

(No Model.)

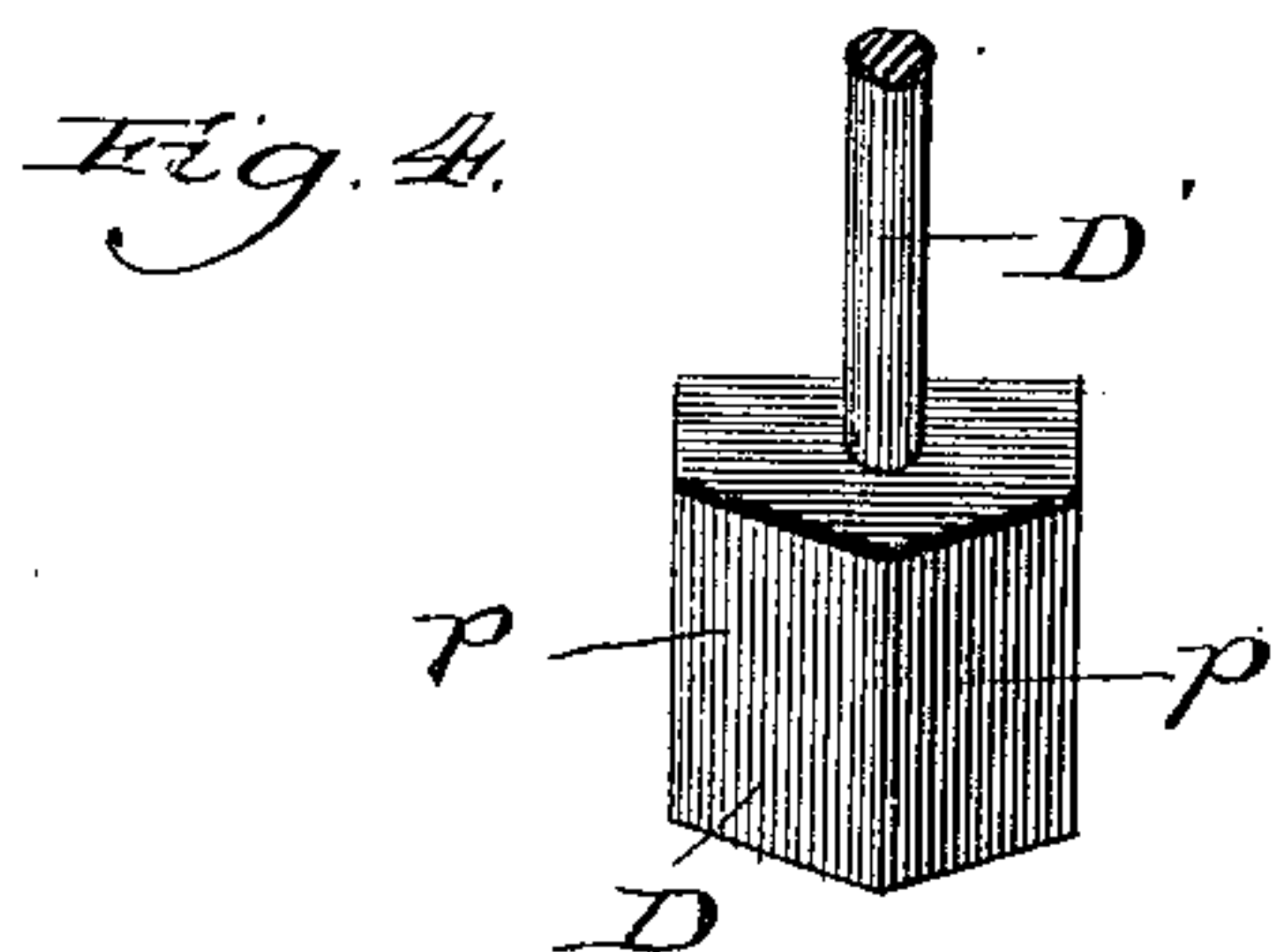
