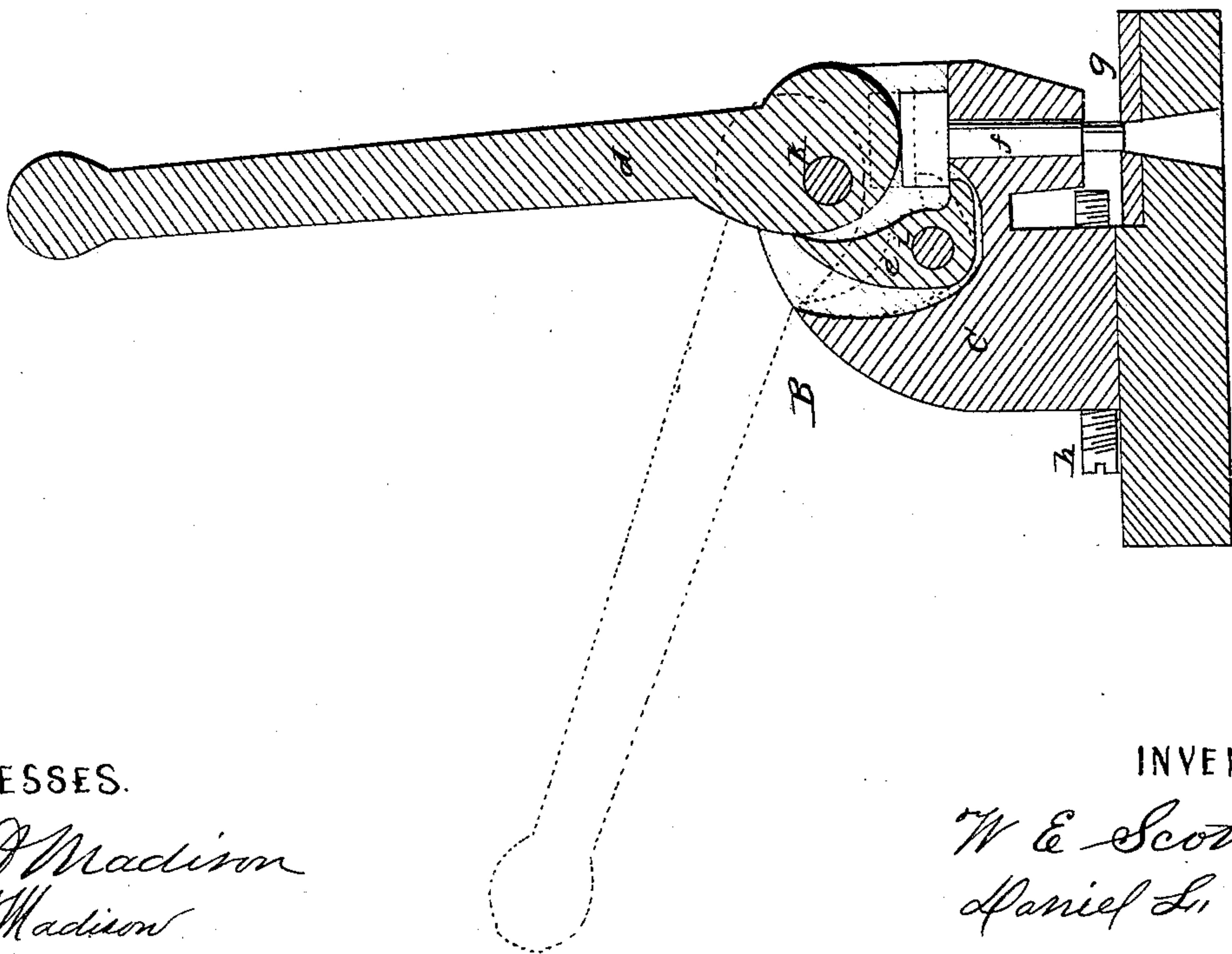
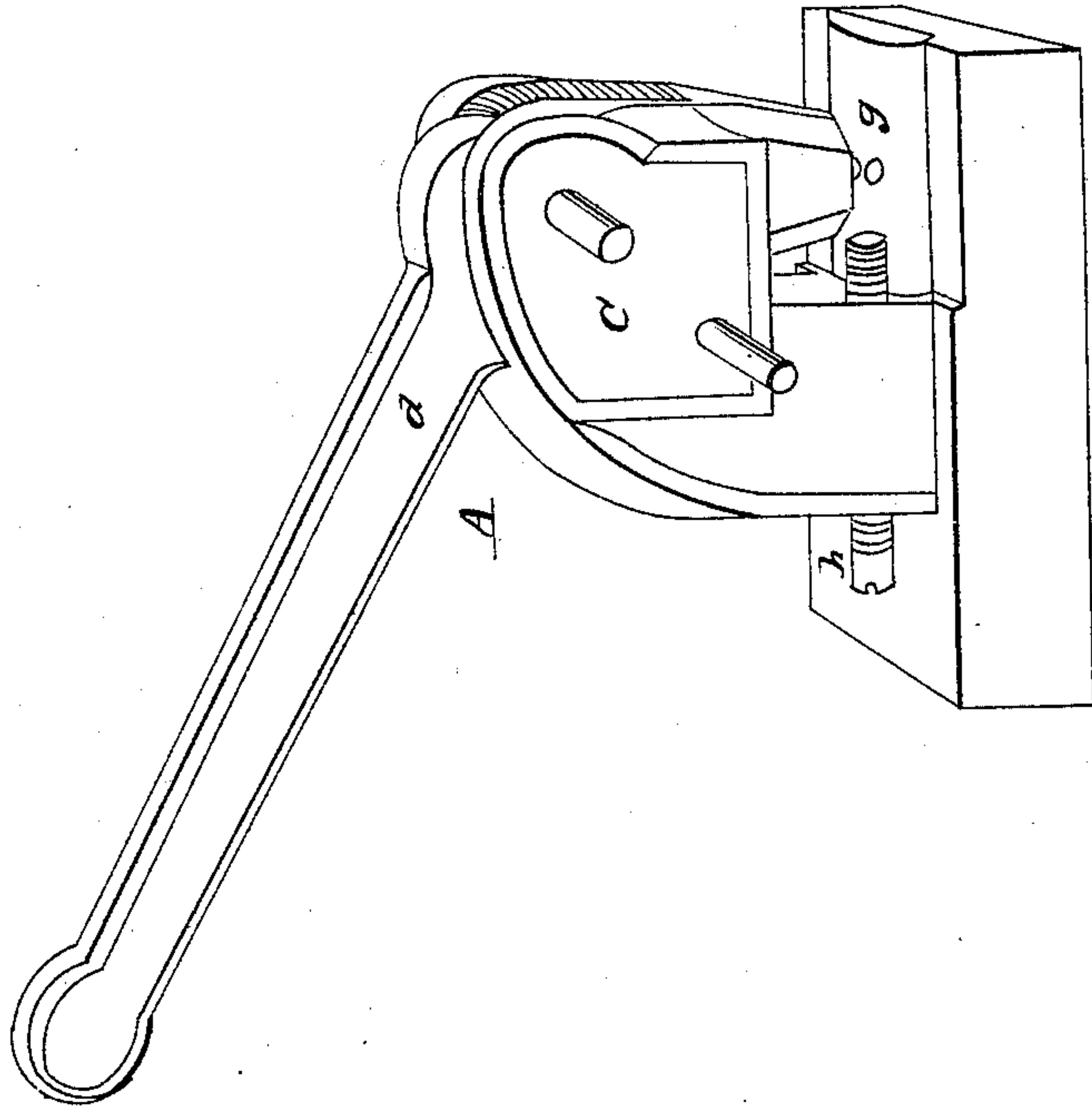


