

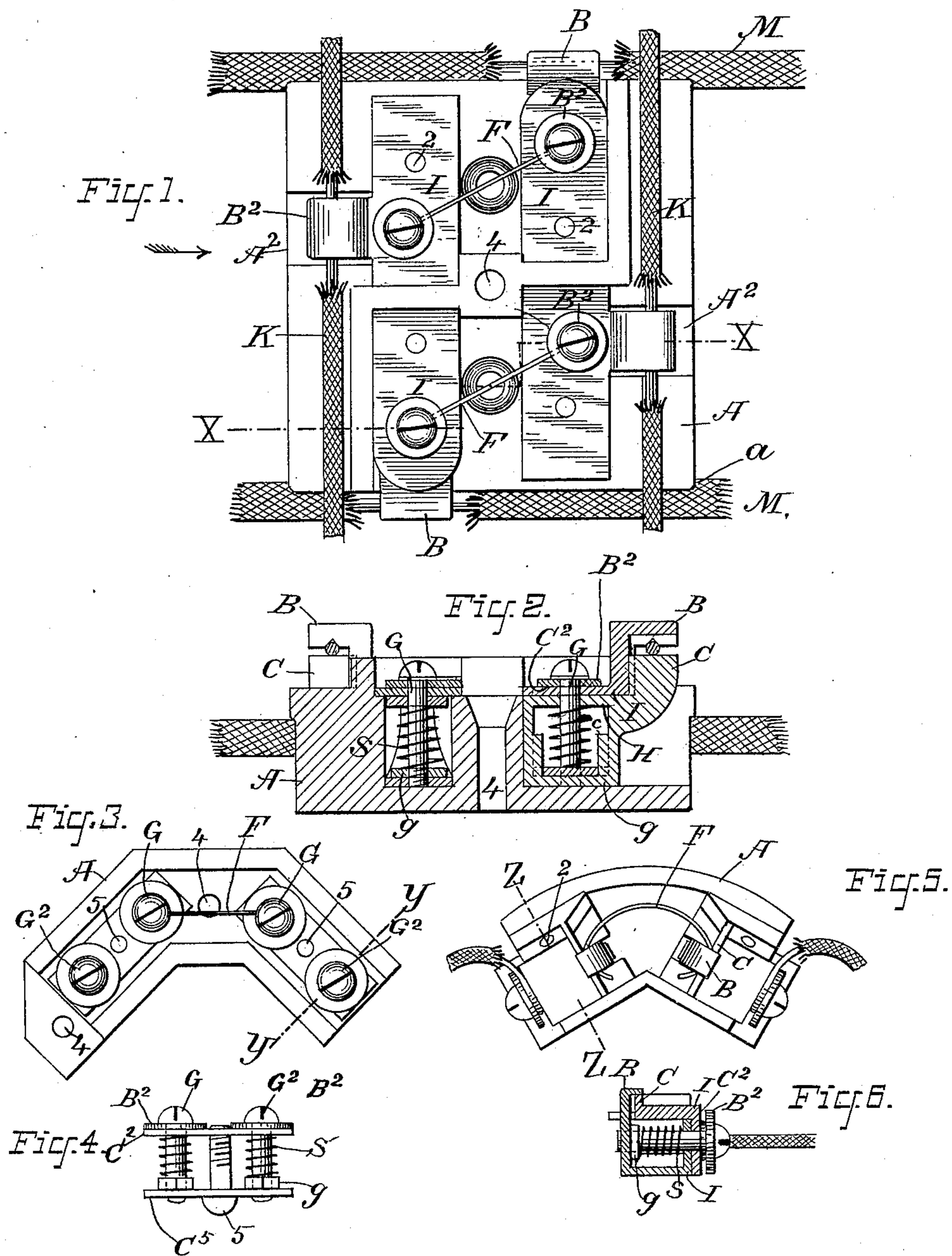
(No Model.)

3 Sheets—Sheet 1.

A. P. SEYMOUR.  
FUSE BLOCK.

No. 446,895.

Patented Feb. 24, 1891.



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Fig. 7.

