A. H. GAESS.

SWINGING DIE CAP FOR HEADING MACHINES.

APPLICATION FILED SEPT. 17, 1914.

1,166,668.

Patented Jan. 4, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

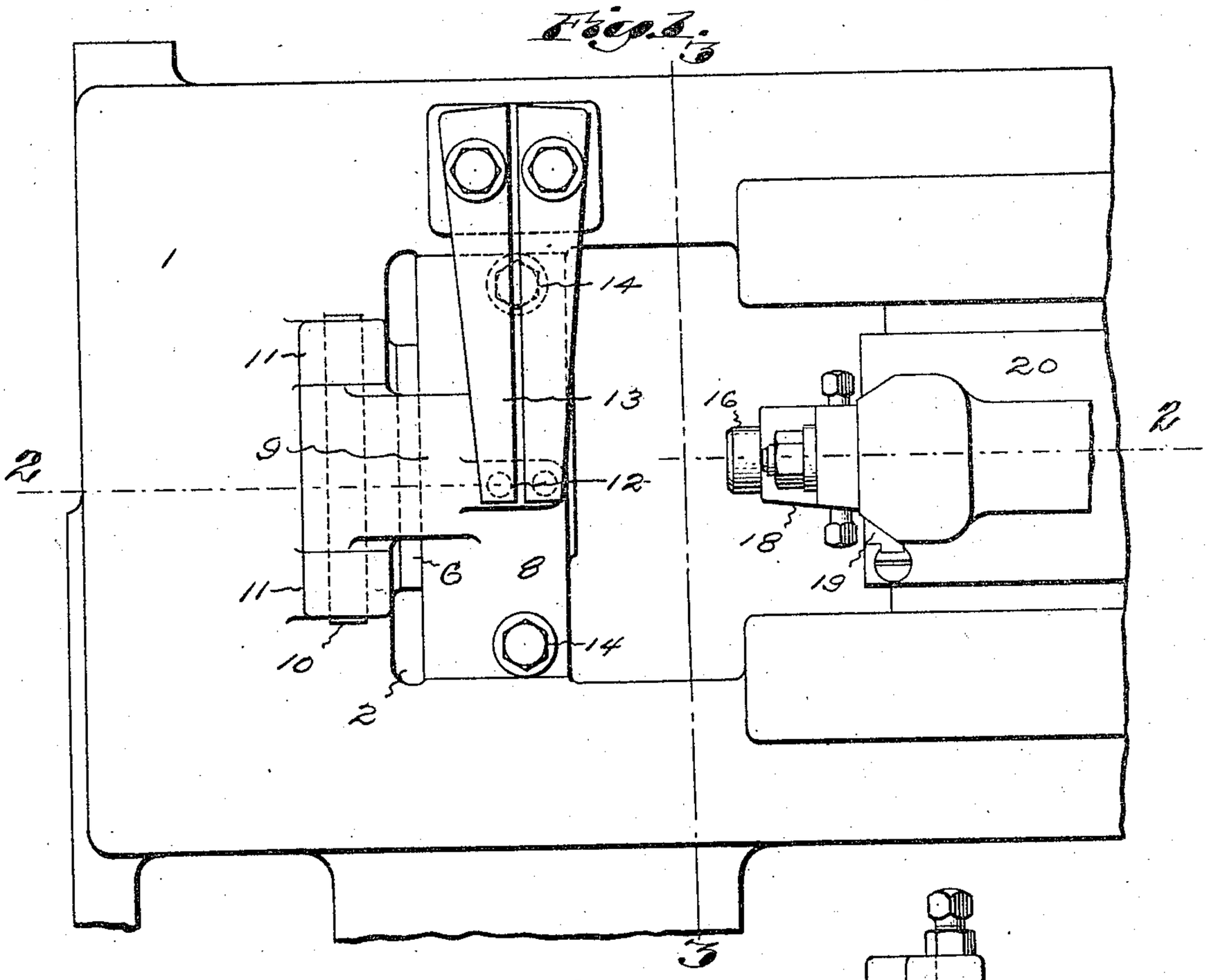
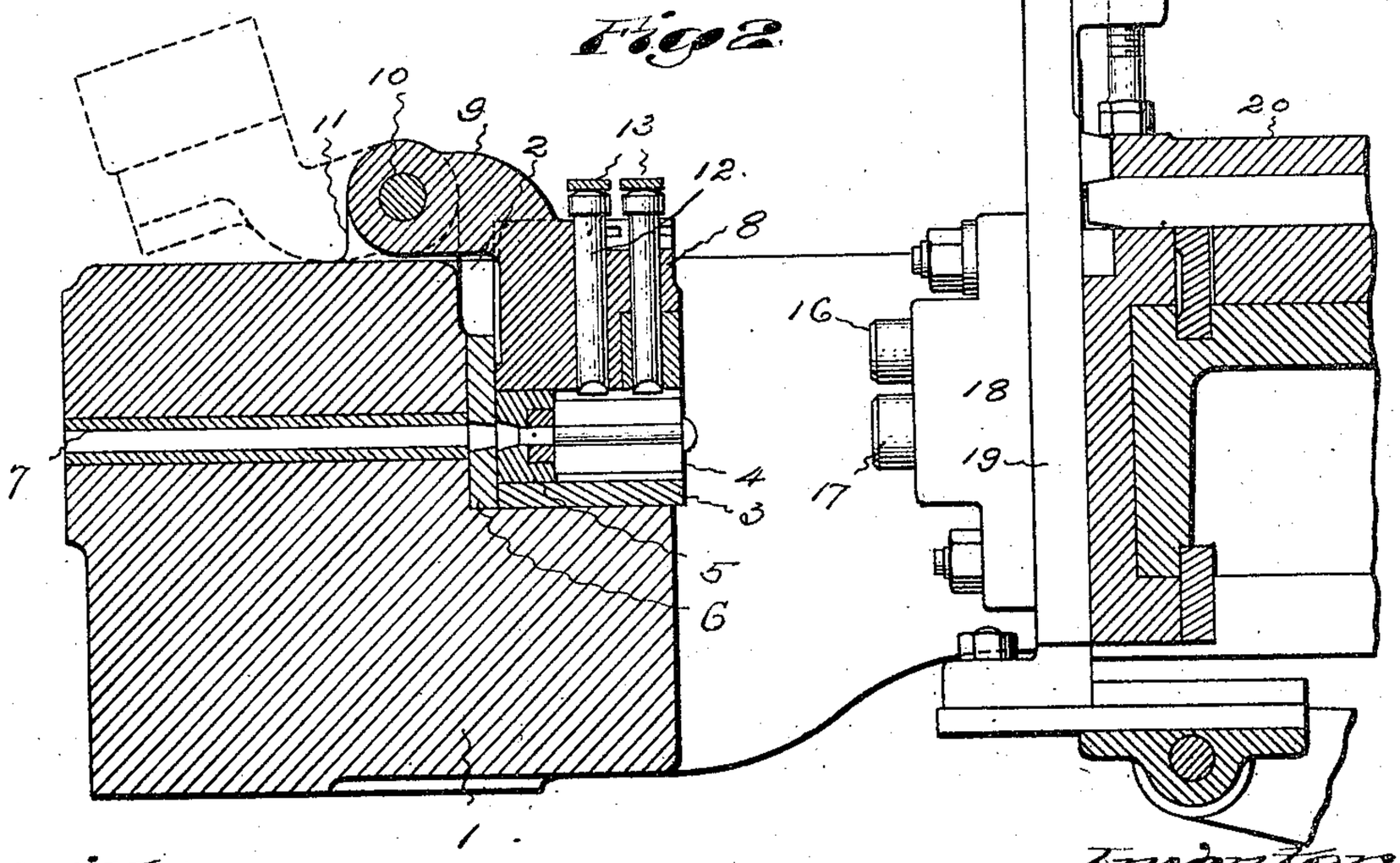


