

(No Model.)

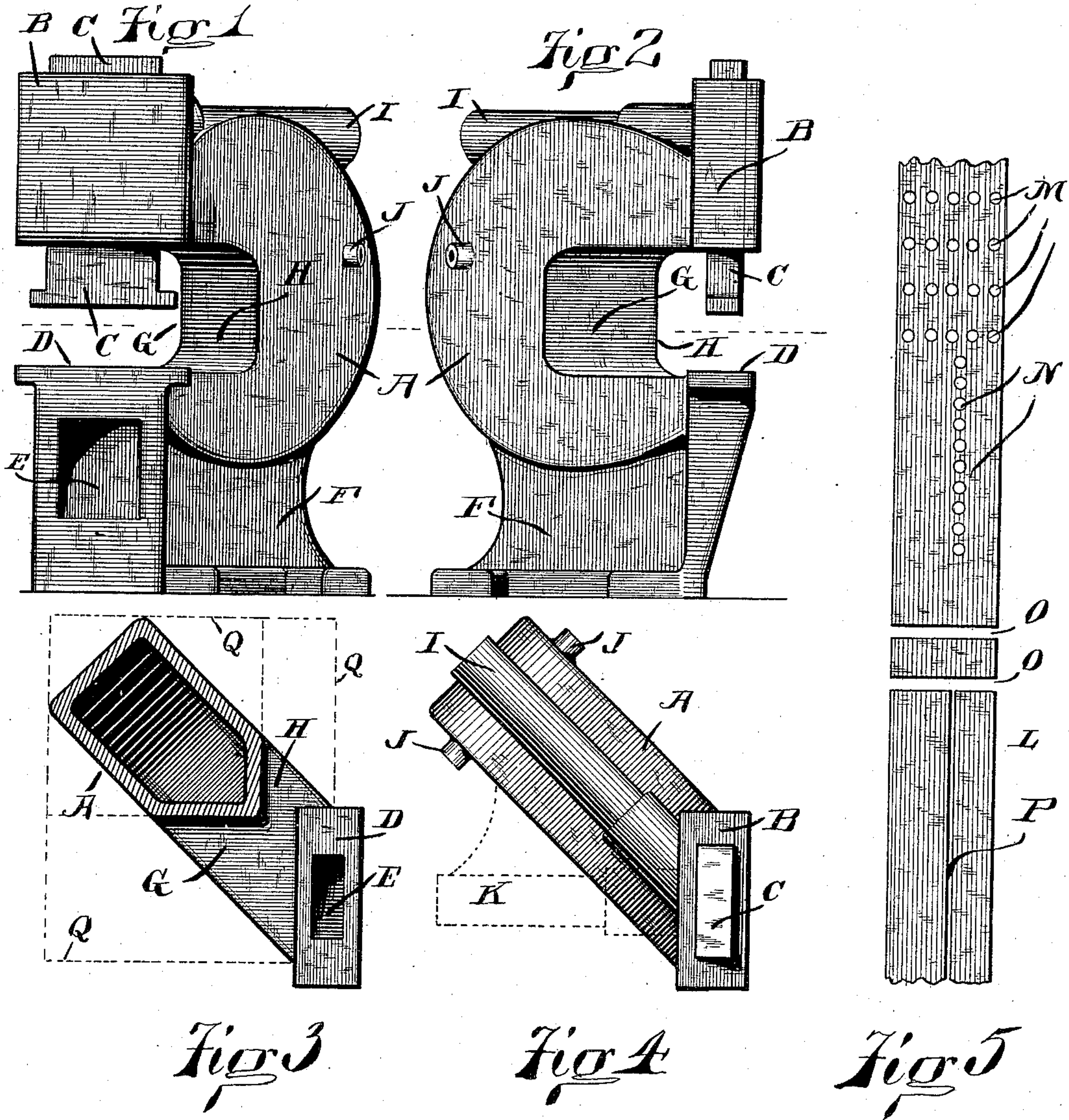
2 Sheets—Sheet 1.