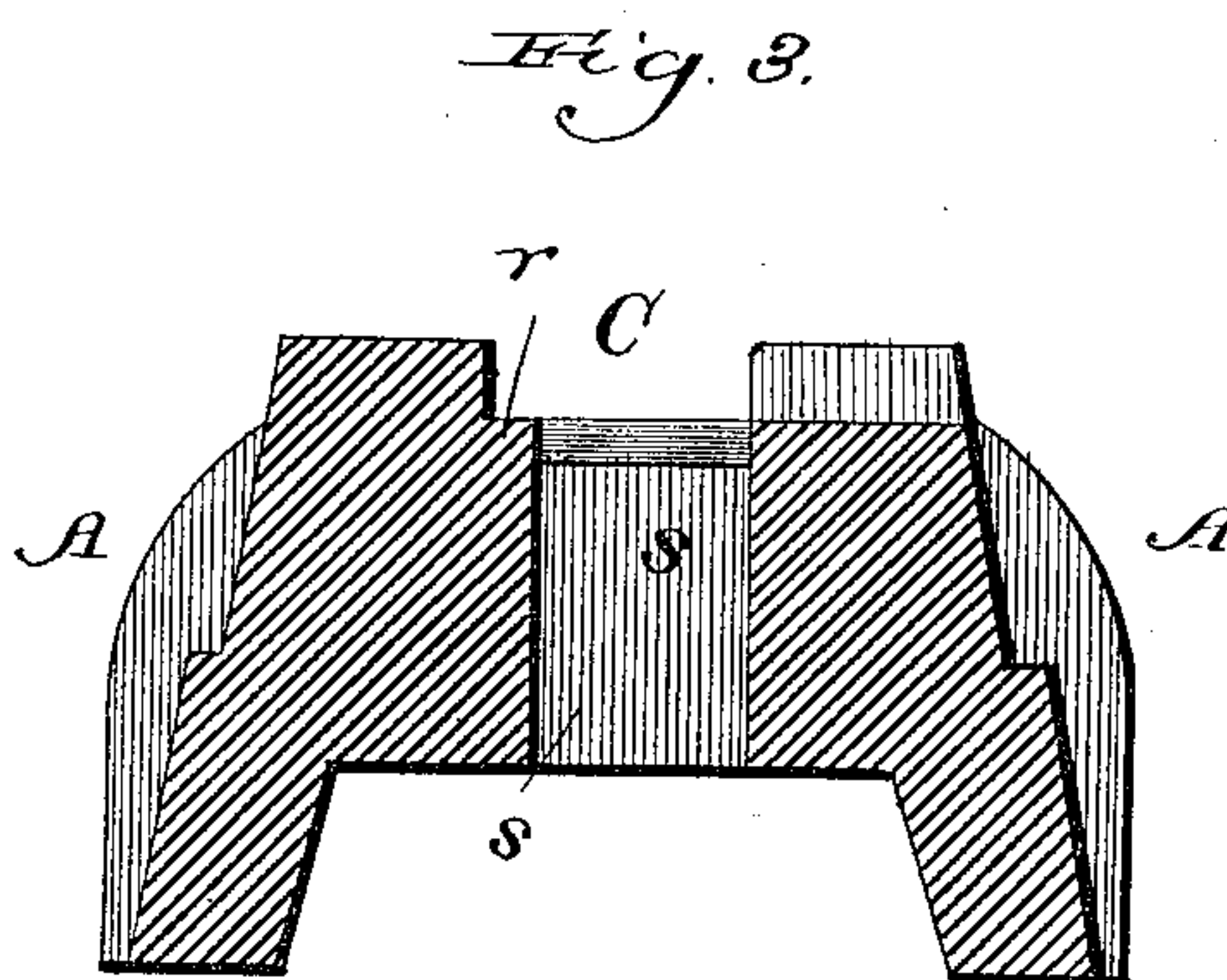
