

No. 750,024.

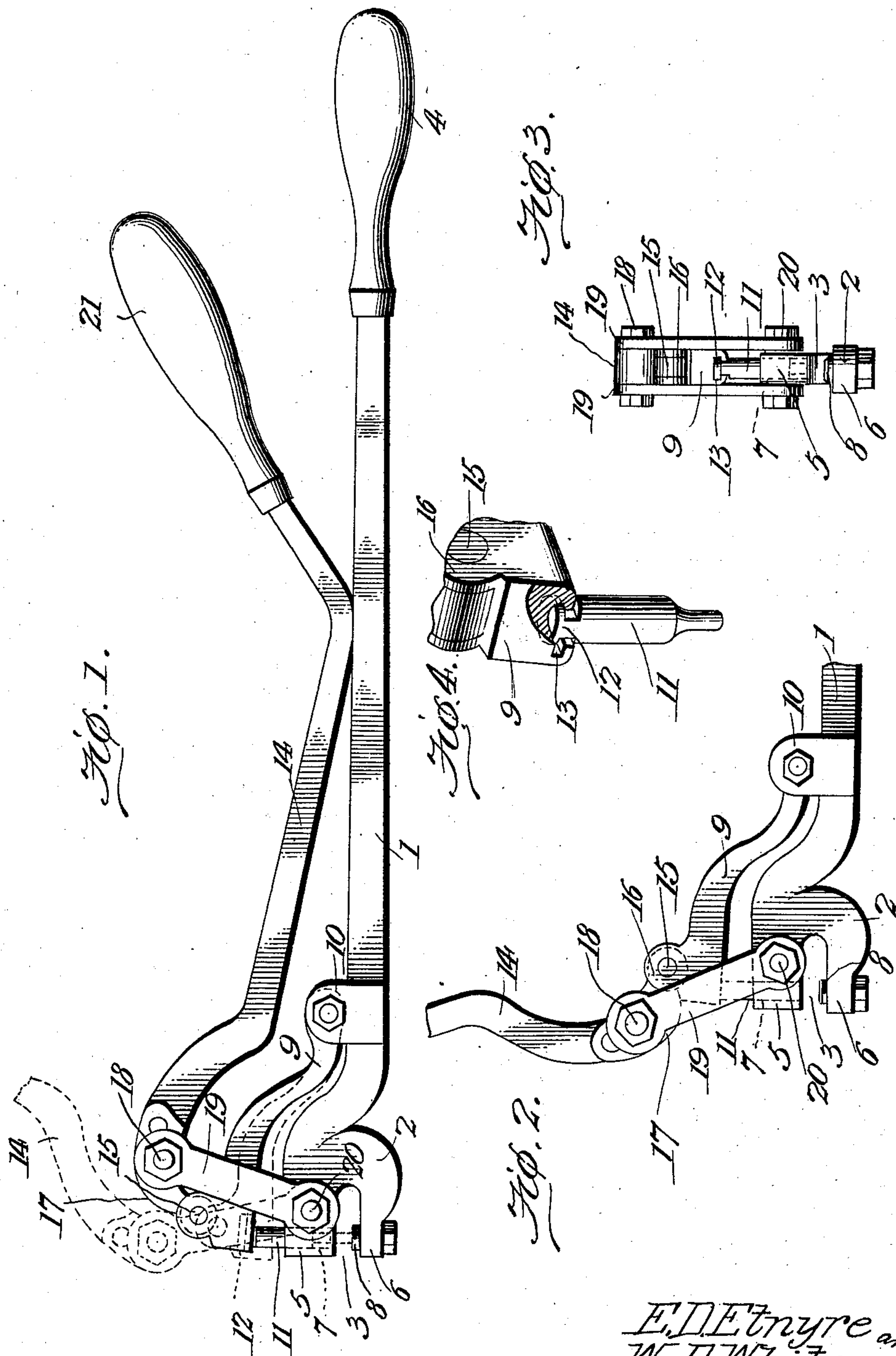
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PUNCH.

APPLICATION FILED MAY 14, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

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PUNCH.

SPECIFICATION forming part of Letters Patent No. 750,024, dated January 19, 1904.

Application filed May 14, 1903. Serial No. 157,172. (No model.)

To all whom it may concern:

Be it known that we, EDWARD D. ETNYRE and WILLIAM A. WHITNEY, citizens of the United States, residing at Oregon, in the county of Ogle and State of Illinois, have invented a new and useful Improvement in Punches, of which the following is a specification.

This invention relates to punches, and has for its object to produce a device of this character which will be simple of construction, efficient in operation, one which may be readily transported from place to place, and one in which the male die will be moved to both an active and inactive position by a complete movement of the operating-handle to either an open or closed position.

