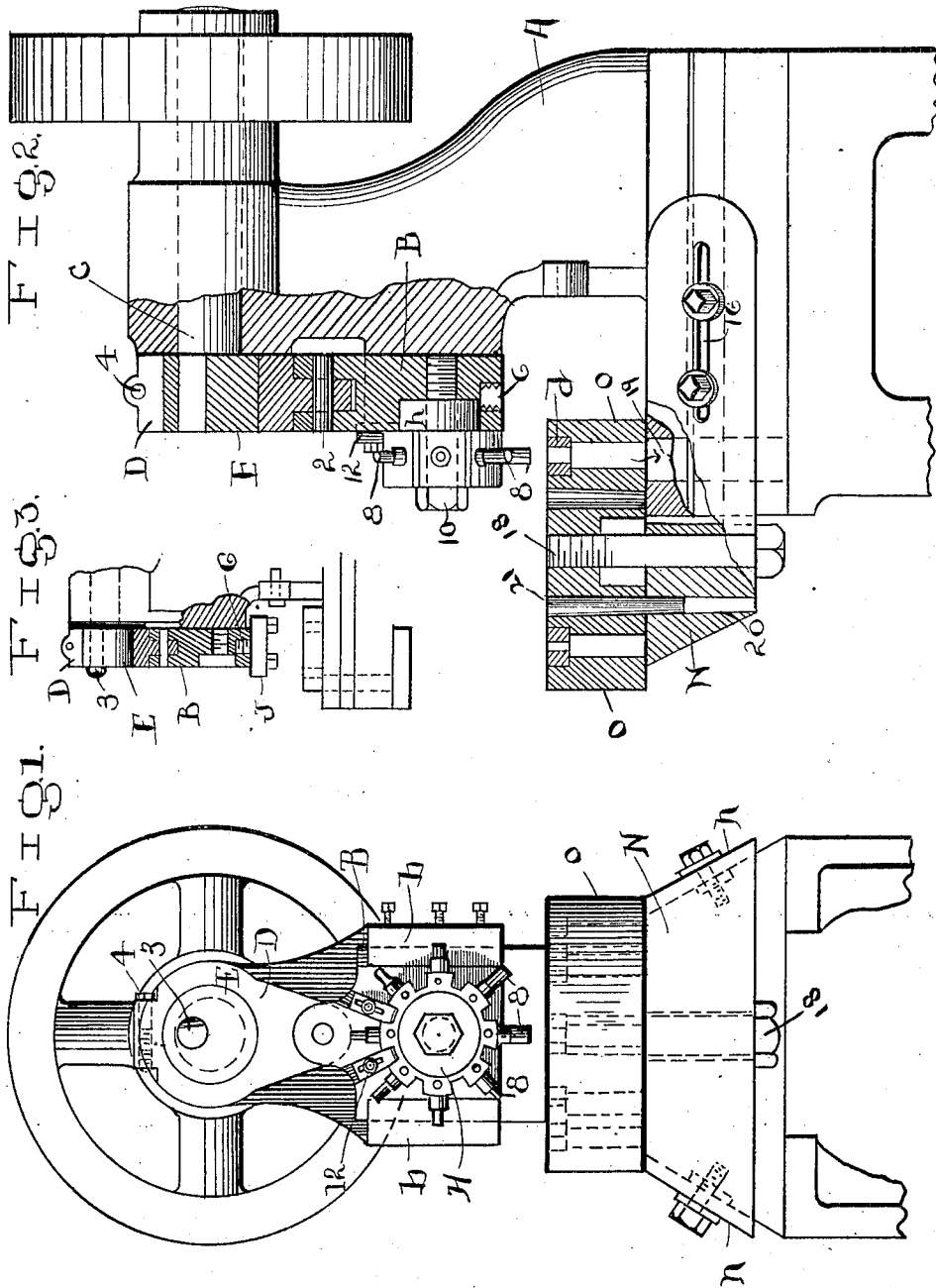


No. 852,443.

PATENTED MAY 7, 1907.

F. G. MARBACH.
PUNCH PRESS.

APPLICATION FILED JUNE 18, 1906.



ATTEST
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FRANK G. MARBACH, OF MEDINA, OHIO.

PUNCH-PRESS.

No. 852,443.

Specification of Letters Patent.

Patented May 7, 1907.

Application filed June 18, 1906. Serial No. 322,187.

To all whom it may concern:

Be it known that I, FRANK G. MARBACH, a citizen of the United States, residing at Medina, in the county of Medina and State of Ohio, have invented certain new and useful Improvements in Punch-Presses; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to punch presses, and the invention consists in the construction and combination of parts substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings Figure 1 is a front elevation of the press, and Fig. 2 is a side elevation thereof, partly in section. Fig. 3 is a vertical sectional elevation of the upper front portion of the press with the tool supporting head omitted and a tool fixed directly in the sliding head.