C. E. McBETH.

DOUBLE THROAT FOR PUNCHING AND SHEARING MACHINES.

No. 310,602.

Patented Jan. 13, 1885.



Witnesses:

W. A. Seward
C. W. Mathes.

Charles E. McBeth

by James W. See

Inventor

Attorney

(No Model.)

2 Sheets—Sheet 2.

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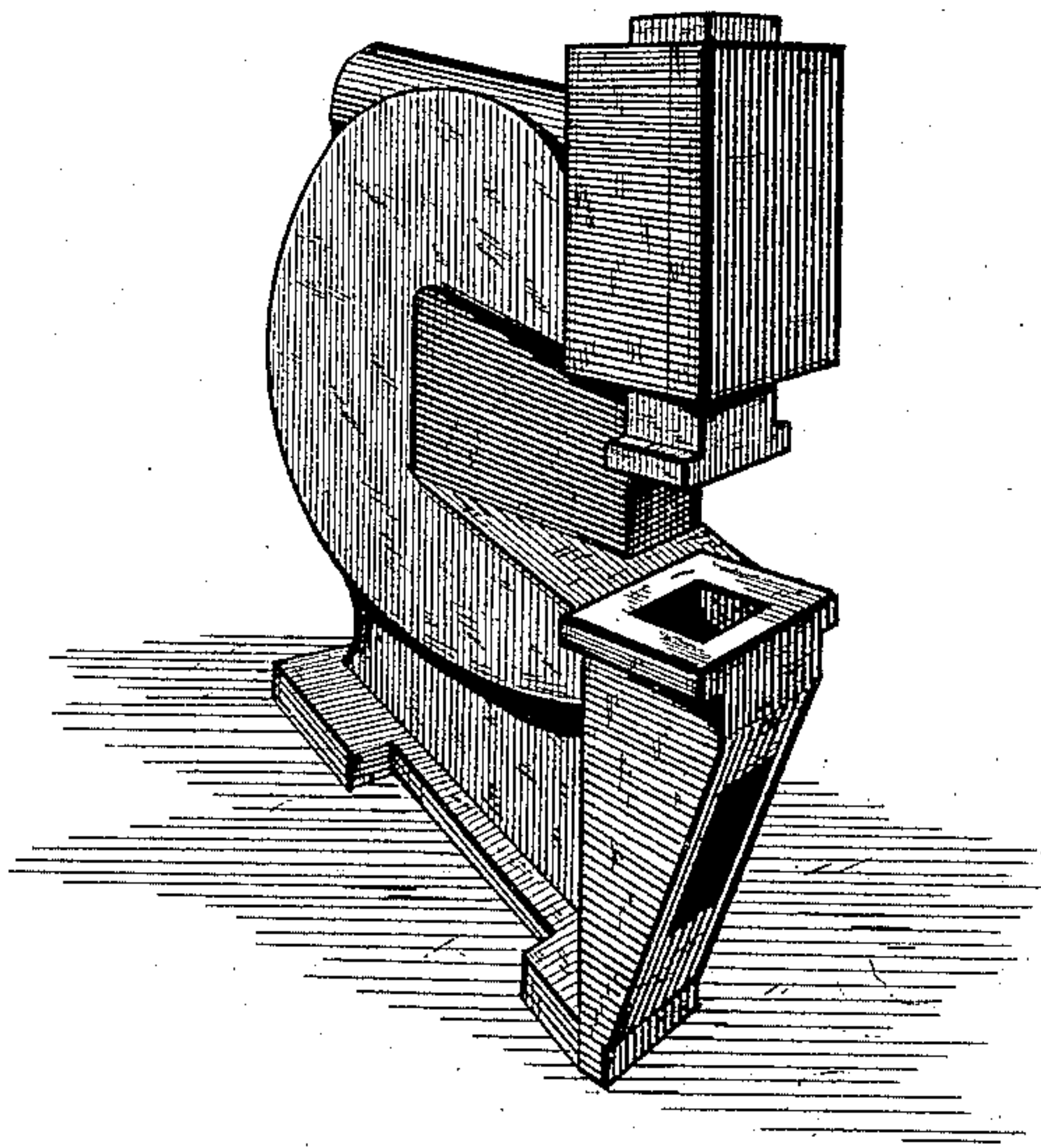


Fig 6

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UNITED STATES PATENT OFFICE.

