

(No Model.)

W. B. SCAIFE & G. A. MOECKEL.

PUNCHING AND RIVETING MACHINE.

No. 574,173.

Patented Dec. 29, 1896.

Fig. 2.

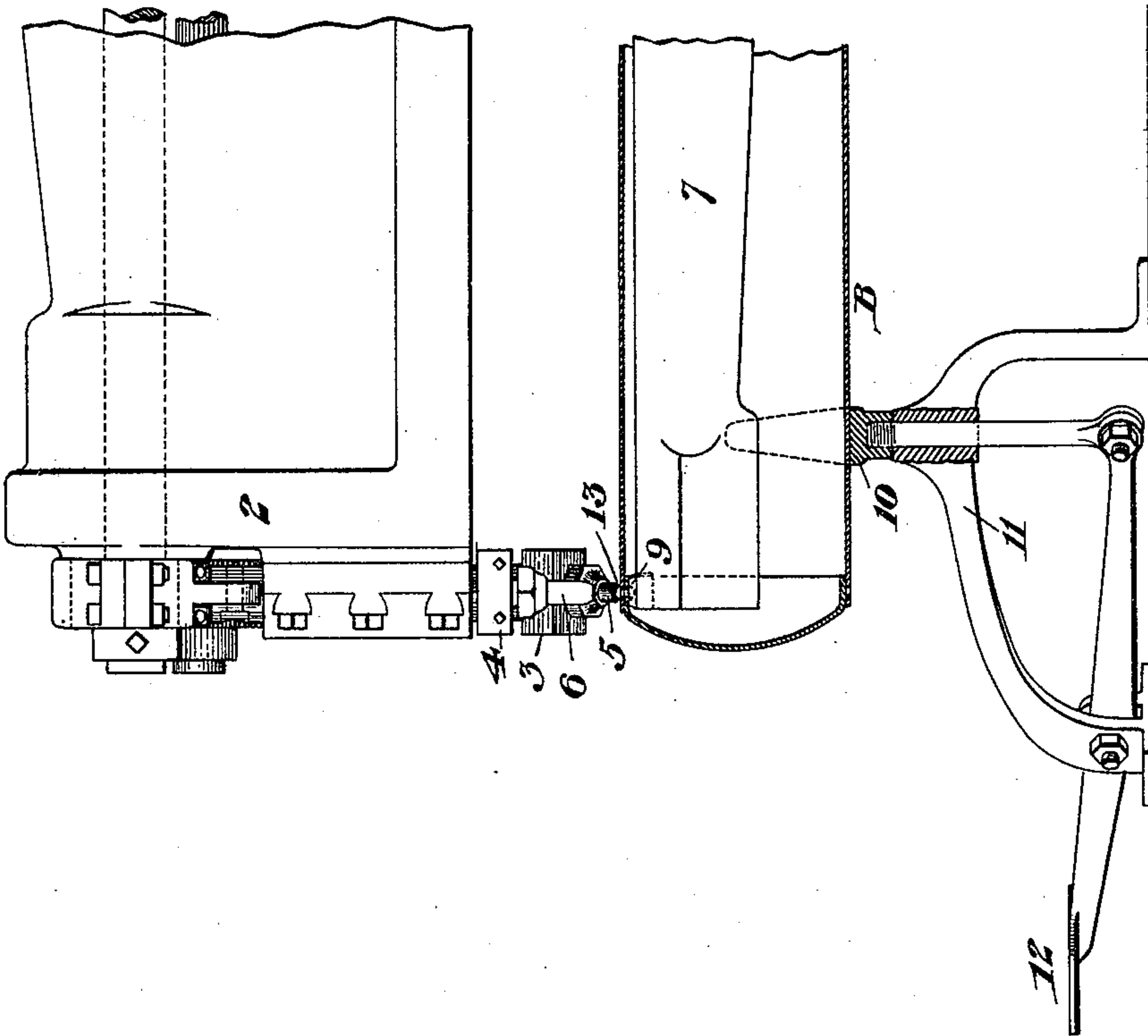
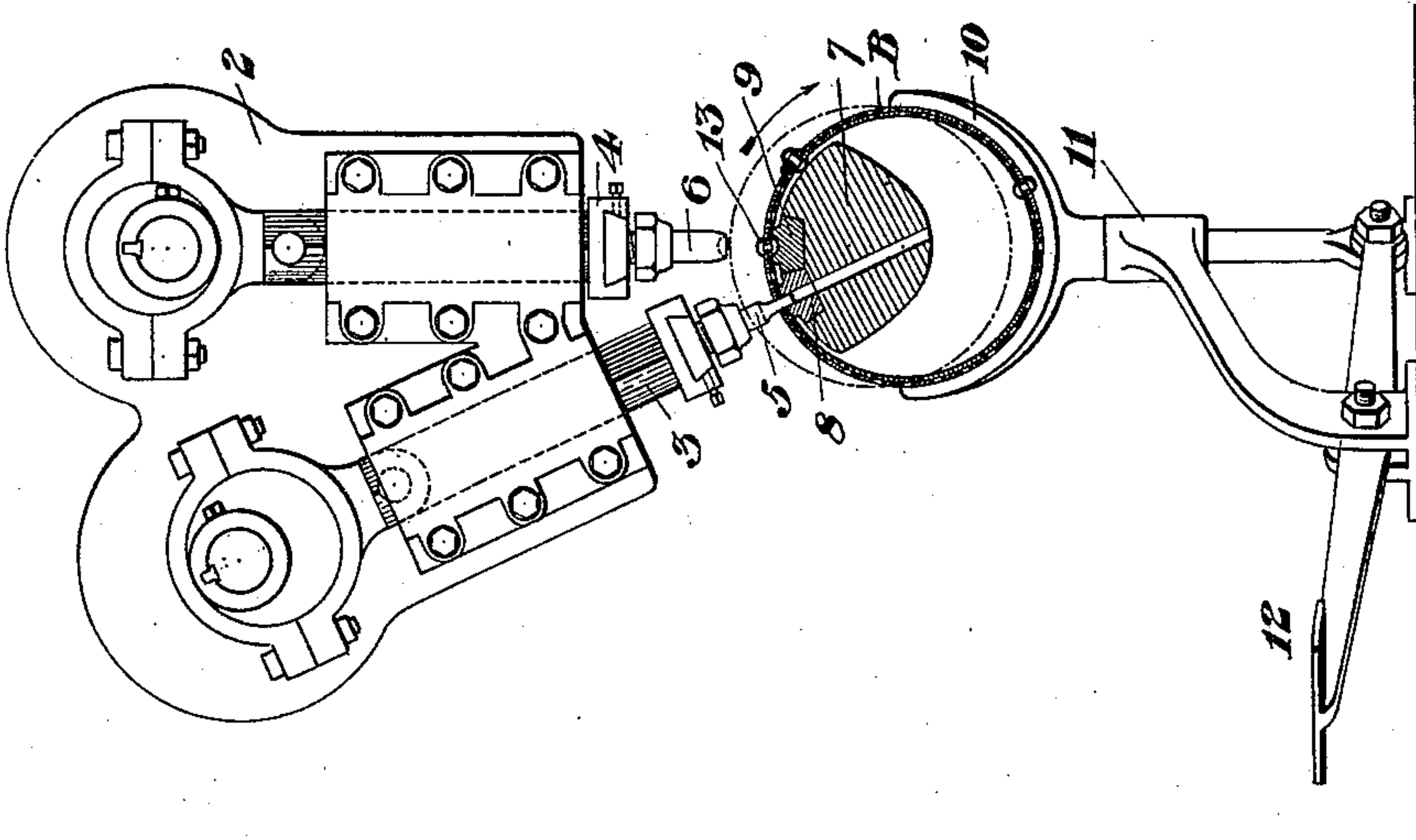


