

No. 701,439.

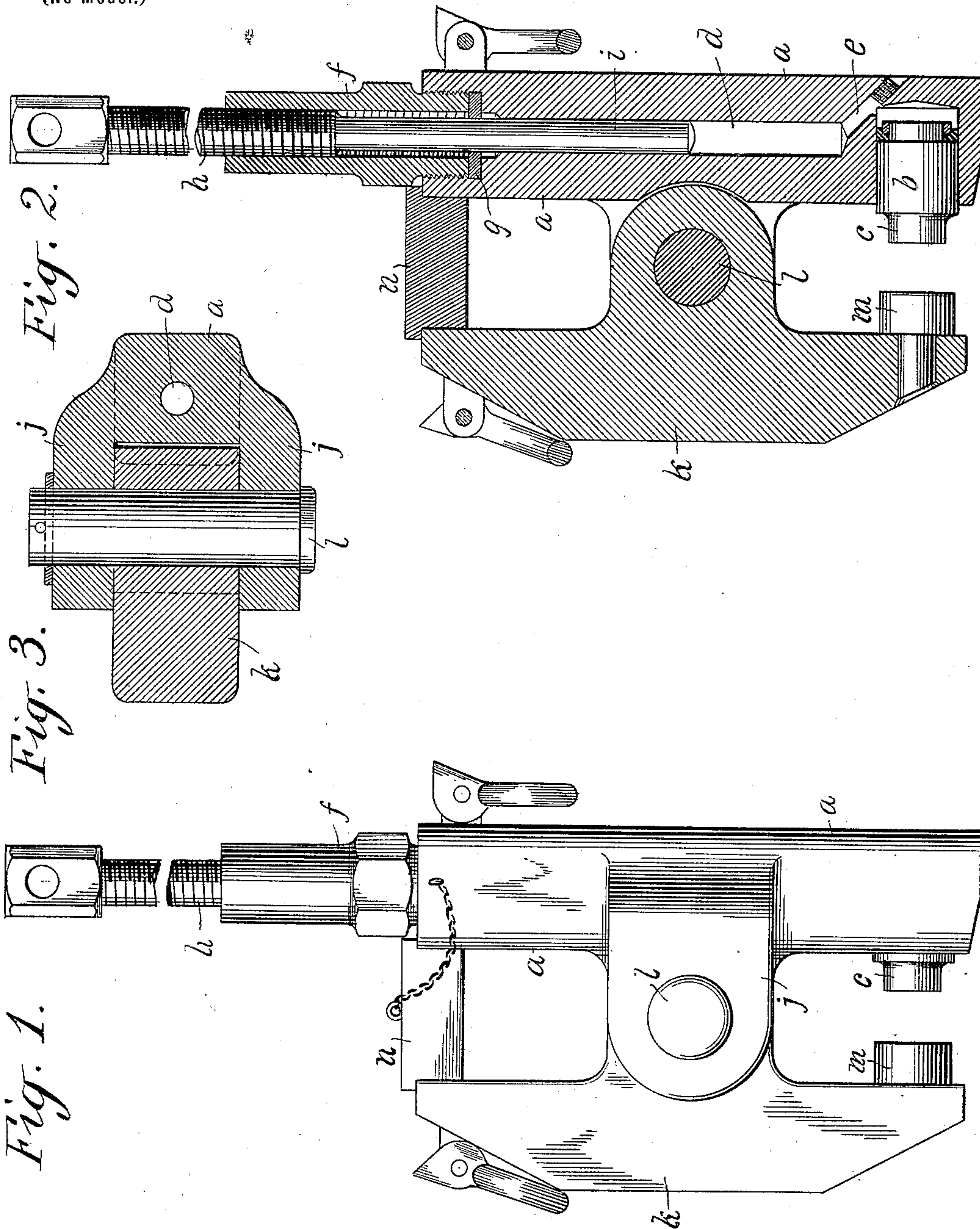
Patented June 3, 1902.

C. WIGTEL.

HYDRAULIC RIVETING OR PUNCHING TOOL.

(Application filed Mar. 11, 1901.)

(No Model.)



WITNESSES:

R. H. Haywood
Wm. H. Shaw

INVENTOR

Carl Wigtel

BY

Daniel A. Carpenter
ATTORNEY

UNITED STATES PATENT OFFICE.

CARL WIGTEL, OF BROOKLYN, NEW YORK, ASSIGNOR TO FRANCIS H. STILLMAN, OF BROOKLYN, NEW YORK.

