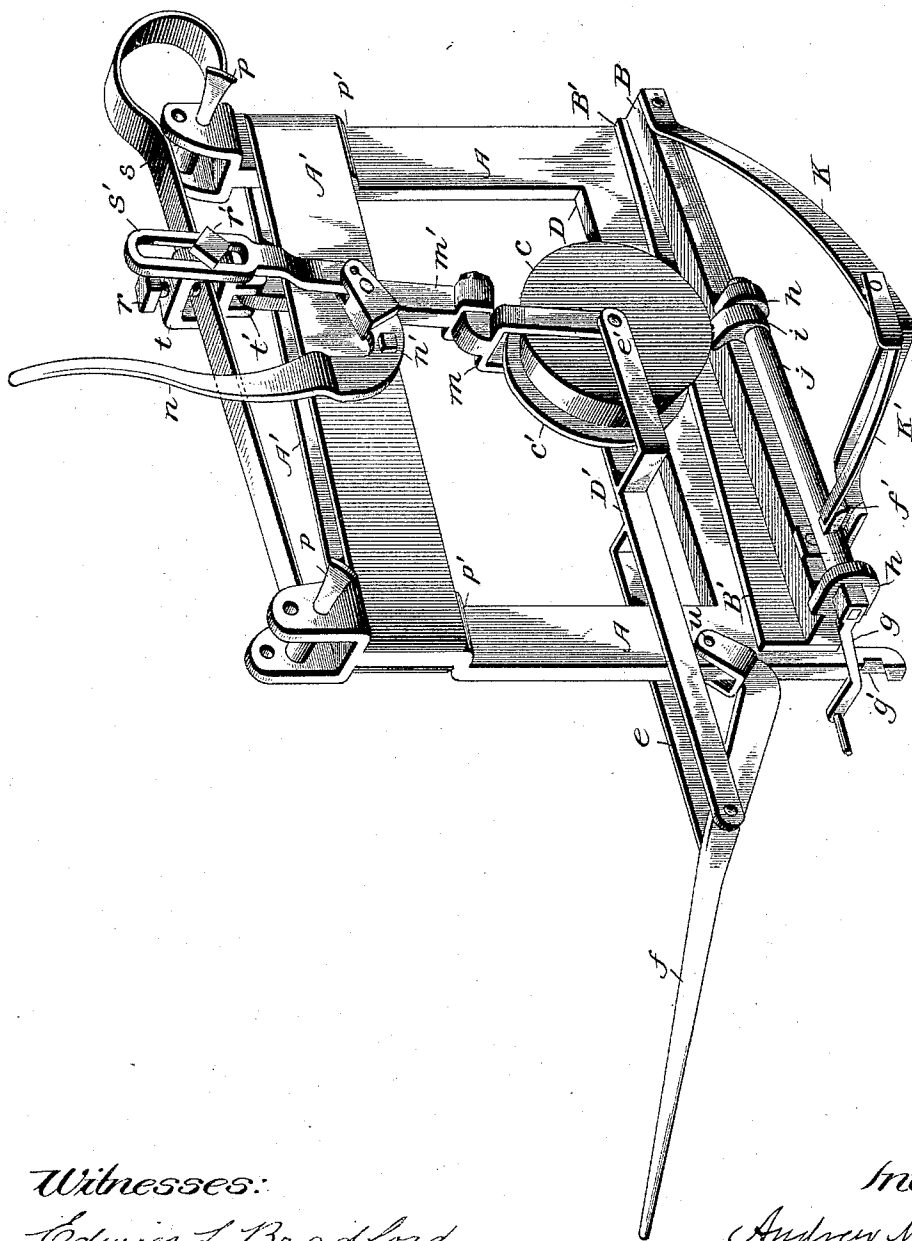


(No Model.)

A. M. ERICKSON.
MACHINE FOR WELDING PLOW IRONS.

No: 489,670.

Patented Jan. 10, 1893.



Witnesses:

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UNITED STATES PATENT OFFICE.

ANDREW M. ERICKSON, OF CORK, MINNESOTA.

MACHINE FOR WELDING PLOW-IRONS.

SPECIFICATION forming part of Letters Patent No. 489,670, dated January 10, 1893.

Application filed June 16, 1892. Serial No. 436,899. (No model.)