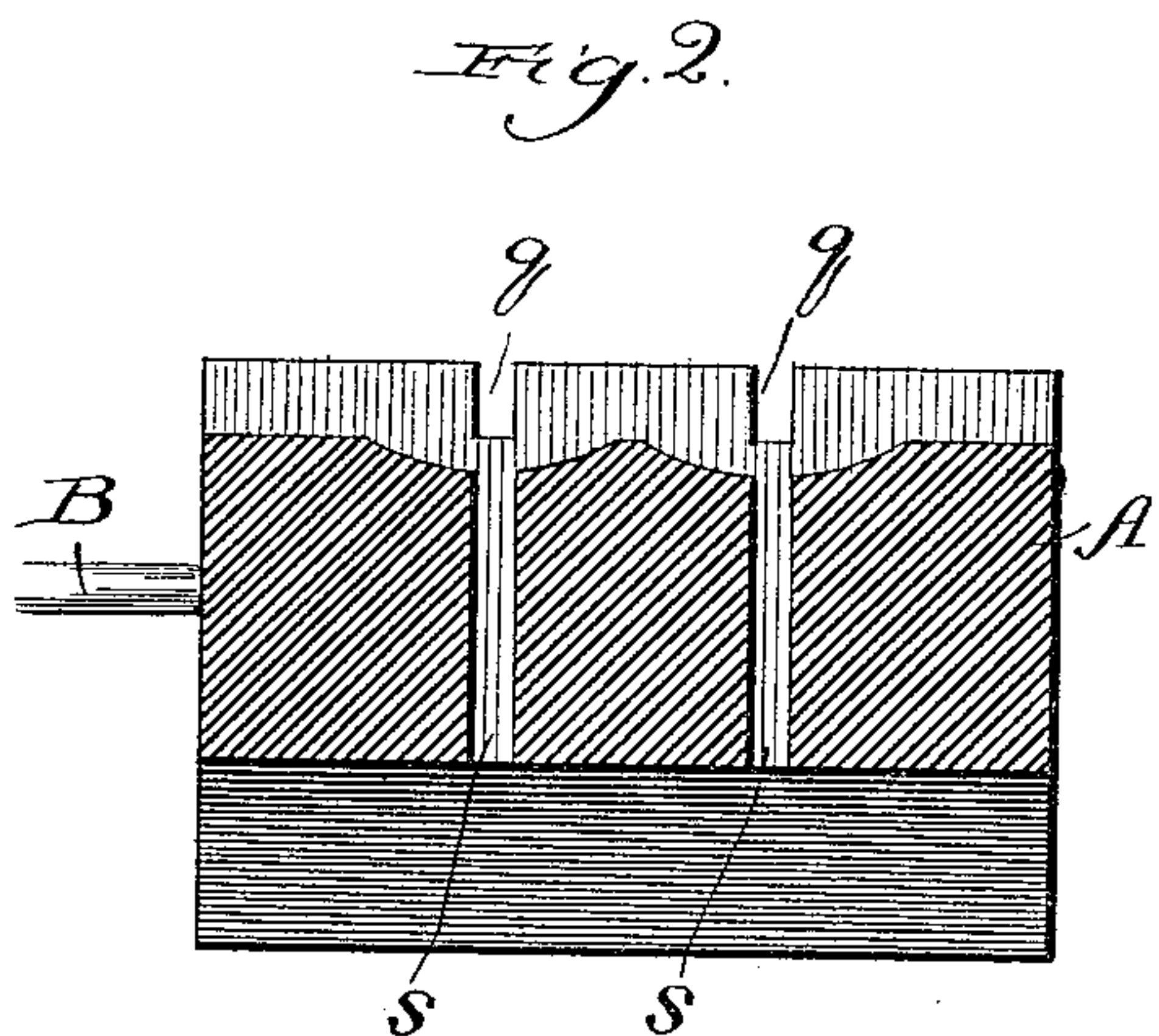