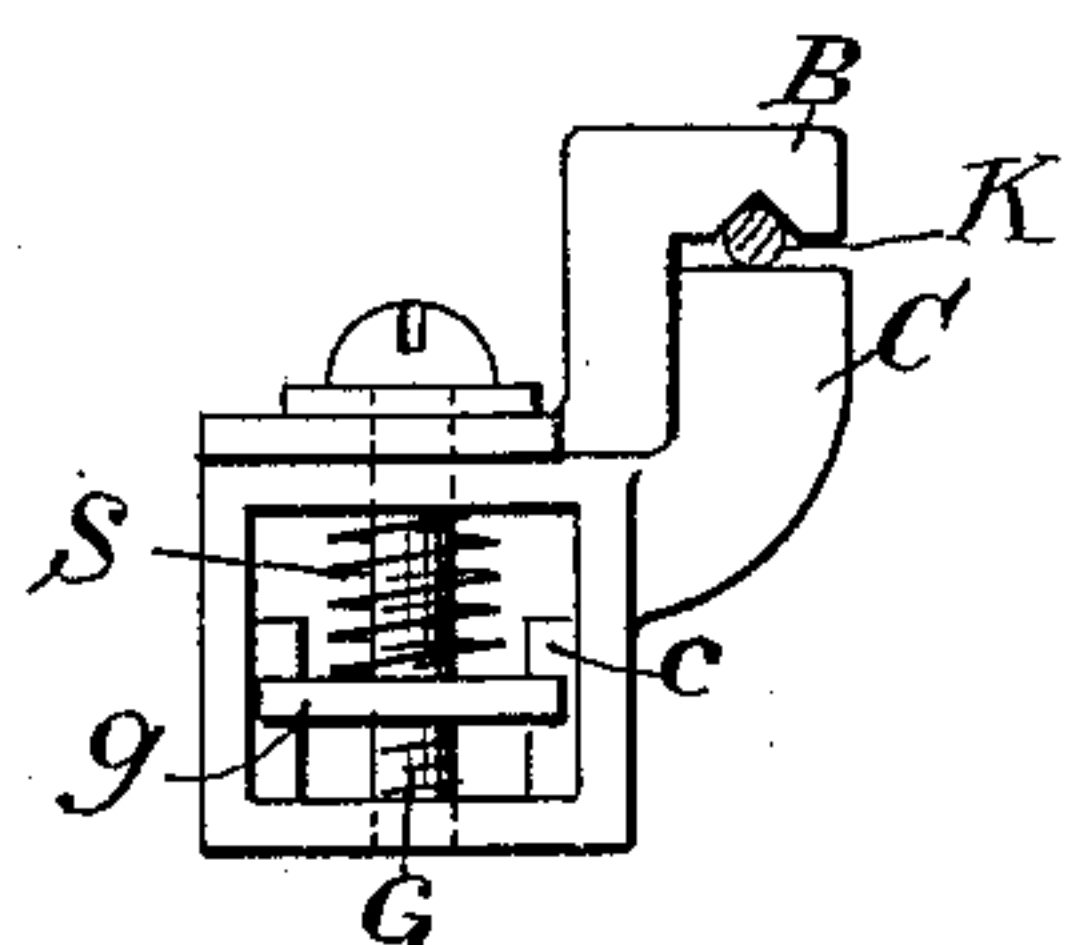


Fig. 8.