Fig. 1.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM B. SCAIFE, OF ALLEGHENY, AND GUSTAVE A. MOECKEL, OF OAKMONT, PENNSYLVANIA, ASSIGNORS TO CHARLES C. SCAIFE, OF ALLEGHENY, PENNSYLVANIA.

PUNCHING AND RIVETING MACHINE.

SPECIFICATION forming part of Letters Patent No. 574,173, dated December 29, 1896.

Application filed July 25, 1896. Serial No. 600,500. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM B. SCAIFE, of Allegheny, and GUSTAVE A. MOECKEL, of Oakmont, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Punching and Riveting Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows the reciprocating heads of our punching and riveting machine in front elevation, the work being punched and the support therefor being in vertical section. Fig. 2 is a side elevation showing the work in vertical longitudinal section.

In the drawings, 2 represents the frame of the machine, and 3 and 4 are reciprocating heads directed radially to a common center and carrying, respectively, the punching-tool 5 and a riveting-tool 6. These heads are actuated by suitable cams or other appropriate mechanism and may be reciprocated independently of each other.

7 is a support or anvil on which the work to be punched or riveted is placed. We show it in the drawings adapted to support a cylindrical boiler, which is placed around the same and rests upon the upper portion thereof. This anvil 7 carries a female punching-die 8 and a riveting-die 9, situated, respectively, opposite to the tools 5 and 6.

The work B to be riveted is supported by a yoke 10, situated below the anvil 7 and adapted to move vertically in a suitable standard 11. Such vertical movement is effected by a foot-lever 12 or by any other suitable device, or when the work is light the work may be upheld by the hand of the operator, and its purpose is explained below.

The work of punching is performed by the machine in a manner which will be sufficiently obvious by reference to Fig. 1. The punching-tool is caused to descend upon the boiler-shell and punches the same, and by turning the boiler on the anvil a series of punch-holes may be formed. In this manner the shell of the boiler is first punched with a series of holes extending around the same at the end, the head of the boiler is then inserted, and it is punched by causing the punching-tool to enter the holes of the shell, which thus serve

as guides for the punch, saving the necessity of measuring and spacing off distances between the centers of the holes, as has been necessary to do where the head and shell have been punched separately. We thus secure perfect register between the holes and the head and shell.

The rivets are inserted and upset, as described below, between the punching operations, or preferably a few rivets are inserted at intervals around the boiler, so as to hold the head in place. Then the punching is performed. These operations are made possible by the combination of the riveting and punching in a single machine. In riveting, the boiler is raised above the anvil by elevation of the yoke 10, and a rivet 13 is placed in the rivet-hole with the head up and opposite to the end of the riveting-tool 6, and, as shown by dotted lines, the work is lifted so as to raise the foot of the rivet above the riveting-die 9. Then as the riveting-tool 6 descends it engages the head of the rivet and causes the work to move down with the support 11 until the foot of the rivet engages the die 9. Thereupon the upsetting of the rivet begins and the act of riveting is performed in a satisfactory manner.

The essential part of our invention is the combining of the punching or riveting tool, as shown in the drawings, so that the work can, if desired, be alternately punched and riveted.

Within the limits of the ingenuity of the skilful mechanic many modifications may be made in the form and construction of the parts within the scope of our invention, so as to adapt the apparatus to perform special work or to modify its action in various particulars.

We therefore claim—

The combination of the riveting-head and punching-head set side by side and directed radially to a supporting-anvil and means for actuating the same.

In testimony whereof we have hereunto set our hands.

WM. B. SCAIFE.
GUSTAVE A. MOECKEL.

Witnesses:

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