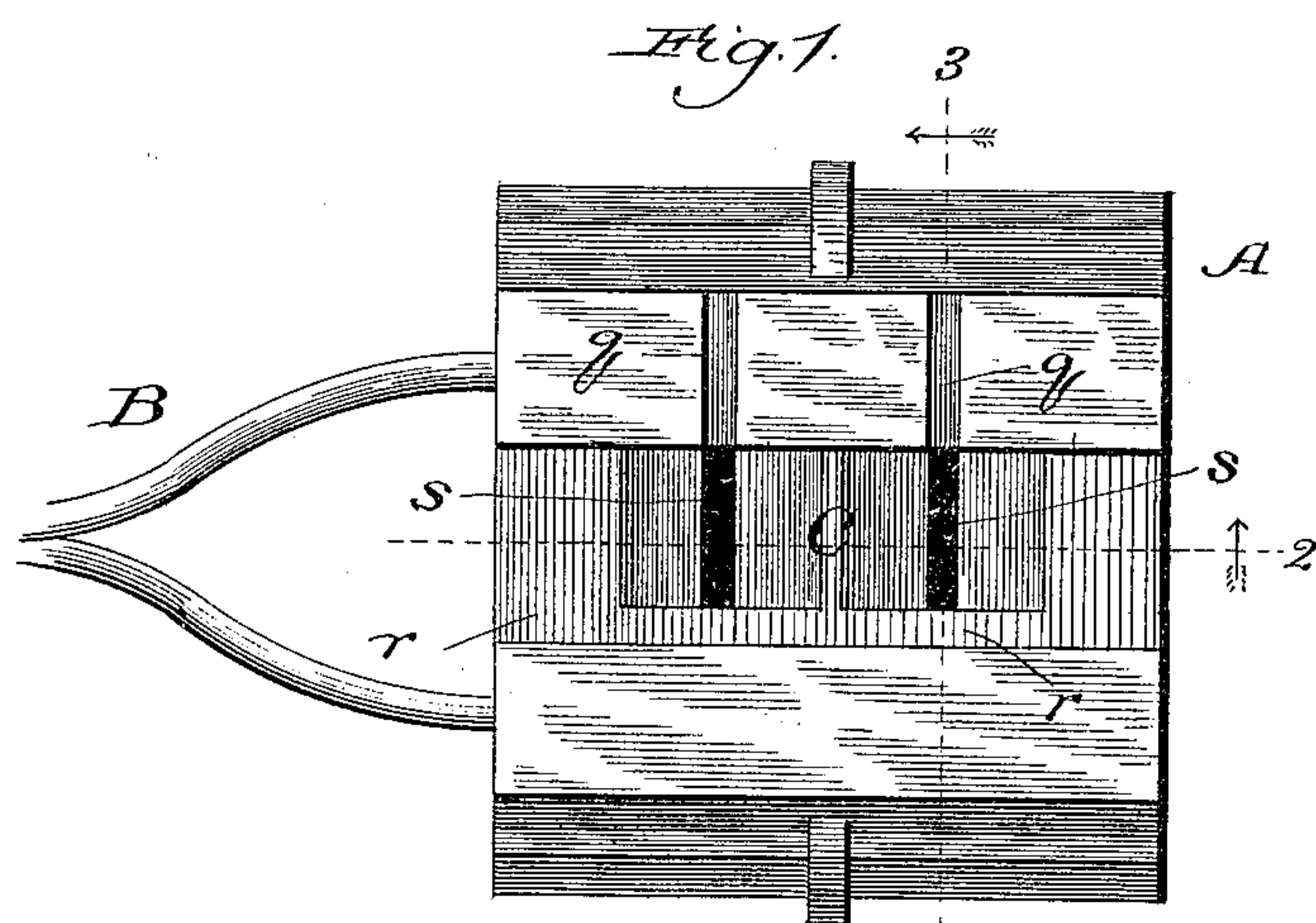
2 Sheets—Sheet 1.