Fig. 2.



Witnesses.

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Inventor:

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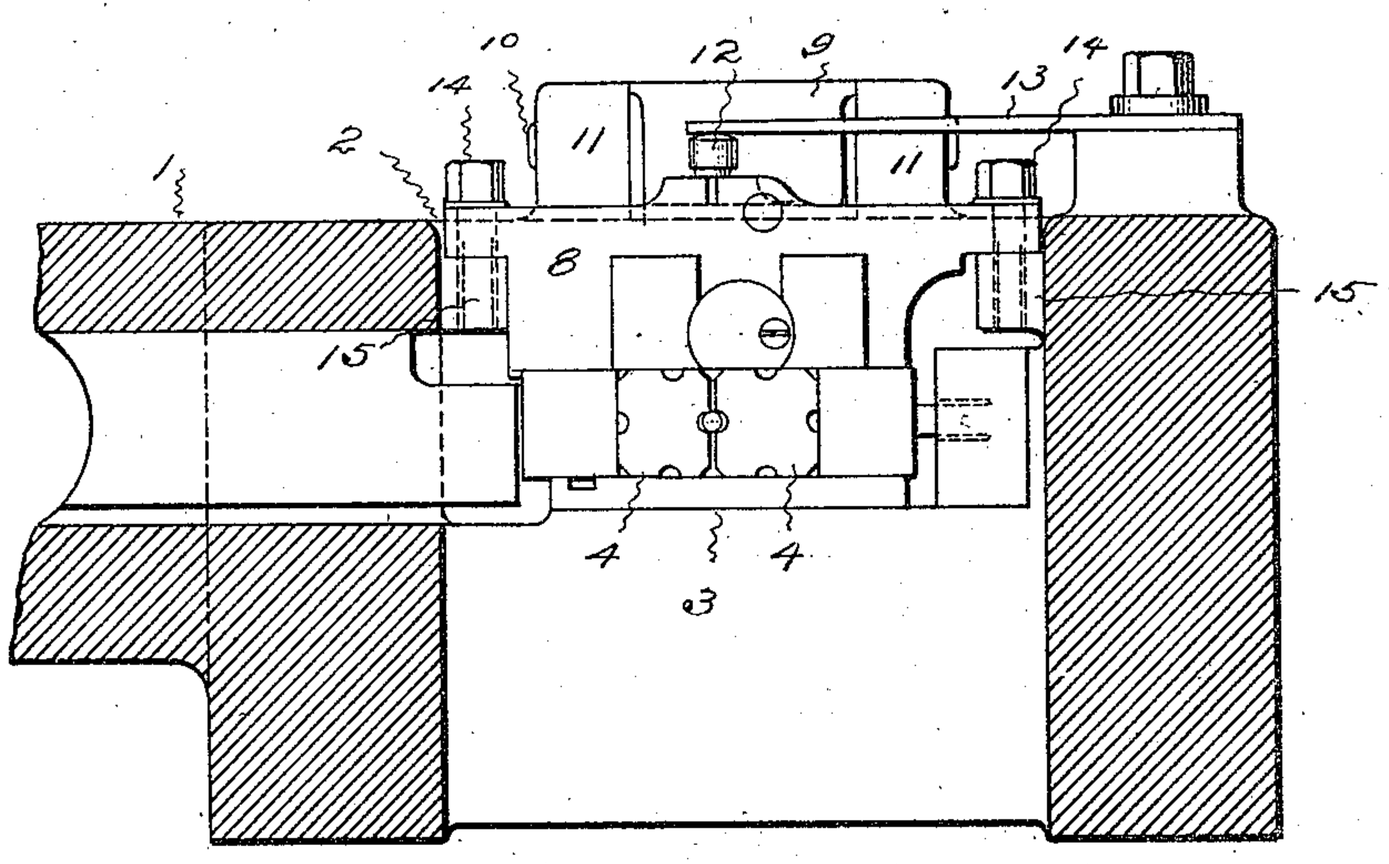
2 SHEETS—SHEET 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

ALBERT H. GAESS, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE E. J. MANVILLE MACHINE COMPANY, OF WATERBURY, CONNECTICUT, A CORPORATION OF CONNECTICUT.

SWINGING DIE-CAP FOR HEADING-MACHINES.

1,166,668. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed September 17, 1914. Serial No. 862,236.

To all whom it may concern:

Be it known that I, ALBERT H. GAESS, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Swinging Die-Caps for Heading-Machines, of which the following is a specification.