CHARLES E. McBETH, OF HAMILTON, OHIO.

DOUBLE THROAT FOR PUNCHING AND SHEARING MACHINES.

SPECIFICATION forming part of Letters Patent No. 310,602, dated January 13, 1885.

Application filed June 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. McBETH, of Hamilton, Butler county, Ohio, have invented a certain new and useful Improvement in Punching and Shearing Machines, of which the following is a specification.

This invention pertains to punching and shearing machines; and it relates particularly to the throat for permitting the passage of work between the plunger and the die.

The invention will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a front view of a punching and shearing machine embodying my improvement; Fig. 2, a side view of the same; Fig. 3, a horizontal section of the same; Fig. 4, a plan of the same; Fig. 5, a face view of a bar of material, illustrating the peculiar capacity of machines constructed in accordance with my improvement, and Fig. 6 a perspective view of a machine embodying my improvement.

In vertical punching and shearing machines there is a throatway to the rear of the punch and die, for permitting the passage of material to be operated upon, the throat permitting the longitudinal passage of material in one direction past the punch or shear.

In Fig. 5 is represented a bar of iron on which has been performed various operations of punching and shearing. Such a bar may be passed through the throat of an ordinary punching-machine, and if a gang of punches be arranged in the machine in one direction, the series of groups of holes M may be punched, the bar being fed lengthwise in a direction transverse to the line of the group of punches. If it be desired that a series of holes shall lie parallel with the bar, as at N, it becomes necessary that the punches shall be placed in the machine in a position at right angles to the position previously indicated.

There has never been previously contrived, within my knowledge, a machine by which the two characters of punchings indicated can be executed without an entire resetting of the punches, and, furthermore, very few machines are adapted to permit of the cross-punching of an extended series of holes. In a similar manner shearing-blades may be set in a machine so as to crosscut a bar, as at O; but an entirely new setting of the shearing-blades is required in case we wish to slit the bar, as at P.

My improvement in the throat of punching and shearing machines permits the passage of a bar in a direction either parallel with or transverse to the shear-blades, or a gang of punching-tools, or other tools, whereby when the machine is fitted with shear-blades a bar may be either crosscut or slitted, and whereby, if the machine be fitted with a gang of punches, the bar may have a line of punchings across its body or along its length, as indicated in Fig. 5. This I accomplish by means of a double throat.

In the drawings, A represents the body of a punching and shearing machine; B, the usual ram-guide; C, the ram; D, the die-bed; E, the opening in the die-bed for the passage of punchings; F, the foot portion of the bed; G, a throat in the bed, permitting the passage between the ram and die-bed of long bars in a direction transverse to the face of the ram; and H, a throat at right angles to the throat G, permitting the passage of long bars between the ram and die-bed in a direction parallel with the face of the ram. A double throat is thus formed, whereby bars may be longitudinally passed in either direction.

The body of the machine may be arranged angularly with reference to the ram, as indicated in the drawings; or it may be squarely arranged, as will be readily understood from the plan-lines Q in Fig. 3.

With the construction of the cutting-tools and with the arrangement of mechanism for actuating the ram my present invention has nothing to do. The ram may be driven by a cam-shaft journaled in the bearing I, located at an angle with reference to the ram; or the bearing may be located squarely with reference to the ram, as indicated by the dotted lines K in Fig. 4; or the ram may be operated through the medium of a lever from a cam-shaft journaled in the bearings J. All these plans for actuating the ram are old.

Having thus described a machine embodying my improvement, the part I desire particularly to point out and distinctly claim as of my invention is—

The double throat G H, substantially as and for the purpose set forth.

CHARLES E. McBETH.

Witnesses:

W. A. SEWARD,
J. W. SEE.