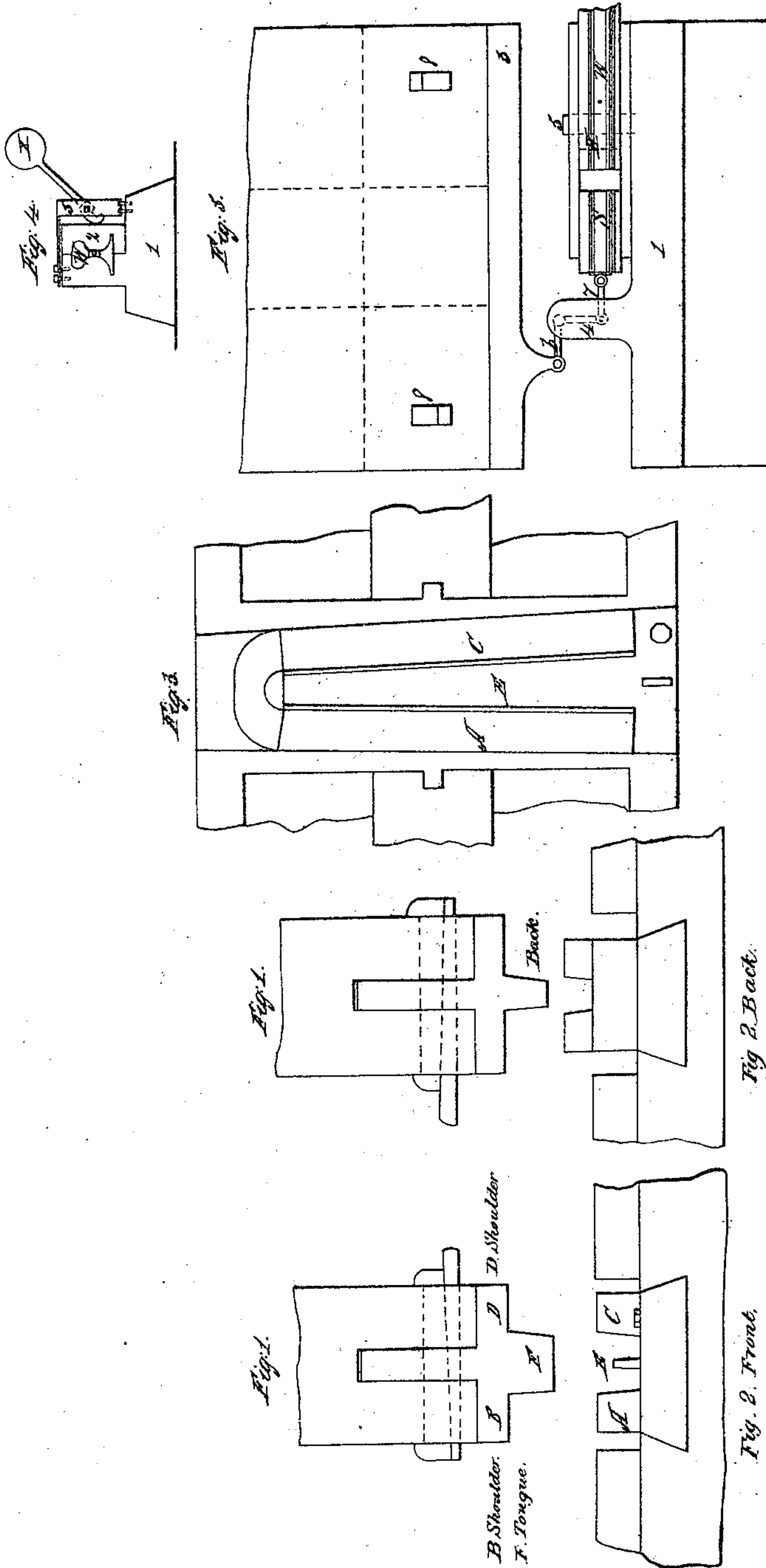


H. Baines,

Welding Track Irons.

Patented Feb. 6, 1866.

Nº 52,502.