A. A. STROM.

DIE FOR FORGING CROSS BARS OF RAILROAD TRACK CHAIRS.

No. 365,028.

Patented June 14, 1887.



Witnesses:
C. S. Gaylord.
J. H. Dyrenforth.

Inventor:
Axel A. Strom,
By Dyrenforth and Dyrenforth
Attys.

(No Model.)

2 Sheets—Sheet 2.

A. A. STROM.

DIE FOR FORGING CROSS BARS OF RAILROAD TRACK CHAIRS.

No. 365,028.

Patented June 14, 1887.

Fig. 5.

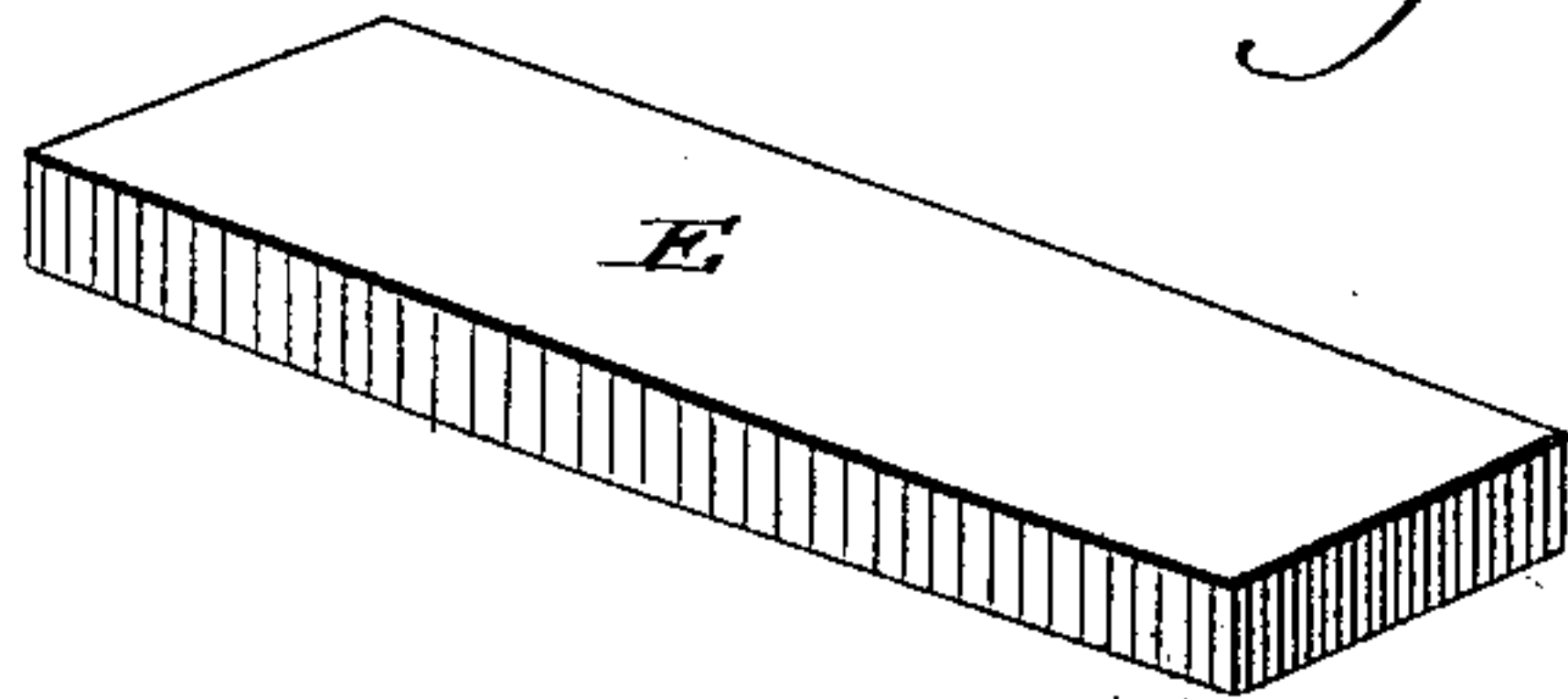


Fig. 6.