The press or machine as thus shown comprises a main frame A and operative attachments connected therewith, as will now appear. Thus, B represents a sliding head located at the top and front of the main frame adapted to slide within suitable guide ways or guides b at its side edges. Said head is actuated or reciprocated from main shaft C mounted in the top of the main frame and provided with an eccentric or crank pin 3 on its outer end. A cylindrical bearing or block E is set eccentrically on said pin and coupling or connecting member D engages over said block and is operatively connected with sliding head B through the medium of a pivot pin 2. Said connecting member is split at its top and clamped by tightening screw 4 upon block E, so that the eccentric pin 3 rotates in said block. This provides for rotarily adjusting said bearing block E as the machine may at any time require. A limited reciprocating movement is thus provided for sliding head B in its side guides, and said head has the novel and original advantage of being adapted to use either a rotatable tool holder or turret H on the face thereof, or to dispense with said holder and employ a punching device or attachment J to be affixed directly to or in the bottom thereof in the threaded hole 6, Figs. 2 and 3, as given work may require. The said holder or turret H is preferably circular in outline, as shown, but not necessarily, and is provided with a

series of sockets in its periphery to accommodate various tools, such as punches and the like indicated by 8. These may have different shapes and be for different purposes, but the shanks of said tools are alike and interchangeably adapted to the same sockets. The said holder H being located outside of the head B, I form said head with a relatively deep socket and provide the holder with a hub h of such size and strength as will safely sustain the pressure exerted by the machine and especially when supplemented by the strong bolt 10. This makes said holder practically as firm and solid in and with head B as if it were an integral portion thereof, and said holder is adapted to be accurately adjusted and set in respect to the die d beneath by means of tapered sliding bolts 12 partially recessed into head B and adapted to engage in corresponding recesses in holder H. Thus, a mechanism is provided whereby any one of the several tools in holder or turret H can be rotated to working position in a few moments by simply releasing the locking bolts 12 and the pivot bolt 10, and this is deemed highly important in a shop where numerous jobs of different kinds of work are constantly called for and where ease and facility in making the changes practically amount to as much as the profit on the job; or, in certain cases, turret H can be removed and device J be quickly substituted.

Upon the base of the main frame I mount a slidable extension N, which has downwardly and outwardly flared or inclined sides n resting down over correspondingly flared and shaped sides of the base frame, and said sides have longitudinal slots 16 through which the said extension is adjustably secured by screws or bolts to the base. The die carrying member O is rotatably mounted on this extension through its outer portion 20 by means of a vertical bolt or screw 18 introduced from beneath through said extension 20 and projecting up centrally through the said die support. A tapered bolt 21 locks said support in working position. The die d in all cases is rotated to a point over the opening 19 through said base.

Obviously, while the machine herein described is especially entitled a punch press it is not necessarily limited to such use, although this is its main object, and it may have attachments or devices affixed to the rotating turret or tool holder and means sub-

stituted for the dies whereby cutting or shearing or the like may be successfully accomplished.

What I claim is:—

5 1. In a machine substantially as described, a suitable frame and a rotatable shaft thereon, in combination with a reciprocating head supported in vertical guides, and operatively connected with said shaft, said head having
10 a socket in its face and a hole through said head centrally at the base of said socket, said bearing being adapted to be rotarily adjusted independently of said pin and said connecting member.

15 2. In a machine substantially as described, a vertically reciprocating head and means to actuate the same, said head provided with a socket in its face and a bolt hole centrally behind said socket, in combination with a rotarily adjustable tool holder having a hub on
20 its rear seated in said socket and a bolt through said hub and said bolt hole securing said holder in place.

3. In a machine substantially as described,
25 a suitable frame having a base with downwardly and outwardly inclined sides, a front extension for said base constructed at its sides to be adjustably secured to said sides of the frame, and bolts to lock said extension in
30 adjusted position, the top surface of said extension being flush with the top surface of said base.

4. In a machine substantially as described,

a suitable frame having a fixed working base, an extension for said base provided with slot- 35 ted sides and constructed with an extensible portion outside of said base to carry a die-support, in combination with a horizontally rotatable die-support engaged by a pivot bolt through said extensions and adapted to
40 overlap the said working base on said frame.

5. The main frame having a working base with inclined sides, in combination with a solid extension of the base on the same plane therewith and having inclined sides seated
45 over the said inclined sides of the base, and bolts removably securing the said extension in place, a horizontally rotatable die support mounted on said extension and corresponding
50 holes through said support and said working base.

6. In a machine substantially as described, a suitable frame, a vertical reciprocating head therein constructed at both its bottom
55 and front to attach a tool holder in either position, a shaft and a rotarily adjustable bearing block having a bore off its center engaged by an eccentric projection on said shaft and said bearing block having pivotal connection
60 with said reciprocating head.

In testimony whereof I sign this specification in the presence of two witnesses.

FRANK G. MARBACH.

Witnesses:

W. E. THORNDYKE,
FRANK SPELLMAN.