Witnesses:
Wm. Brown
C. L. O'Leary

Inventor:
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UNITED STATES PATENT OFFICE.

HUGH BAINES, OF MANCHESTER, GREAT BRITAIN, (RESIDING TEMPORARILY IN CANADA.)

IMPROVED MACHINE FOR WELDING THE ENDS OF RAILROAD-RAILS.

Specification forming part of Letters Patent No. 52,502, dated February 6, 1866.

To all whom it may concern:

Be it known that I, HUGH BAINES, of Manchester, in the county of Lancaster and Kingdom of Great Britain, but now temporarily residing in Canada, have invented a new and useful Machine for Bracing the Ends and Heels of Railroad-Points with Steel, as also the Ends of all Railroad-Rails; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 4 is a section showing my method of bracing with steel the heels and ends of the point and ends of railroad-rails. Fig. 5 is an elevation and section showing the manner in which the bracing is performed.

The machine, excepting the face, is made substantially as any ordinary steam trip or other power hammer, and need not therefore be more particularly described, and it is operated or worked as a power-hammer by steam or any other power.

My invention consists in introducing into the face of the machine a die or dies, whether they be movable or constitute a permanent face to the machine, and in a frame or foundation below I place corresponding blocks or dies. The blocks and dies are made of wrought-iron, cast-iron, steel, or any other suitable metal, and the shape of the blocks and dies will vary according to the size and form of the articles they are designed to make. As an example, the dies and blocks illustrated by Figs. 1, 2, and 3 in the annexed drawings are what I use in making railroad-points, and Figs. 4 and 5 are the blocks and dies I use in bracing with steel the heel and ends of railroad-points, and also the ends of all railroad-rails.

In carrying out my invention I substitute the dies which are marked 1, 2, and 3 in Fig. 4 for those marked B D F and A E C, and proceed to brace with steel the two square ends of the rails forming the point. That part of the die marked 1 is extended so as to form a support for the part 2. That portion

of the die marked 2 consists of two parts, one of which is capable of being moved laterally to receive the rail W, whose end is to be operated on. When the rail W has been inserted the movable part of the box is brought snugly up against the rail by means of the lever X, whose short end is brought up against the side of the movable part of the box. The lever X has its fulcrum in a frame, 5, which embraces the box, and is secured to the part 1 of the die and to the fixed side of the box.

It will be observed that the shape of the interior of the box conforms to the shape of the rail, and the dimensions of the cavity of the box is such as to fit the rail closely. Of course the shape of the box will vary with the shape of the rail to be operated on. The steel brace which is to be tacked to its end is also of the same general outline of the rail but smaller, so as to be easily placed in the box, and the plunger or movable die S is also of less diameter than the cavity of the box, so as to allow it to have free motion in the box when it is to be operated. The die S has a link, 7, which is hinged to a two-armed lever, 6, which swings within a post, 4, which rises from the bed or part 1 of the die. The upper end of the lever 6 is hinged to the part of the apparatus marked 3. This part 3 is connected to the hammer-face of any steam or power hammer by means of clamps or bars, which may be passed through the openings 8.

To brace the square ends of the points and of railroad-rails rail W W, being heated, is placed in the box 2, having first had the steel brace H, Fig. 5, when heated, tacked to its end. Lever X is then allowed to fall and close the box to keep the rail firm and in its proper shape. This being done, the machine or hammer being in motion it works the die S, which makes the brace H to be firmly welded onto the end of the rail or other article held in the box 2. I can brace with steel the square and other ends of the points and of railroad-rails, either by pressure or concussion, whether applied vertically or horizontally; but where concussion is applied the levers that move the plunger should be very strong.

I do not claim as my invention any part or parts of the machine which may be made like any power-hammer; but

What I do claim as my invention, and am desirous of obtaining Letters Patent therefor, is—

The means herein set forth for applying steel braces to the ends of rails and railway-

points—that is to say, the devices designated by the Figs. 1, 2, 3 and the plunger or die S, the said devices being operated substantially as shown.

HUGH BAINES.

Witnesses:

JOHN STARK,
ROB. ROBERTSON.