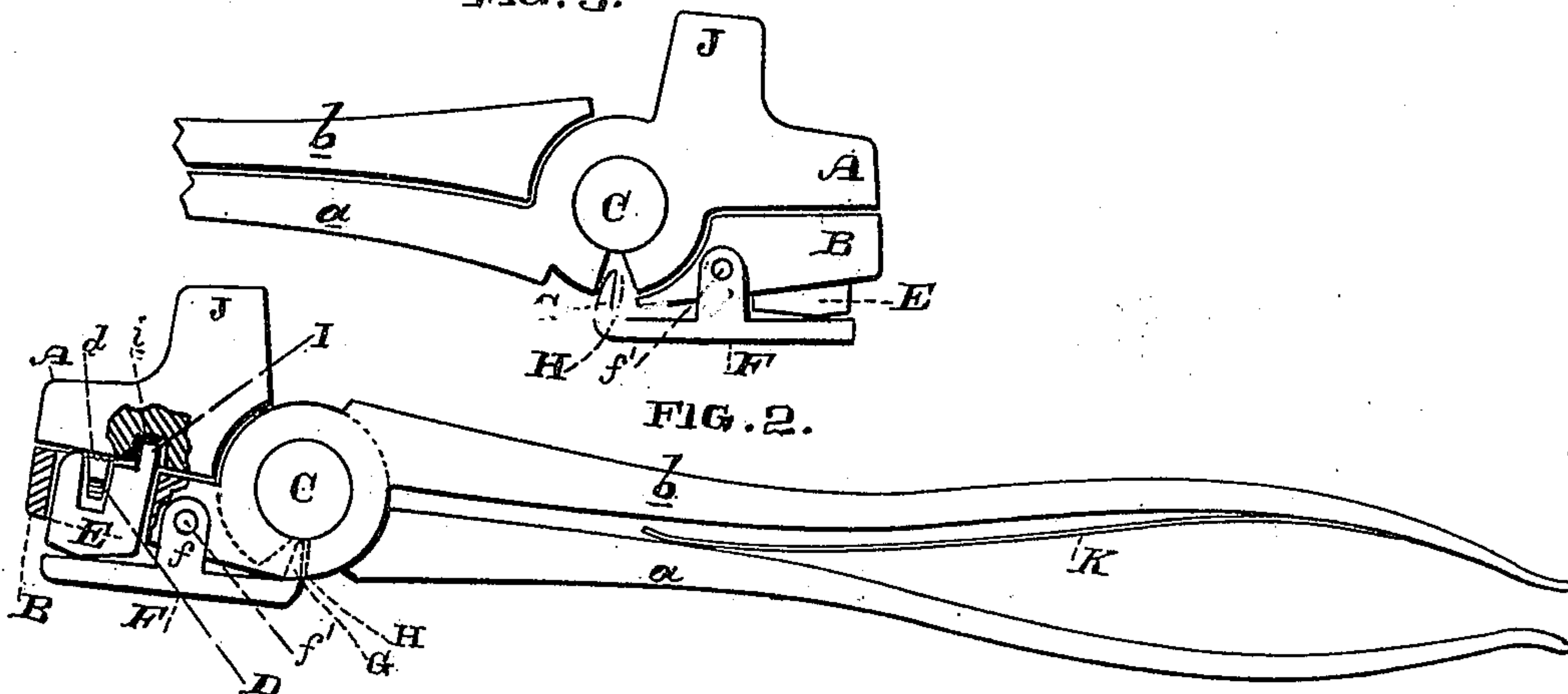


FIG. 3.



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UNITED STATES PATENT OFFICE.

JOHN R. WATSON, OF SACRAMENTO, CALIFORNIA.

CLINCHING-PUNCH.

SPECIFICATION forming part of Letters Patent No. 337,036, dated March 2, 1886.

Application filed October 15, 1885. Serial No. 180,015. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. WATSON, of the city and county of Sacramento, and State of California, have invented an Improvement in Clinching-Punches; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the class of punches; and it consists in two handled and pivoted jaws, a die in one jaw having a beveled or V-shaped point, an adjustable socket-bed in the other, and a peculiar locking-plate for holding said bed rigid to resist the material under the thrust of the die and for releasing the bed to allow it to move out of the way of the clinching-surfaces or faces of the jaws.

It consists further in details of construction, which I shall hereinafter fully describe.

The object of my invention is to provide a tool or implement adapted to punch and to clinch at the same operation.

Though the tool may be used for many purposes, the particular use to which I now intend to apply it is that of sealing railway-cars.

It is customary when a car is about to leave a station to pass a strip of tin through the lock-staple, and, after bending it around until its ends overlap, to punch the two layers, or double thickness, with an ordinary punch, which has then to be removed and turned around to the reverse side of the tin strip, and again operated to clinch the small tongues or burrs made by the punching-die. This is known as "sealing," and its object is apparent.

By the use of my punch both the punching and clinching can be done at a single operation, and thus save time and labor.

Referring to the accompanying drawings, Figure 1 is an elevation of my clinching-punch, showing the jaws separated. Fig. 2 shows them closed. Fig. 3 is an elevation of the opposite side.