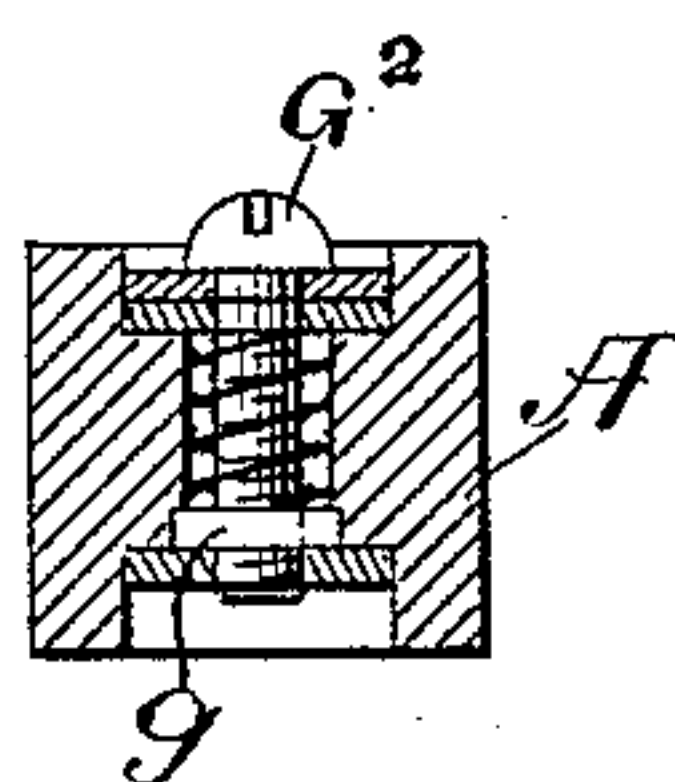


Fig. 9.