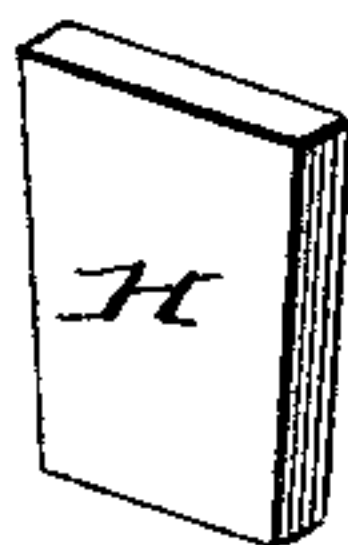
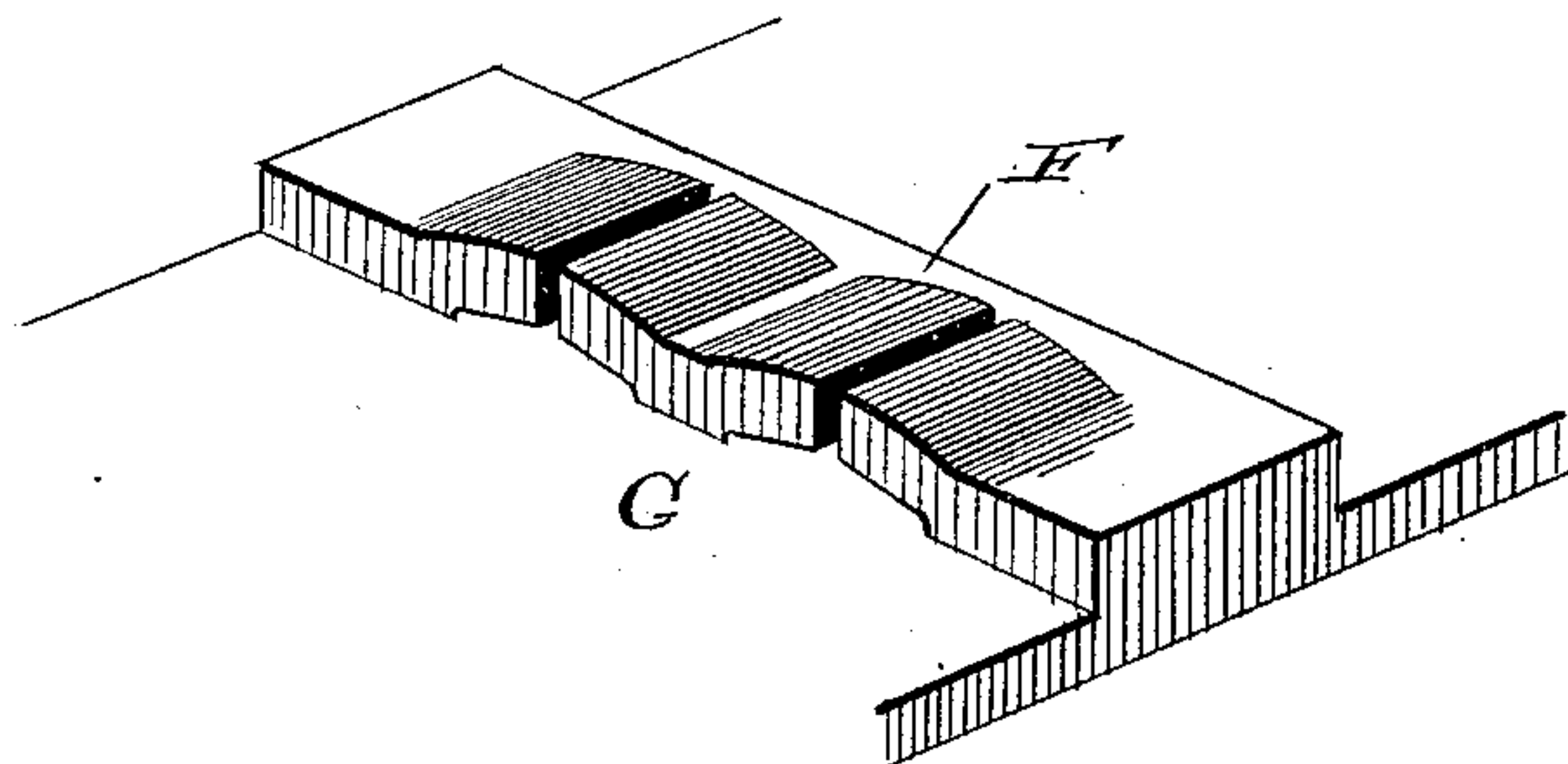