This invention relates to a metal heading machine of the class shown in U. S. Patent No. 926,170, June 29, 1909. In that type of machine a continuous length of wire is fed through dies, which, after the wire has been fed the required distance, are forced sidewise so as to sever the wire and carry the blank thus produced into line with the punches. The punches are mounted in a slide which is raised and lowered on the end of a gate, that is reciprocated so that the punches will successively act on the end of the blank. The exposed end of the blank is usually first swaged for the purpose of coning the stock centrally and then swaged for finishing the head to the required shape. As the punches draw back the second time the dies holding the blank are returned sidewise into line with the feed so that the length of wire next fed ejects the piece which has been swaged. It is indispensable where exactness of product is required that the machine have great power, and rigidity to resist not only the longitudinal stress of the heading, but also the lateral strain exerted by the powerful mechanism which holds the dies together. To affect this the dies are set into a pocket in the end of the frame, which pocket has end, side and bottom walls integral with the frame, and a cap is placed in the pocket and bolted down on top of the dies. This cap being quite large and heavy it has been more or less inconvenient to unfasten it and remove it so as to free the dies.

The object of the present invention is to provide a construction whereby the cap which covers the dies in a machine of this nature can be easily unfastened and quickly swung over out of the way so as to leave the dies and the die pocket free and clear whenever it is desired to inspect, adjust, or remove the dies.

Figure 1 of the accompanying drawings shows a plan of a portion of the die end of the frame of a heading machine of this character, with the parts arranged according to this invention. Fig. 2 shows a vertical section of the same on the plane indicated by the dotted line 2—2 on Fig. 1. Fig. 3 shows a transverse section on the plane indicated by the dotted line 3—3 on Fig. 1.

As the operating mechanisms form no part of the present invention they have not been illustrated or described herein.

The heavy cast metal frame 1 has a die pocket 2 formed in the upper part of the inner wall of the front end. In the bottom of this pocket is a bed plate 3 upon which the dies 4 are placed. Back of the dies is an anvil 5 and behind the anvil is a backing plate 6. The stock to be operated upon is fed through an opening in the quill 7 that is inserted in the end of the frame and through an opening in the backing plate and anvil to the opening between the dies. Above the dies and arranged to hold them down is a die cap 8. This cap is formed of a solid block of metal and is provided with an upwardly and outwardly extending arm 9. This arm is hinged to the top of the frame by a pin 10 that passes through the ears 11 on the frame and through the end of the arm. The cap carries the usual die parting-pins 12, which are forced down by the springs 13, for separating the dies when the side pressure is released. Screw bolts 14 are passed through the side of the frame into lugs 15 that project from the frame into the die pocket, for holding the die-cap securely in place when the machine is in use.

The punches 16 and 17 are mounted in a punch holder 18 that is fastened to a vertically movable slide 19 which is adapted to be moved up and down on the front end of the reciprocatory ram 20.

Dies mounted in the manner described are held very rigid and a die-cap fastened in this way holds the dies firmly, and yet when it is desired to change, adjust, or inspect the dies, all that it is necessary to do is to remove the screws 14 and take the springs off from the parting-pins, and then the heavy cap may be swung over out of the way so as to leave the die pocket clear and the dies free, as illustrated by the dotted lines in Fig. 2. After the dies have been manipu-

lated, as desired, the cap can be quickly turned back into exact position to securely hold the dies for further action.

The invention claimed is;—

1. The combination with the frame of a heading machine having a die pocket in one end, of the dies located in said pocket, and a cap hinged to the frame and adapted to be swung down and fastened in said pocket over the dies, or to be unfastened and swung back out of the pocket so as to free the dies.

2. The combination with the frame of a heading machine having a die pocket in one end, of dies located in said pocket, a cap for covering said dies, means for securing the cap over the dies, and an arm projecting from the cap and hinged to the frame.

3. The combination with the main frame of a heading machine having a die pocket with stationary walls, of a cap adapted to swing into and out of said pocket, said cap being connected with the top of the frame in front of the die pocket by a horizontal hinge pin and connected with the frame at the bottom of the pocket by bolts that extend vertically through the cap.

4. The combination with the frame of a heading machine having a die pocket in one end, of dies located in said pocket, a cap covering said dies, an arm extending from the cap, ears projecting from the frame, a pin hinging said arm to said ears, and bolts passing vertically through the cap into the frame.

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