To all whom it may concern:

Be it known that I, ANDREW M. ERICKSON, a citizen of the United States of America, residing at Cork, in the county of Grant and State of Minnesota, have invented certain new and useful Improvements in Welding-Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to machinery for welding metal, and is especially designed for use in welding lays on the landside of plows; and it consists in the several mechanisms and combinations of parts as fully set forth in the annexed specification and claims.

The accompanying drawing is a perspective view of my improved machine, in which

A, A indicate two uprights formed integral with the base D, and shouldered or offset at P', P', their upper ends being slotted or bi-formed and perforated for the reception of the pins P, P; the uprights A, A are connected near the top by the transoms A', A', which may be formed integral or united to the uprights in any suitable manner.

B is the anvil upon which the work is placed and is formed of an outwardly extending ledge from the base D. Upon the side of the base is formed an inclined track B', upon which a flange C' of the roller C travels.

D' is a bar which has formed therewith or connected thereto the rearwardly and forwardly extending arms e, e'. Between the outer ends of the bar D' and its arm e is pivoted a lever f, having its fulcrum at u, the forward end of the bar D', and the arm e' connecting with the extending axle of the roller C, which have their bearings in the end of the yoke m. This yoke connects with the vertical bar m' which is hinged to the clamp t at t'. The clamp t is attached to a spring S, which is connected at both ends to the uprights A, A, the ends of which are bi-formed and provided with openings for the reception of the pins, the ends of the spring being located in the forks and convoluted to receive the pins. The clamp t is provided on top with a binding screw r, by means of which it is secured to the spring and upon the side with a bolt r', by which it is connected with the link S', which is provided

with an elongated slot and is attached to the clamp t by means of the binding screw r'. This connection admits of the ready adjustment of the parts so as to raise or lower the roller C, and adapt it to plows having different bevels. The spring S may also be adjusted to more nearly conform to the adjustment of the link by placing the pin p in the upper or lower holes in the forks of the uprights A, A. The lower end of the link S' is connected at o to a lever n, having its fulcrum at n'.

K is a support for holding the work in position while the welding is being done.

j is a shaft journaled at h, h', and provided at one end with a claw i and at the other with a crank g; the claw i is held normally out of operation by means of the spring K', which rests on a small beveled projection f', attached to the shaft j and when brought into engagement with the work it is held to position by dropping the crank arm in the notch g', located in a downwardly projected part of the upright A.

Having referred to and described the several parts of my machine, I will now describe the mode of its operation. The lever n being pulled down, raises the link S', which operates to raise the roller C through the connections m, m', and t, and against the resilient tendency of the spring S; the roller C being raised, the work to be operated upon is placed on the ledge or anvil B and secured by turning the shaft j until the claw i binds the work; the crank arm g is then forced into the recess g' in the dependent part of the upright A. When the work is thus secured on the anvil, the lever n is raised to a vertical position as indicated in the drawing, and the spring S then forces the roller C down upon the work and it is caused to traverse back and forth by raising and lowering the lever f, three or four movements of which are generally sufficient to unite the parts firmly and form a complete weld.

This machine is especially designed to weld lays on the landside of plows, but, it is obvious it may be used for other like work. As at present constructed it enables one man to do the work of three or four and with much

less labor, and the work is better done as it is performed before the parts have time to cool.

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

1. In a welding machine the base D provided with uprights and transom bars and having formed upon one side ledges B, B', the face of the latter being inclined to that of the ledge B and adapted to impart a vertical movement to the roller C, in combination with said roller spring S and connecting and operating mechanism, the said parts being combined in the manner and for the purpose set forth.

2. In a welding machine a roller C having a traverse and a vertical movement, in combination with the spring S, anvil B, inclined track B', lever *f* and connecting and operative mechanisms.

3. In a welding machine, the combination of the roller C having a flange C', a spring S to form a yielding support, and a track B' to

raise and lower the roller, with the levers *f* and *n* and the bar *m* and connecting and operative mechanism.

4. The combination of the anvil B, shaft *j* and claw *i*, with the roller C, spring S, lever *f* and connecting and operative mechanism.

5. In a machine for welding by rotary pressure, an anvil to support the work, a roller to compress the parts to be united, a spring to conform the roller to the varying surfaces as the metal is compressed, and means such as a flange C' and an inclined track B' to limit the extent of compression, and a lever and connecting bar to cause the roller to traverse the work in the manner described and for the purpose set forth.

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

ANDREW M. ERICKSON.

Witnesses:

A. E. ACKERSON,
C. SANDBERG.