Fig. 7.



Witnesses:
Chas. E. Gaylord.
J. H. Dyrenforth.

Inventor:
A. A. Strom,
By Dyrenforth & Dyrenforth,
Attys.

UNITED STATES PATENT OFFICE.

AXEL A. STROM, OF AUSTIN, ILLINOIS.

DIE FOR FORGING CROSS-BARS OF RAILROAD-TRACK CHAIRS.

SPECIFICATION forming part of Letters Patent No. 365,028, dated June 14, 1887.

Application filed April 4, 1887. Serial No. 233,552. (No model.)

To all whom it may concern:

Be it known that I, AXEL A. STROM, a citizen of the United States, residing at Austin, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Dies; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the construction of a die for forging the cross-bars of railroad-track chairs of especial construction.

It is my object to provide a construction of die by means of which a transversely-slotted cross-bar, which is bent upward at opposite edges of the slots to afford recesses for the rail-flanges when the cross-bar is secured—usually by welding—upon the base-plate of the chair, may be formed by placing the blank in the form of a bar of heated metal into the die, forcing a former upon it and punching the slots.

To this end my invention consists in the construction of the die, hereinafter set forth and claimed.

In the drawings, Figure 1 is a plan view of the die provided with a handle, by which it is carried and controlled, but shown broken away. Fig. 2 is a longitudinal section of the same taken on the line 2 of Fig. 1, and viewed in the direction of the arrow; Fig. 3, a cross-section of the same taken on the line 3 of Fig. 1, and viewed in the direction of the arrow; Fig. 4, a perspective view of the former, having a portion of the handle broken away; Fig. 5, a perspective view of the blank; Fig. 6, a similar view of the punch; and Fig. 7, a similar view of the finished cross-bar on its base-plate, shown broken away and to represent the head-chair.

A is the body of the die, preferably of hard steel, having the general form of a square block, hollowed out underneath, as illustrated, and provided on one end, as shown, with a bifurcated handle, B, by means of which it may be carried from place to place in the shop, and steadied during the forging operation hereinafter described. Centrally along the upper surface of the body A is a rectangular recess, C, extending the entire length of the body A, which corresponds in length with that of the blank or bar E, from which the cross-bar of the chair is to be formed. In the

recess C, the desired distance apart, are two transverse slots, *s*, extending part way across the recess to a ledge, *r*, in the same along one side, and vertically through the body A to the hollow in its base, and the bottom of the recess C slopes downward toward the slots *s* on opposite sides of the latter, being straight toward its ends, as shown. On the side of the block A opposite the ledge *r* are transverse slots *q*, respectively in line with the slots *s*, and serving a purpose hereinafter described.