Scott & Wood.
Punching Mach.

N^o 86,324.

Patented Jan. 26, 1869.



WITNESSES.

J. A. Madison
A. W. Madison

INVENTORS:

W. E. Scott
Daniel L. Wood

United States Patent Office.

WILLIAM E. SCOTT AND DANIEL L. WOOD, OF TERRE HAUTE,
INDIANA.

Letters Patent No. 86,324, dated January 26, 1869.

IMPROVED PUNCHING-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, WILLIAM E. SCOTT and DANIEL L. WOOD, of Terre Haute, Vigo county, and State of Indiana, have invented a new and improved Arrangement of Mechanism for Operating the Working-Parts of Metallic Punching-Machines; and do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of our invention consists in an improved arrangement of mechanism by which the punch in metallic punching-machines can be easily and certainly raised at every backward motion of the hand-lever, thereby superseding the use of springs for that purpose, which at best are unreliable in their operation, and liable to become impaired.

To enable others skilled in the art to make and use our improvement, which is equally applicable to all-sized punches, we will proceed to describe the same.

We construct the body of our punching-machine in any of the known forms, and use the ordinary eccentric lever for forcing down the punch; but for the purpose of securing a perfectly uniform and reliable reverse motion of the punch, we use an L-shaped reciprocating lever, or pallet, which we shall call in this specification by this latter name.

The lower limb of this pivoted pallet engages with the under side of the punch-head, and the upper limb rests against the back of the operating-lever. When the lever is moved backward, it presses upon the upper, while the lower limb elevates the punch.

Corresponding letters in Figs. A and B refer to the same parts.

Figure A, perspective drawing of our improvement.

Figure B, sectional side view of the working-parts.

e, pallet, pivoted at *i*;

d, eccentric-operating lever, pivoted at *k*;

c, body of the machine;

f, punch;

g, die; and

h, temper-screw, to regulate distance of material being worked.

The dotted lines in Fig. B show the position of the working-parts when the punch is elevated.

By the foregoing references, the operation will be readily understood.

When the lever *d* is raised from an inclined to an upright position, the front eccentric impinges upon the head of the punch, and forces it down with the lower limb of the pallet, while the upper limb follows the back eccentric of the lever, and when the motion of the lever is reversed, that of the punch and pallet is reversed also, thus producing a simultaneous reciprocating motion to all the working-parts.

In the construction of our punching-machines, we do not confine ourselves to any special size for the several parts, or kind of material used, but are governed in that by the size of the machine to which our improvement is to be attached, and the power to be exerted.

The combination, in punching-machines, of a cam-headed hand-lever, which, moved in one direction, will cause the punch to descend and perforate the metal underneath it, and, when moved in the opposite direction, will, by forcing back the end of a secondary lever, cause the said secondary lever to elevate the punch, is not a new combination, the same being described in the patent granted to F. Heusell, found published in *Brevets d'Invention Belges*, volume ix, page 285, of Category 5, and we do not claim such combination; but

What we do claim, is—

Arranging the secondary lever, shaped substantially as described, on a fulcrum at a lower elevation than that of the primary or hand-lever, and so that one extremity of the same shall be constantly engaged with the punch, and the other constantly in contact with the eccentric head of the hand-lever, all substantially as herein set forth.

W. E. SCOTT.
DANIEL L. WOOD.

Witnesses:

T. A. MADISON,
A. W. MADISON.