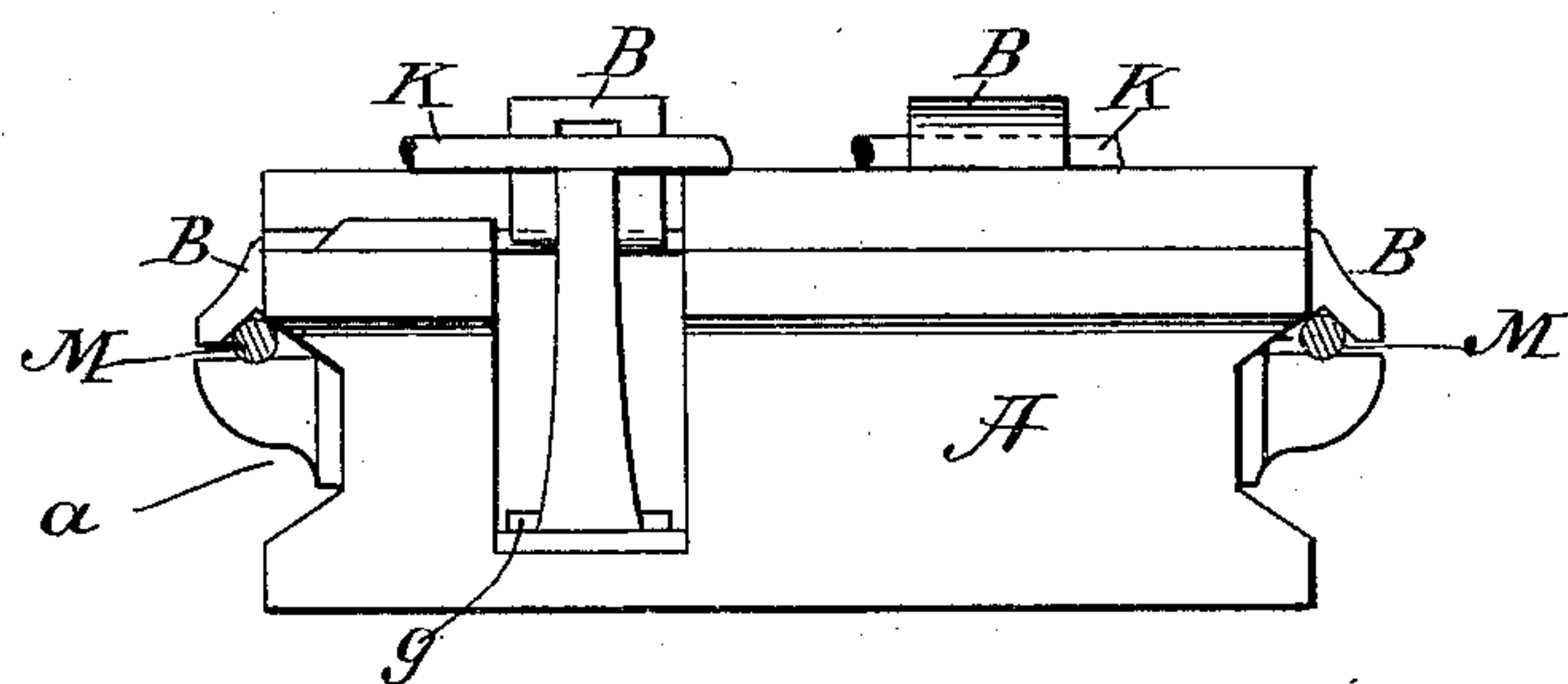
