No. 751,245. PATENTED FEB. 2, 1904.

J. BASCHEN.

DEVICE FOR SWAGING RAIL BONDS.

APPLICATION FILED AUG. 31, 1903.

NO MODEL.

Fig 1

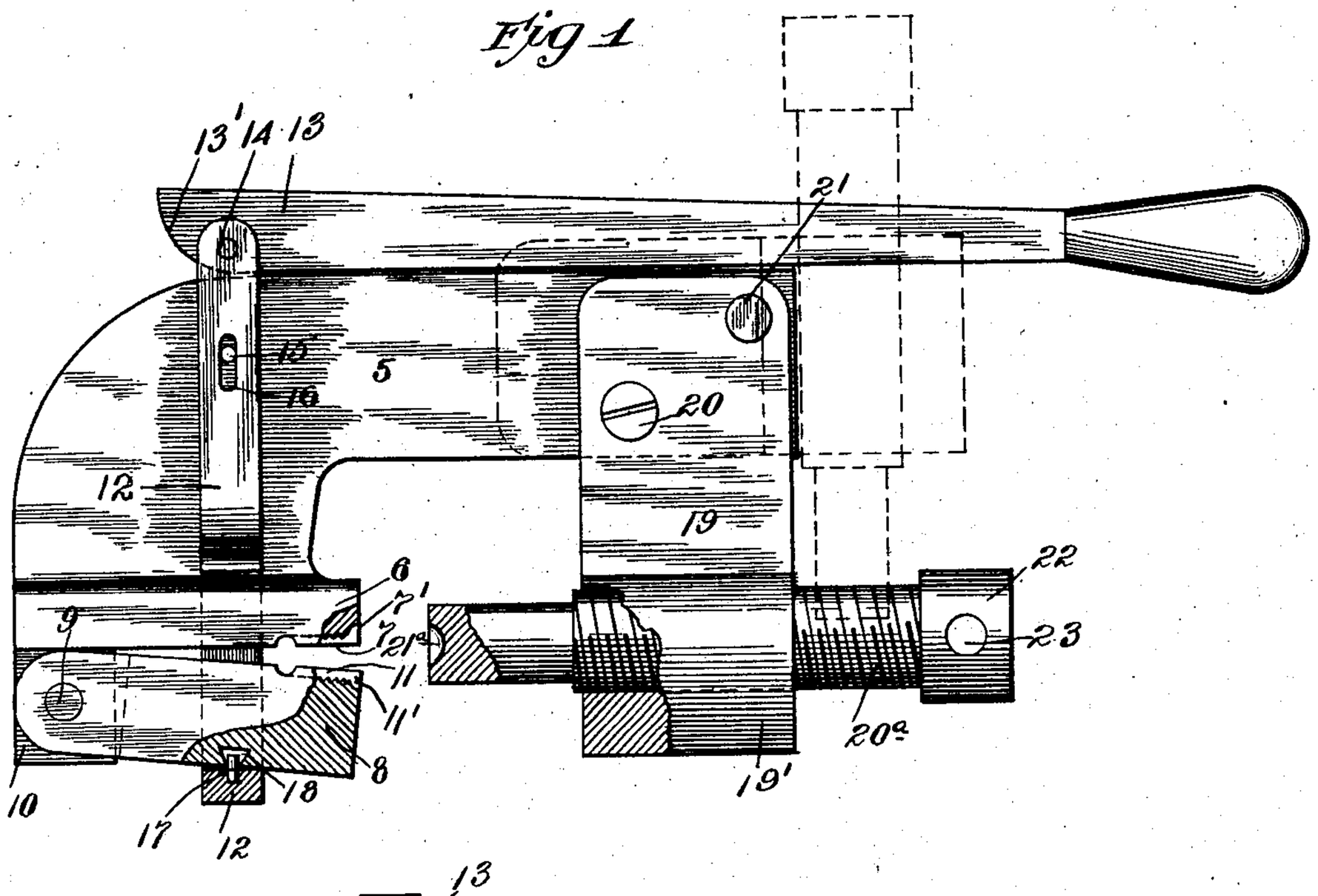


Fig. 2.

