

N^o 11,794



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COMPLETE SPECIFICATION.

Improvements in Punching, Shearing, Bending, and like Presses or Machines.

I, JOHAN PETTER JOHANSSON, of Enköping, in the County of Upland, in the Kingdom of Sweden, Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement :—

5 As is well known, some rotating machine-tools, such as lathes and screw and nut-making machines, are provided with so-called turrets containing the shaping tools, the required tool being brought into its proper position by revolving the said turret, which simple proceeding removes the necessity, previously existing, of exchanging
10 machines appears to be on the increase.

The object of my present invention is to apply such revolving turrets, provided with holders for different tools, to presses and punching-machines, *i.e.* to non-rotating machines, and thereby make such machines readily adjustable for different operations.

15 In the accompanying drawing,

Figure 1 is an elevation of a turret-punch constructed according to my invention.

Figure 2 is a transverse section on the line A—B of Figure 1, and

Figure 3 is a section through the turrets.

20 *a* is the frame and *b* the punching-lever, pivoted to a stud *c* and at the forward end embraced and guided by a staple *d*. The front ends of the frame and the punching lever are provided with teeth or jaws *e* and trunnions *f*, on which are placed the two revolving turrets *h* and *h*¹. These turrets are provided at the rear with teeth corresponding to the teeth *e* of the frame and punching lever. In the
25 holders are fixed the tools *g* for punching holes, for shearing plates, flat or round iron, square iron, angle-iron and the like, and for bending and other operations usually performed in a press or punching-machine.

In the outer end of each trunnion *f*, is screwed a stud *i*, provided with a washer *i*¹, the corresponding turret being firmly secured in its place by screwing up this
30 stud. When the bolts are loosened, the turrets can be drawn out until their respective teeth are disengaged from the teeth *e* on the frame after which the turrets can be turned round so as to bring the corresponding tools directly opposite each other, the other tools being at the same time removed from their working positions. The turrets are then pushed in, so that their teeth will again engage
35 the teeth *e* and the studs *i* are screwed up so as to firmly secure the said turrets in place.

From the frame *a* projects a hub *k*, through which passes a shaft *l*, provided at one end with an eccentric pin *m* fitting into a block *o*, inserted into a recess *n* in the punching-lever *b*. When the shaft *l* is oscillated or rotated, the punching-
40 lever *b* is caused to reciprocate on the stud *c*.

I wish it understood that the construction of the punching-machine may be varied and does not constitute part of the present invention, thus for instance instead of the pivoted punching-lever *b*, use may be made of an arm adapted to move straight upward and downward. In like manner the turrets may be locked or secured in
45 position by bolts or springs instead of by teeth or jaws.

[Price 8d.]

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Johansson's Impts. in Punching, Shearing, Bending, and like Presses or Machines.

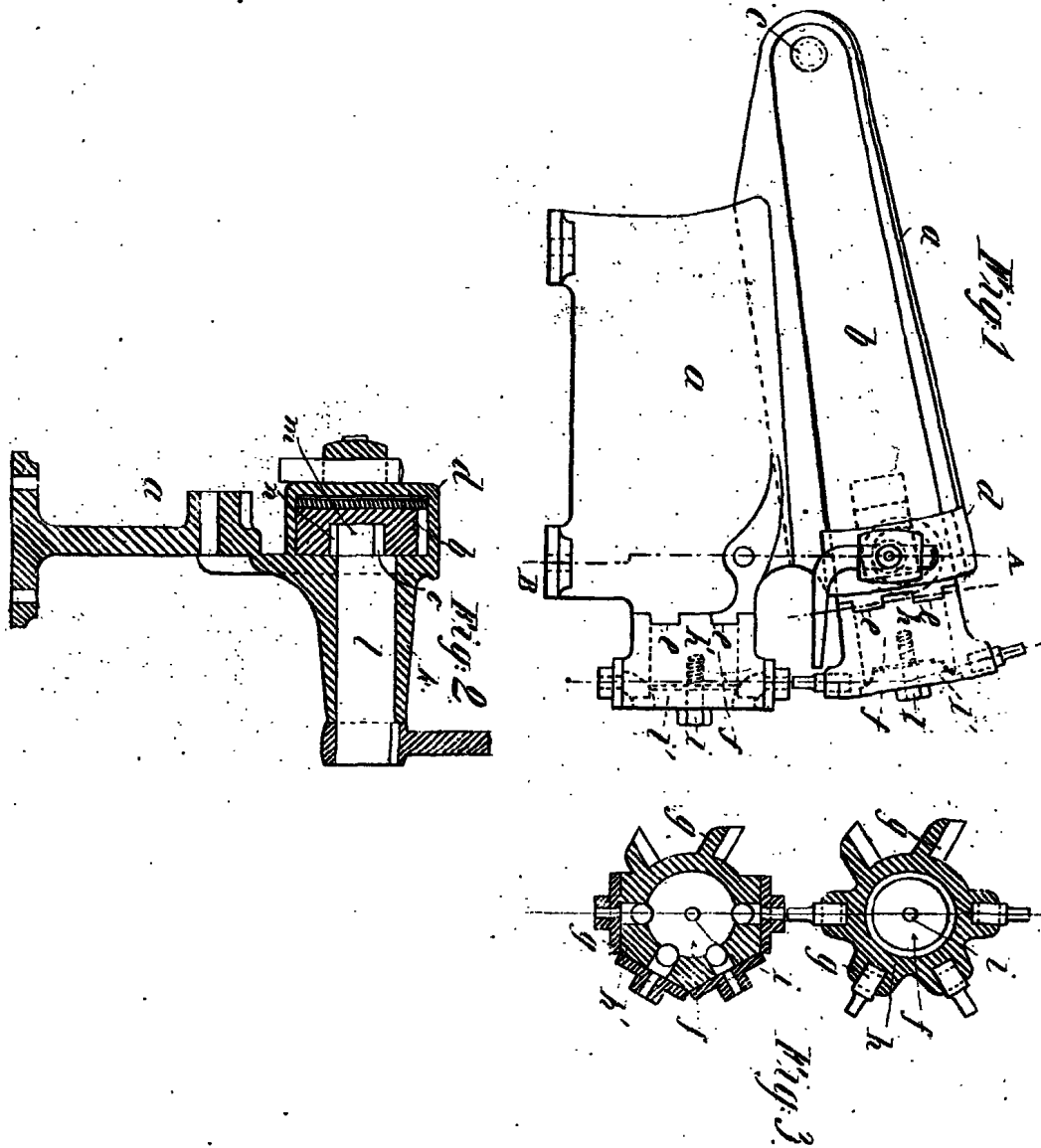
Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is :—

An improved turret punching-machine consisting of an ordinary punching machine provided with one fixed and one movable part, on each of which is arranged a revolving turret provided with tool-holders, for the purpose of enabling the two corresponding tools, required for a punching operation, to be brought into their proper positions by revolving the said turrets.

Dated this 18th day of June 1894.

HASELTINE, LAKE & Co.,
45, Southampton Buildings, London, W.C., Agents for the Applicant.

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[This Drawing is a reproduction of the Original on a reduced scale.]