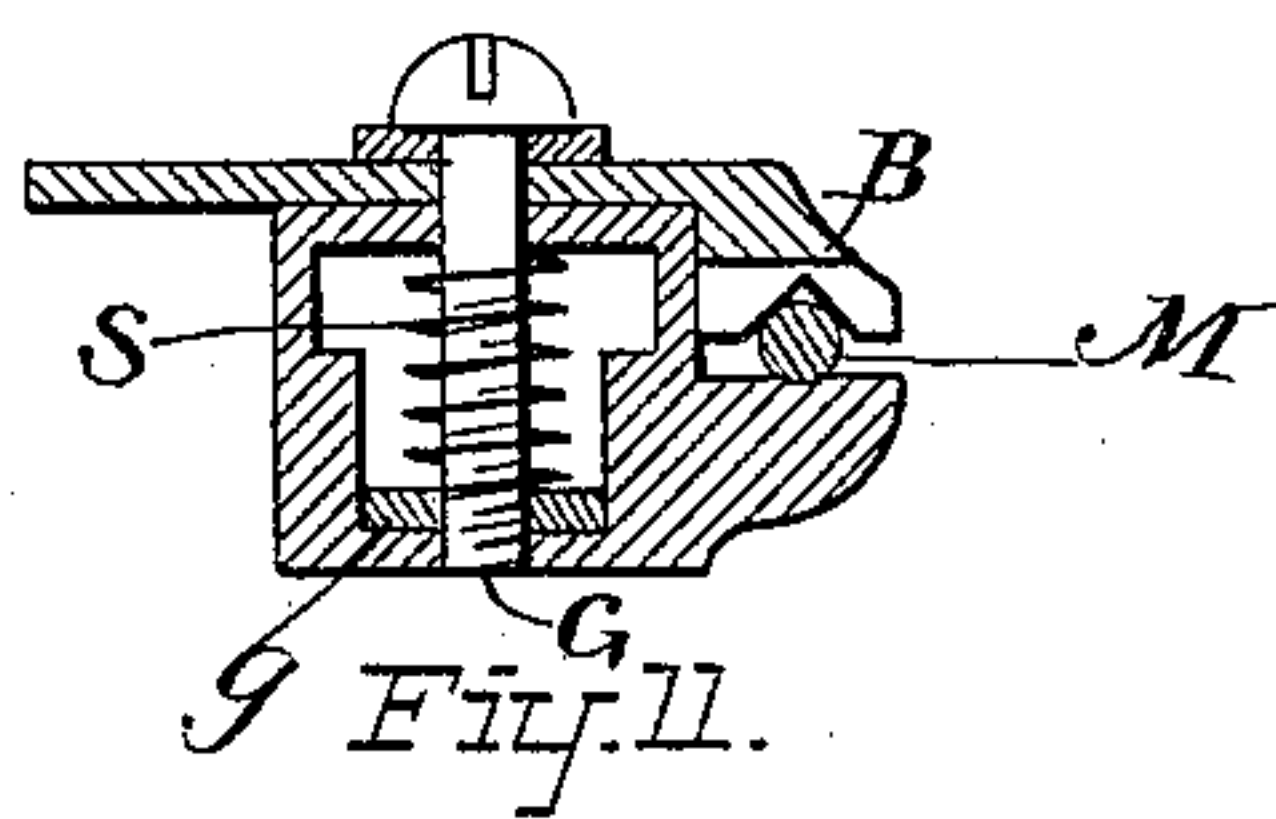
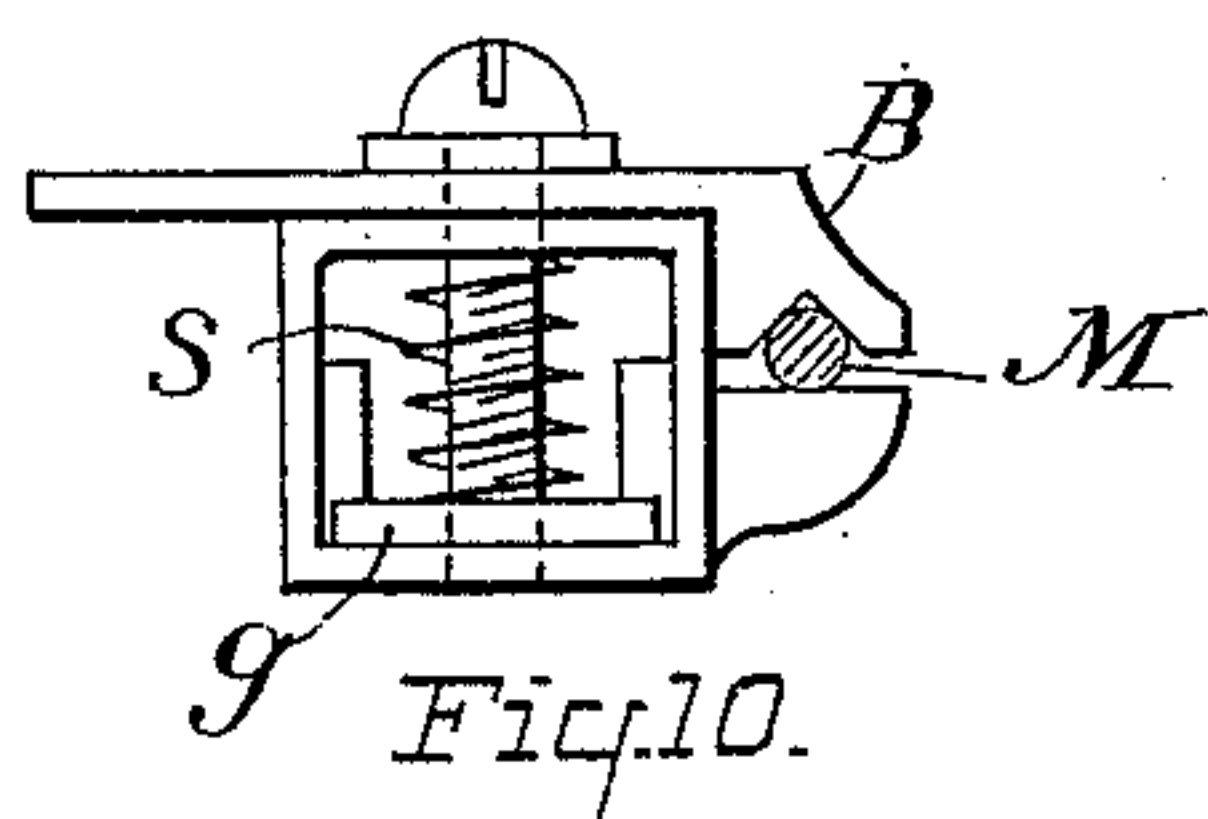