The main body of the implement, which somewhat resembles a pair of pinchers or an ordinary punch, consists of a jaw, A, having a handle, *a*, and a jaw, B, having a handle, *b*. The two jaws are halved or shouldered into each other at their circular bases, and are pivoted by the pin or rivet C.

In the inner surface of the jaw A is the punching-die D, having a V-shaped point, and

clinching-surfaces *d* may be arranged at its base, which may be roughened or milled.

Through the jaw B is made an opening or slot, *e*, in which is loosely seated the socket-bed E, which has a flat inner face, provided with a groove or socket, *e'*, to receive the punching die.

F is the locking-plate, having flanges *f*, by which it is pivoted at *f'* to the sides of jaw B. The rear end of the locking-plate has a small lip, G, with a slightly-curved back, and which finds a bearing against the curved base of jaw A, along which it slides by the movement of the jaws until a notch or offset, H, in the circular base of jaw A is exposed, when the lip drops into said notch and is enabled to bear constantly against the wall of the moving notch by reason of describing an arc on its own pivotal center *f'*. The forward end of the locking-plate F bears against the under or outer side of the loosely-playing socket-bed. Upon the inner face of said bed at its rear end is a stop-stud, I, which finds a seat in a socket, *i*, in jaw A.

J is a hammer on top of jaw A, to be used when convenience requires.

K is an opening-spring between the handles.

The operation of my implement is as follows: When the jaws are separated, the lip G, resting on the base of jaw A, forces the other end of the plate F against the back of the socket-bed E and holds said bed rigid with its grooved face above the level of the jaw B. The implement is now fitted over the metal, which rests upon the rigid socket-bed, the adjustment of the tool to its place being limited by the stop I. The handles are pressed together, so that the punching-die passes through the metal into the socket-bed, and by reason of its V-shaped point cuts out small tongues or burrs on each side. By the time the face of jaw A reaches the face of the socket-bed, the notch H has been exposed, and the lip G, reaching it, drops in, thus relieving the other end of the locking-plate F and removing the resistance on the socket-bed. This accordingly moves back into its seat as the jaws approach, and thus allows the clinching-pressure to be applied, which bends the tongues or burrs out flat between the faces of the jaws or between the surfaces *d* at the

base of the punching-die and the face of the opposing jaw. When the jaws are allowed to separate again, the moving notch H, bearing against the curved back of the lip G, forces said lip up to its bearing on the curved base of jaw A, and thus causes the forward end of plate F to force the socket-bed up again and hold it ready for the next operation.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A clinching-punch comprising two-handled pivoted jaws, a punching-die on one jaw and an opposing socket-bed in the other, constructed, substantially as described, so as to resist the thrust of the die until it passes through the substance to be punched, and then to move back into its seat to allow the clinching-pressure of the meeting jaws, substantially as described.

2. A clinching-punch comprising two-handled pivoted jaws, a punching-die on one jaw, an opposing socket-bed loosely seated in the other jaw, and a pivoted locking-plate on said jaw, constructed, substantially as described, so as to hold said socket-bed rigid until the die has passed through the substance to be punched, and then to relieve it, substantially as and for the purpose herein described.

3. In a clinching-punch, the combination of the pivoted handled jaws A B with the punching-die D in jaw A, the grooved socket-bed E, loosely seated in an opening in jaw B, and a means, substantially as described, for holding said bed rigid to resist the thrust of the die and for relieving it to allow it to move back within its seat before the approaching jaws, substantially as and for the purpose herein described.

4. In a clinching-punch, the pivoted handled jaws A B, the punching-die D in jaw A, and the loosely-seated grooved socket-bed E in jaw B, in combination with the plate F, pivoted to the jaw B and bearing with its forward end on the back of the socket-bed,

said plate being constructed, substantially as described, so that its rear end, is alternately held and relieved by the oscillating base of jaw A, substantially as and for the purpose herein described.

5. A clinching-punch comprising the handled jaws A B, having curved bases, by which they are pivoted together, the punching-die D in jaw A, the grooved socket-bed E, loosely seated in an opening in the other jaw, the locking-plate F, pivoted to jaw B and bearing with its forward end on the back of the socket-bed, the lip G on the rear end of the locking-plate bearing on the curved base of jaw A, and the notch H in said base, into which the lip G drops, all arranged and adapted to operate substantially as herein described.

6. In a clinching-punch, the combination of the pivoted jaws A B, the jaw A being provided with the clinching-surface *d*, the punching-die D, the loosely-seated socket-bed E in the other jaw, and the pivoted locking-plate, F, adapted by the movement of the jaws to hold rigid and to relieve the socket-bed, substantially as and for the purpose herein described.

7. A clinching-punch comprising the handled jaws A B, having curved bases, by which they are pivoted together, the jaw A being provided with clinching-surface *d* and socket *i*, the punching-die D, the grooved socket-bed E, loosely seated in an opening in jaw B and having the stop I on its face, the locking-plate F, pivoted to jaw B and bearing with its forward end on the back of the socket-bed, the lip G on the rear end of the locking-plate bearing on the curved base of jaw A, and the notch H in said base, all arranged and adapted to operate substantially as herein described.

In witness whereof I have hereunto set my hand.

JOHN R. WATSON.

Witnesses:

A. J. STEARNS,

BERT. A. WORTHINGTON.