With these and other objects in view the invention comprises the novel details of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of a punch constructed in accordance with this invention, illustrating the normal position of the parts in full lines and the intermediate and fully-open positions of the movable handle in dotted lines. Fig. 2 is a similar view illustrating the fully-open position of the movable handle in full lines and the intermediate and closed positions of the same in dotted lines. Fig. 3 is a front elevation of the device. Fig. 4 is a detail perspective view showing the manner of attaching the male member of the die with the pivoted arm.

Referring to the drawings, 1 indicates the stationary handle, provided at its forward end with a head 2, recessed, as at 3, for the reception of the metal or other material to be punched, and at its rear end with a hand-piece 4. The head 2 is provided with an upper arm 5 and a lower arm 6, which lie, respectively, above and below the recess 3, the upper arm being provided with a normally vertically disposed perforation 7, while the arm 6 has tapped through it in vertical alignment beneath the perforation 7 an adjustable female die 8.

9 indicates an arm or member pivoted at its rear end between ears 10, projecting upward from the handle 1 near the forward end of the latter. This member, which is adapted to

swing on its pivot toward and from the head 2, carries at its free forward end the movable male member 11 of the punch, which latter is provided at its upper end with a shouldered head 12, removably engaging a shouldered recess 13, formed in the member near its outer end. During the movements of the member 9 toward and from the head 2 the male member 11 travels in and is guided by the perforation 7 and moves into and out of active position relative to the female die 8.

14 indicates the relatively movable handle of the device, which is pivoted at its forward end, as at 15, between ears 16, projecting upward from the upper face of member 9 near its outer end, the handle being curved upward and rearward from its point of pivotal connection with the member to produce an eccentric portion 17, to which is pivoted, as at 18, a pair of links 19, situated one on either side of the handle and pivoted in turn at their lower ends, as at 20, to the head 2. The rear end of handle 14 is bent at an angle relative to handle 1 and is provided at its terminal with a handpiece 21.

During the operation of the device if the handle 14 is swung from a closed to an open position it will first serve through the medium of the eccentric portion 17 at its forward end to depress the member 9 toward the head 2, as shown at the intermediate position illustrated by dotted lines in Fig. 1, thus moving the male member 11 into active position relative to the female member and then to lift the member 9 away from the head, thus moving the male member to the inactive position, also illustrated by dotted lines in said figure. Upon the return movement of the handle 14 (illustrated in Fig. 2) the member 11 will first be moved to an active position when the handle reaches the intermediate point illustrated by dotted lines and then to an inactive position upon the completion of the closing movement of the handle. Thus it will be seen that each time the handle 14 is swung from a closed to an open position, or vice versa, the male die 11 will undergo a complete reciprocation or punching operation.

From the foregoing it will be seen that we produce a device which is comparatively sim-

ple of construction, one which in practice will efficiently perform its functions, and one which will be strong and durable and very powerful in operation, and in attaining these ends it is to be understood that we do not limit or confine ourselves to the precise details herein shown and described, inasmuch as minor changes may be made therein without departing from the spirit or scope of the invention.

For example, it is to be understood that the device may be readily adapted for use as a riveter by simply substituting riveting-dies for the punching-dies herein described and that such a change would not be a departure from the spirit of our invention.

Having thus described our invention, what we claim is—

1. The combination with a stationary handle, of a relatively movable handle associated therewith, a die carried by the stationary handle and a cooperating die associated with the movable handle and operable thereby for movement to both an active and an inactive position by a complete movement of the handle to either an open or closed position.

2. The combination with a stationary handle, of a relatively movable handle associated therewith, a die carried by the stationary handle, and a cooperating die associated with the movable handle and operable thereby for movement to both an active and an inactive po-

sition by complete movement of the handle to an open position.

3. The combination with a stationary handle, of a member pivotally associated therewith, a die carried by the stationary handle, a cooperating die carried by the member and a relatively movable handle operatively connected with the stationary handle and member for actuating the latter to move its die to both an active and an inactive position by a complete movement of the handle in either direction.

4. The combination with a stationary handle, of a member pivotally associated therewith, a die carried by the stationary handle, a cooperating die carried by the member, a relatively movable handle pivoted to the member and links connecting the stationary and relatively movable handles, said member being operable to move its die to both an active and an inactive position by a complete movement of the movable handle to either an open or closed position.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

EDWARD D. ETNYRE.
WILLIAM A. WHITNEY.

Witnesses:

CLARENCE S. HAAS,
HARRY J. SNYDER.