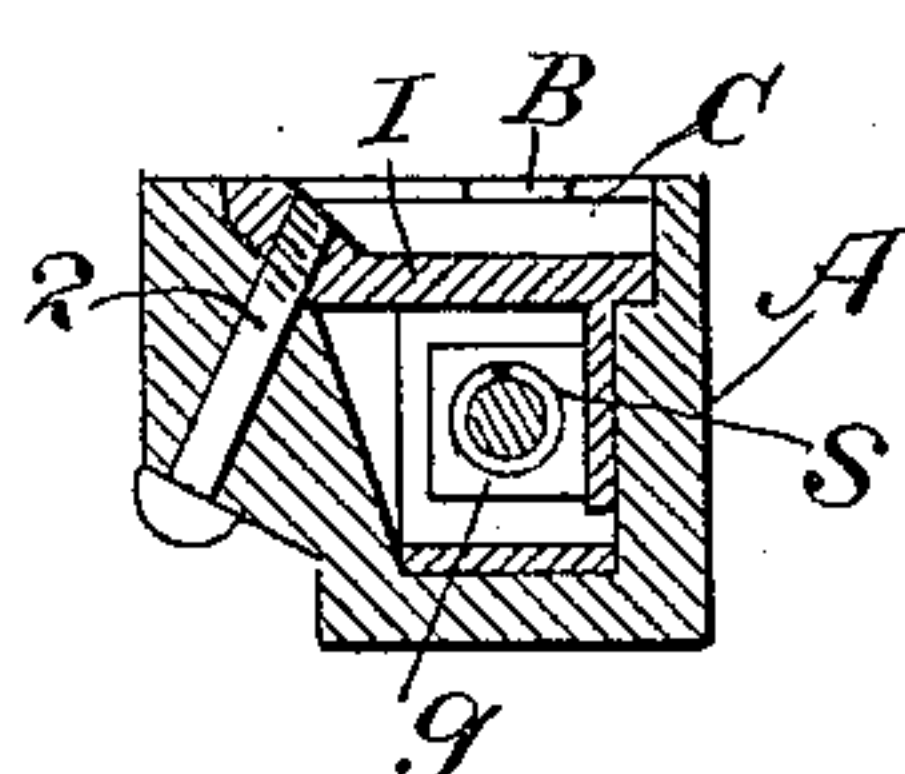