To produce the shape of cross-bar F, I insert into the recess C a heated metal blank, E, in the form of an oblong square, and fitting between the sides of the recess C over the ledge *r*. I then apply the former D, (shown in Fig. 4,) which is a block of a length to extend from the inner edge of the ledge *r* to the opposite edge of the recess C, and provided on its lower surface with sloping sides *p*, slanting outward from the edges to a central line. The under surface of the former D, or that which is applied to the blank, conforms in shape to the sloping surfaces at the base of the recess C on opposite sides of a slot, *s*, and the central line is thereby brought over the center of such slot.

To apply the former, its handle D' is inserted into a slot, *q*, to cause the rear end of the former to abut against the adjacent edge of the recess C, and thus insure its extension to, but not beyond, the ledge *r*. When thus adjusted, force is applied to the upper surface of the former D, by hammering or otherwise, to bend the blank into the shape of the die at a slot, *s*, and leave an unbent portion at the edge of the blank imposed upon the ledge *r* to afford the back or abutment for the rail in the cross-bar.

When bent as aforesaid, on removing the former D a punch, H, is applied to the blank over each slot *s*, and the metal removed by punching affords the necessary slots in the blank to constitute it a cross-bar, F, and falls through the slots *s* out of the way.

The die, as represented, has its forming parts duplicated. It will be understood, however, that these could be single or increased in number in each die, though I prefer the duplicate form, as it permits the production of the cross-bar for a two-throw switch without moving the blank from its position in the die. For

the same reason, where a three-throw cross-bar is to be formed, the die should be in triplicate.

Of course two formers may be applied simultaneously to the form of die shown, or the same may be used successively.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a die for forming cross-bars F of rail-chairs G, the body portion A, provided with a recess, C, to receive the blank E, and having converging sloping surfaces in its base and a ledge, *r*, in the recess at one side of the same, all constructed substantially as described.

2. In a die for forming cross-bars F for rail-chairs G, the combination of the body portion A, provided with a recess, C, to receive the blank E, a ledge, *r*, in the recess at one side of the same, and a transverse slot, *s*, in the recess between converging sloping surfaces in the base of the recess, substantially as described.

3. The combination of a die having a body portion, A, provided with a recess, C, having converging sloping surfaces in its base, a ledge, *r*, in the recess at one side of the same, and a former, D, comprising a block having converging surfaces *p* on one side, and of a length to extend from one side of the recess C to the ledge *r* on the opposite side, substantially as and for the purpose set forth.

4. In a die for forming cross-bars F for rail-chairs G, the combination of the body portion A, hollowed out on its under side and provided on its opposite side with a recess, C, to receive the blank E, a ledge, *r*, in the recess at one side of the same, and a transverse slot, *s*, in the recess between sloping surfaces in the base of the recess, substantially as described.

5. The combination of a die having a body portion, A, provided with a recess, C, in its upper side, a ledge, *r*, in the recess at one side of the same, a transverse slot, *q*, in the body portion at the opposite side of the recess, and a transverse slot, *s*, in the recess in line with the slot *q* and between converging sloping surfaces in the base of the recess, and a former, D, provided with a handle, D', to enter the slot *q*, and comprising a block having converging surfaces *p* on one side and of a length to extend from the inner end of the slot *q* to the adjacent edge of the ledge *r*, substantially as and for the purpose set forth.

6. The combination of a die comprising a body portion, A, having a handle, B, and hollowed out on its under side, and provided in its opposite side with a recess, C, a ledge, *r*, in the recess at one side of the same, transverse slots *q* in the body portion at the opposite side of the recess, and transverse slots *s*, extending through the body portion in the recess and respectively in line with the slots *q* and between downwardly-sloping surfaces in the base of the recess, and a former, D, provided with a handle, D', to enter a slot, *q*, and comprising a block having outwardly-converging surfaces *p* on one side and of a length to extend from the inner end of a slot, *q*, to the adjacent edge of the ledge *r*, substantially as and for the purpose set forth.

AXEL A. STROM.

In presence of—

J. W. DYRENFORTH,
FRANK L. DOUGLAS.