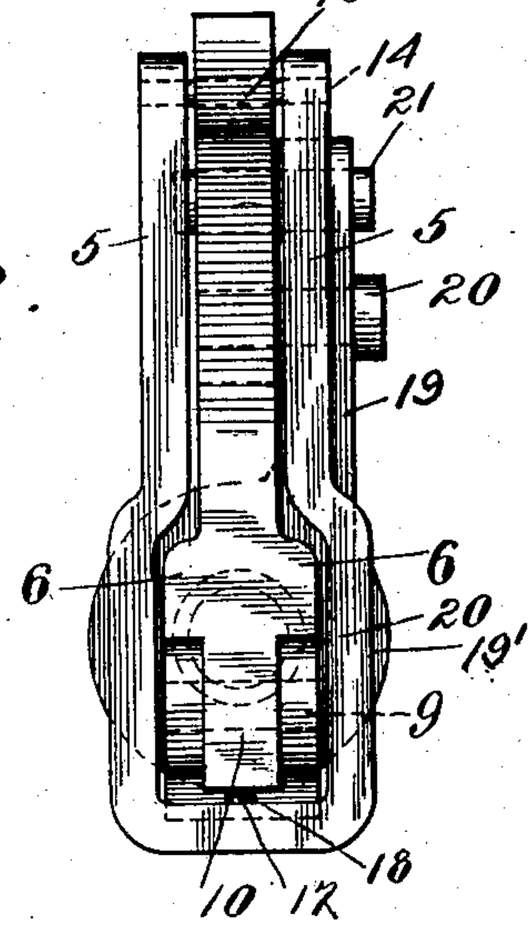
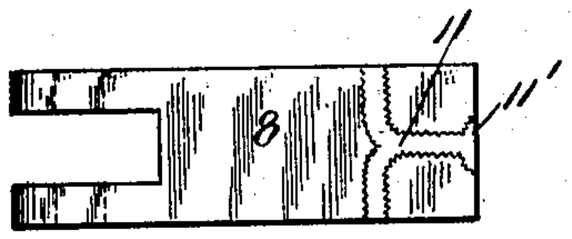


Fig. 3



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No. 751,245. Patented February 2, 1904.

UNITED STATES PATENT OFFICE.

JOHN BASCHEN, OF CHICAGO HEIGHTS, ILLINOIS.

DEVICE FOR SWAGING RAIL-BONDS.

SPECIFICATION forming part of Letters Patent No. 751,245, dated February 2, 1904.

Application filed August 31, 1903. Serial No. 171,384. (No model.)

To all whom it may concern:

Be it known that I, JOHN BASCHEN, of Chicago Heights, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Devices for Swaging Rail-Bonds; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

The primary object of my invention is to provide a device for swaging electrical conductors or bonds to conducting-rails for the purpose of establishing electrical continuity of said rails, which device will be simple in construction, easy of manipulation, and efficient in operation.

More specifically, one of the objects of my invention is to provide a swaging device of the character described wherein one of the opposing pressure members between which the metal of the bonding-wire is upset is mounted for bodily movement relative to its coacting relatively stationary pressure member, so that it may be quickly removed to a position remote from said stationary member to facilitate the application of the device to the rail to be bonded.

A further object of my invention is to provide improved means for actuating the movable jaw of the clamping device for holding the bond-wire.

A further object of my invention is to generally improve the construction and arrangement of swaging devices of the character described.

With a view to attaining these and further objects, which will become apparent to those skilled in the art from the following description, my invention consists in the features of construction and arrangement hereinafter set forth, and specified in the claims.

In the drawings, wherein I have illustrated one operative embodiment of my invention, Figure 1 is a side elevation of the device complete. Fig. 2 is a rear elevation thereof. Fig. 3 is a top plan view of the movable clamping-jaw detached.

Referring now to the drawings, wherein like numerals of reference throughout refer to like parts, 5 indicates a suitable frame comprising, essentially, a vertical portion of suitable shape and a horizontal arm arranged at substantially right angles to said vertical portion.

6 indicates a fixed jaw of a clamp, preferably formed integral with and constituting part of the vertical portion of the frame.

7 indicates a bond-wire-receiving channel cut into the lower face of the jaw and terminating at the front thereof in an enlargement 7′.

8 indicates the movable jaw of the clamp, preferably bifurcated at its rear end and pivoted, as at 9, to an extension 10, depending from the vertical member of the frame. The upper face of the movable jaw 8 is provided with a groove 11, terminating in an enlargement 11′, corresponding with the groove 7 and enlargement 7′ of the upper jaw and registering therewith when the jaws are brought together. The jaws together form a wire-holding clamp which constitutes the bodily-stationary pressure member of the swaging devices.

12 indicates a strap surrounding the movable jaw 8 of the clamp and extending upward along the sides of the vertical portion of the frame 5, beyond the top thereof.

