P. R. HAHNEMANN.

HAND PUNCH.

APPLICATION FILED MAY 17, 1918.

1,305,898. Patented June 3, 1919.

Fig. 1.

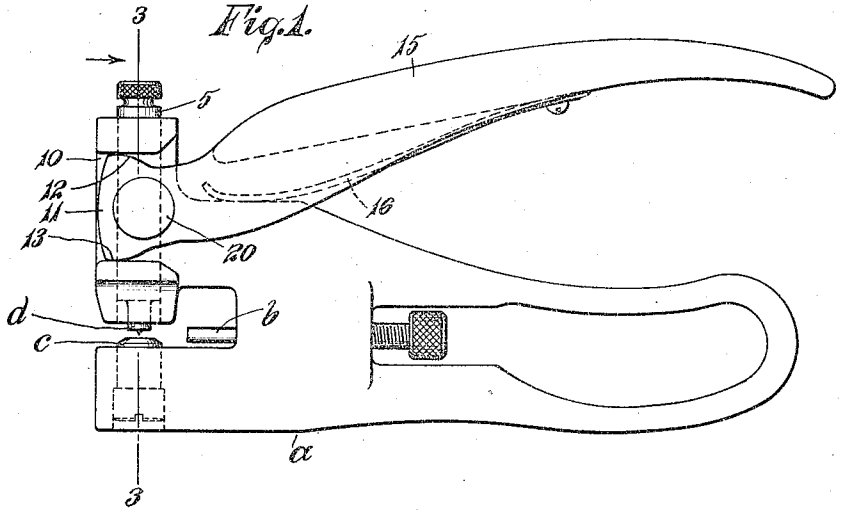


Fig. 2.

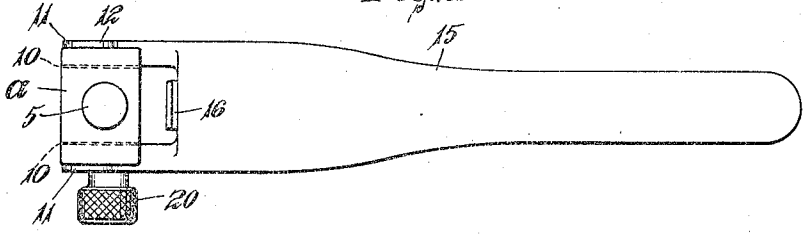
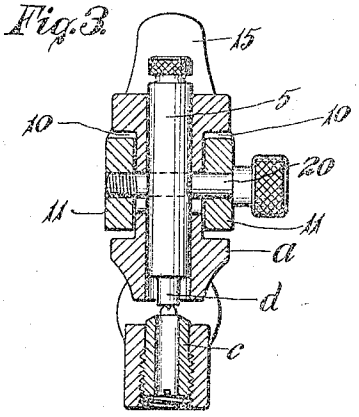


Fig. 3.



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UNITED STATES PATENT OFFICE.

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HAND-PUNCH.

1,305,898. Specification of Letters Patent. Patented June 3, 1919.

Application filed May 17, 1918. Serial No. 235,066.

To all whom it may concern:

Be it known that I, PAUL R. HAHNEMANN, a citizen of the United States, residing at Southington, in the county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Hand-Punches, of which the following is a specification.

The object of this invention is to provide a tool of the character described having features of novelty and advantage.

In the drawings—

Figure 1 is a side view of a punch made in accordance with my invention.

Fig. 2 is a top view thereof.

Fig. 3 is a sectional elevation on the line of 3, 3, of Fig. 1.

Referring to the drawings—*a*, denotes the frame of the tool; *b*, is a stop gage mounted therein; *c*, an adjustable punch receiving die in the lower jaw of the frame; and *d*, a longitudinal operated punch mounted in the upper jaw of the frame. The punch *d*, is made integral with a barrel 5, of enlarged diameter, which has a bearing of substantial length in the upper jaw of the frame. The sides of the upper jaw are cut away as at 10, 10, to receive the ends 11, 11, of the bifurcated lever 15, which is held up by the spring 16. The upper and lower edges of the ends of the bifurcated lever 15, are cam shape, as shown at 12, 13, and work on the upper and lower shoulders formed by cutting away the sides of the upper jaw of the frame. A pin 20, passes through the ends of the lever 15, and the barrel 5 of the punch, connecting them together. By properly designing the cams a considerable amount of movement of the punch is obtained as a result of a relatively small movement of the lever 15, with the result that the lever 15, in its normal position can be brought nearer to the hand grip of the frame thus making it possible to get a better grip for producing the action of the punch. The punch member extends clear through the upper jaw making it very easy to take the punch apart or put it together, since it will be seen that the removal of the pin 20, will permit the removal of the lever 15, and of the punch; there are thus only three parts which are separate from the frame.

A punch made in accordance with my invention is extremely simple; readily assembled or disassembled; and a wide range of action of the punch is provided with a small range of action of the operating lever.

In accordance with the provisions of the patent statutes I have described the principle of operation of my invention, together with the structure I now consider to represent the best embodiment thereof, but I desire to have it understood that the structure here shown is only illustrative, and that the invention can be carried out by other means.

I claim as my invention:—

1. In a tool of the character described, a frame provided with upper and lower jaws, a shoulder at the side of the upper jaw, a punch mounted within the upper jaw and adapted for longitudinal movement therein, a lever the end of which is provided with a cam surface adapted for coöperation with said shoulder, and a pin connecting said lever with said punch.

2. In a tool of the character described, a frame provided with upper and lower jaws, a punch mounted in the upper jaw and movable longitudinally therein, opposing shoulders at the side of said upper jaw, a lever the end of which is provided at its upper and lower edges with cam surfaces adapted for coöperation with said shoulders, and a pin connecting said lever with said punch.

3. In a tool of the character described, a frame provided with upper and lower jaws, corresponding shoulders at opposite sides of said upper jaw, a punch extending through said upper jaw and movable longitudinally therein, a bifurcated lever the ends of which embrace said upper jaw adjacent said shoulders, an edge of each end being cam shape to coöperate with said shoulder, and a pin connecting said ends with said punch.

4. In a tool of the character described, a frame provided with a lower jaw and an upper jaw having an opening, a shoulder at the side of said upper jaw, a punch mounted within the upper jaw and adapted for longitudinal movement therein, a lever the end of which is provided with a cam surface adapted for coöperation with said shoulder, and a pin adapted to reciprocate in said opening and connecting said lever with said punch.

5. In a tool of the character described, a frame provided with upper and lower jaws, a punch longitudinally movable in the upper jaw, opposing shoulders at the side of

said upper jaw, the upper jaw having an elongated opening between said shoulders, a lever the end of which is provided at its upper and lower edges with cam surfaces adapted for coöperation with said shoulders, and a pin carried by and movable with said punch and having one end extending through the opening in said upper jaw and connected to said lever.

6. In a tool of the character described, a frame provided with upper and lower jaws, said upper jaw having an elongated opening, corresponding shoulders at the opposite sides of said upper jaw, a punch longitudinally movable in said upper jaw, a pin movable with and extending transversely of said punch and having its ends projecting through and beyond the ends of the opening in said upper jaw, and a bifurcated lever the ends of which receive the ends of said pin and embrace said upper jaw adjacent said shoulders, an edge of each end being cam shape to coöperate with its respective shoulder.

PAUL R. HAHNEMANN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."