HYDRAULIC RIVETING OR PUNCHING TOOL.

SPECIFICATION forming part of Letters Patent No. 701,439, dated June 3, 1902.

Application filed March 11, 1901. Serial No. 50,639. (No model.)

To all whom it may concern:

Be it known that I, CARL WIGTEL, a citizen of the United States, and a resident of Brooklyn, in the county of Kings, in the city and State of New York, have invented a certain new and useful Improvement in Hydraulic Riveting or Punching Tools, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings, forming part of this specification.

This invention relates to improvements in hydraulic tools which comprise a ram and a pivoted jaw that counteracts the pressure of the ram on the work, and it may be embodied in both riveting-tools and punching-tools, the object of the invention being to produce a small tool suitable for use under conditions that are hereinafter specified and that render the use of a tool of any common type inconvenient, if not impracticable.

On the accompanying sheet of drawings, Figure 1 is a side elevation of a tool embodying the invention; Fig. 2, a vertical section thereof, and Fig. 3 a horizontal section on the plane containing the axis of the pivoted jaw.

Similar reference-letters designate like parts in different views.

The particular tool illustrated herein is a bond-compressor which is used in bonding electric railways and which compresses and upsets bond-rivets inserted in the webs of T-rails. It is made of steel and weighs about ninety pounds. The power of the tool is twenty-five tons, and the movement of the ram under hydraulic action is one inch. The conditions under which the work is done are such as commonly pertain to elevated railways, the rails being permanently laid in the track and there being guard-beams extending along each line of rails close to the inner and outer sides of the rails.

The body *a* of this tool contains near its lower end a round chamber, in which is the ram *b*, with a riveting-post *c*, formed thereon. The body also contains a fluid-reservoir *d* and a passage *e*, connecting the reservoir with the ram-chamber. At the top of the body is a hollow post *f*, which is screwed into the body and in which is a female screw, there being a ring *g* of packing under the post. A

male screw *h*, having an unthreaded extension *i*, passes through the post, engaging with the female screw, the extension *i* passing through the packing-ring and into the reservoir *d*. Between ears *j*, formed on and extending in front of the body, a jaw *k* is pivoted about midway between its ends on a pin *l*, the jaw having on it an anvil *m*. A block *n* fits on the upper end of this jaw and the top of the body and between the jaw and body, as appears by Figs. 1 and 2, the block being attached to the body by a chain and being removable from between the jaw and body, so as to allow the lower end of the jaw to be swung outward.

The tool is passed over the head of a rail and between the guard-beams and rail when the lower end of the jaw is in its outermost position, and then the jaw is turned on the pin *l* and the block *n* is inserted between the jaw and body, after which the ram is actuated by turning the screw *k* and forcing fluid from the reservoir *d* into the ram-chamber.

Obviously a punch and die might be substituted for the riveting-post *c* and anvil *m*, or the tool might be rendered convertible into a punch or riveter alternately by providing it with interchangeable punching and riveting devices.

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

1. A hydraulic riveting or punching tool comprising the combination of: a ram; a jaw pivoted between its ends to the body of the tool and extending in front of the ram; devices on the ram and jaw that coact on the work on one side of the pivot-pin; and a removable block that fits between the jaw and body on the other side of the pivot-pin; substantially as described.

2. A hydraulic riveting or punching tool comprising the combination of: a body *a* containing a fluid-reservoir *d*; a hollow post on the body; a screw engaging with the hollow post and having an extension that passes into the reservoir *d*; a ram whose axis is transverse to that of the reservoir *d* and whose chamber is connected with the reservoir; a jaw pivoted to the body and extending in front of the ram; devices on the jaw and ram

that coact on the work; and means to prevent the jaw from turning under the action of the ram; substantially as described.

3. A hydraulic riveting or punching tool
5 comprising the combination of: a body *a* containing a fluid-reservoir *d*; a hollow post on the body; a screw engaging with the hollow post and having an extension that passes into the reservoir *d*; a ram whose axis is trans-
10 verse to that of the reservoir *d* and whose chamber is connected with the reservoir; a

jaw pivoted between its ends to the body and extending in front of the ram; devices on the ram and jaw that coact on the work on one side of the pivot-pin; and a removable block 15 that fits between the jaw and body on the other side of the pivot-pin; substantially as described.

CARL WIGTEL.

In presence of—

AUGUST KINKELIN,
JOHN E. KERSTEN.