13 indicates an operating-lever having a curved end 13′ and pivotally connected at a point eccentric to the curve 13′ to the ends of the strap 12, as indicated at 14. The lever 13 is arranged with its curved end 13′ in contact with the upper edge of the frame 5, so that when rotated about the point 14 of the pivot the end 13′ acts as a cam to lift the lever and the attached strap 12. The strap 12 is guided vertically in a right line by a pin 15, secured to the frame 5 and taking through a slot 16 in the strap. The strap 12 is preferably secured to the jaw 8 of the clamp by a pin 17 on the strap taking into a conical recess 18 in bottom of the said movable jaw.

19 indicates a carrier member mounted on a pivot 20, carried by the horizontal extension of the frame 5. The carrier is normally held in vertical position in parallelism to the vertical portion of the frame by a removable pin 21 taking through the carrier and into the frame 5. At its lower extremity the carrier

is provided with an offset portion 19′, having formed therein a screw-threaded aperture axially alining with the wire-receiving groove in the clamping-jaw 6.

20ª indicates a screw-threaded header-spindle which constitutes the movable member of the pressure devices working in the aperture in the enlargement 19′ of the carrier. Said spindle is provided at one end with a heading-recess 21ª and at its other end with a head 22, perforated, as at 23, to receive any suitable lever or turning bar. (Not shown.)

The use of my invention will be as follows: To place the device in position upon a rail, the pin 21 is withdrawn from its apertures in the carrier 19 and frame 5 and the carrier 19 is rotated upon its pivot 20 to the position illustrated in dotted lines, thereby throwing the header-spindle 20ª bodily out of proximity to the clamping-jaws. When the instrument is generally properly positioned, the carrier 19 is swung back to its initial position and the pin 21 inserted, rigidly securing the carrier in the position illustrated in full lines in Fig. 1. Now the bond-wire to be swaged may be laid in the grooves of one of the clamping-jaws and the operating-lever 13 moved to vertical position, in its movement oscillating about its pivot 14 and by the action of its cam-face 13′ raising the strap 12 and with it the movable clamping-jaw 8. Consequently the movable jaw 8 is firmly closed upon the coacting stationary jaw 6 to hold the wire therein. Now the header-spindle 20ª may be screwed in to advance its recessed heading end in the usual manner to perform the usual swaging operation.

While I have herein described my swaging device with reference to its well-known function of swaging electrically-conductive bonds to rails, I do not desire to be understood as limiting its application to this use, as it is obvious that it might be readily adapted for use under many conditions.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In a device of the character described, a frame, one member of a pair of coacting swaging instrumentalities carried by said frame, a carrier pivotally mounted on said frame, a complementary member of said swaging instrumentalities carried by the carrier and bodily movable therewith, independently of the first said member of said instrumentalities and means for positively positioning the carrier relative to the frame.

2. In a device of the character described, a frame, a clamp carried by said frame, and bodily stationary relative thereto forming one member of a coacting pair of pressure devices, a carrier pivotally mounted in the frame and bodily movable toward and from the clamping device, a complementary member of the pressure devices carried by said carrier, and means for positively positioning said carrier relative to the clamping device.

3. In a device of the character described, a frame having a vertical member and a horizontal member, a clamping device carried by the vertical member, a carrier pivotally secured to the horizontal member, a header mounted for adjustment in the carrier and arranged to be brought into alinement with the clamping devices of the vertical member of the frame when the carrier is brought to one position of movement about its pivot, and means for securing the carrier in such position, adapted when not so in use to permit the carrier to turn freely upon its pivot.

4. In a device of the character described, a frame having a vertical member and a horizontal member, the vertical member being provided with a clamping-jaw 6, a coacting clamping-jaw 8 pivotally mounted upon said vertical portion, a strap encircling said pivotal jaw and the frame, a lever pivotally secured to the strap and provided with a cam-shaped end, said lever being arranged with its cam end in constant contact with a relatively fixed portion of the frame, a carrier pivotally mounted on the frame, a supplementary member of the swaging instrumentalities carried by the carrier and bodily movable therewith, and means for positively positioning the carrier relative to the frame.

5. In a device of the character described, a frame having a fixed jaw 6, a movable jaw 8 pivoted thereto, a strap 12 encircling said jaws and the frame, a lever 13 having a cam-shaped end 13′ pivoted to the strap 12, a pin 15 carried by the frame engaging the slot 16 of the strap 12, a movable carrier 19 pivoted to the frame, a screw-threaded header-spindle 20 mounted in the carrier 19 adapted to coact with the clamping-jaws, and a removable pin 21 taking through apertures in the carrier 19 in the frame, to secure the carrier in operative position relative to the clamping-jaw.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN BASCHEN.

Witnesses:
FORÉE BAIN,
MARY F. ALLEN.