Fig. 12.

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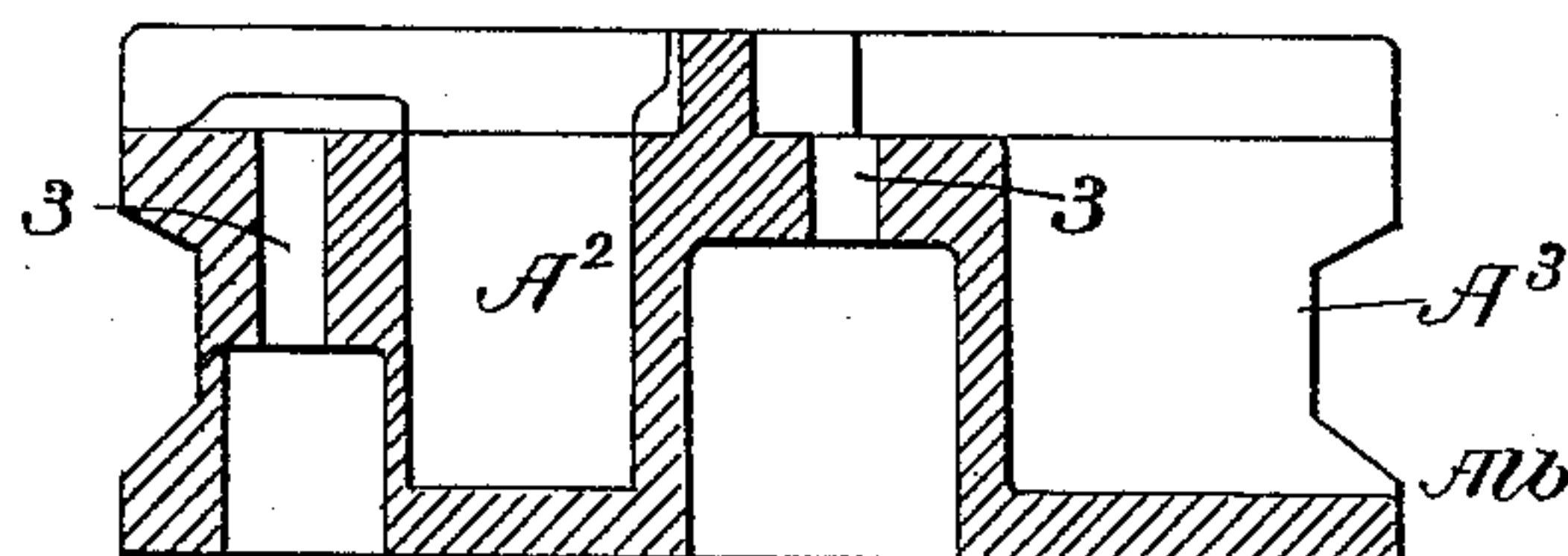
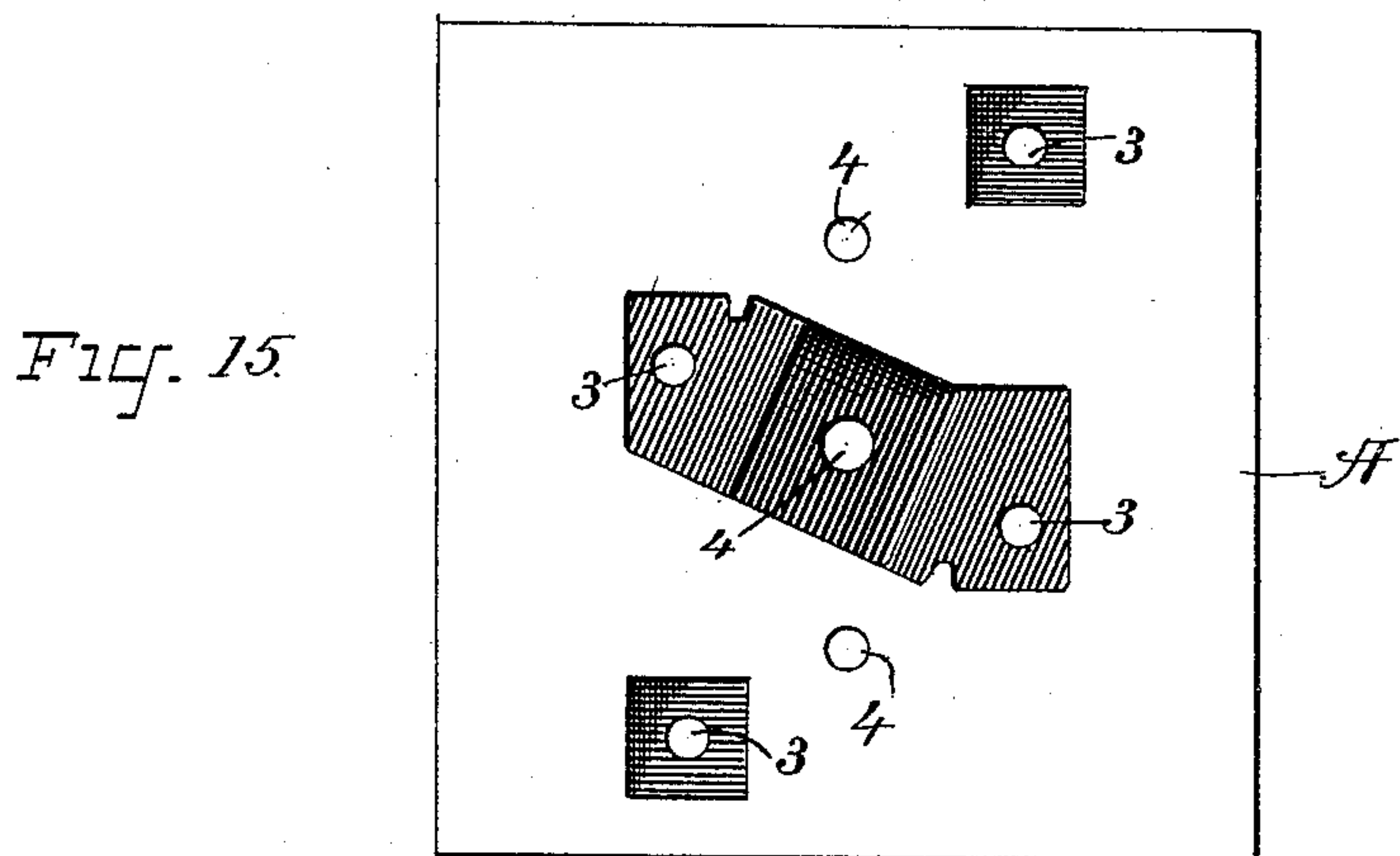
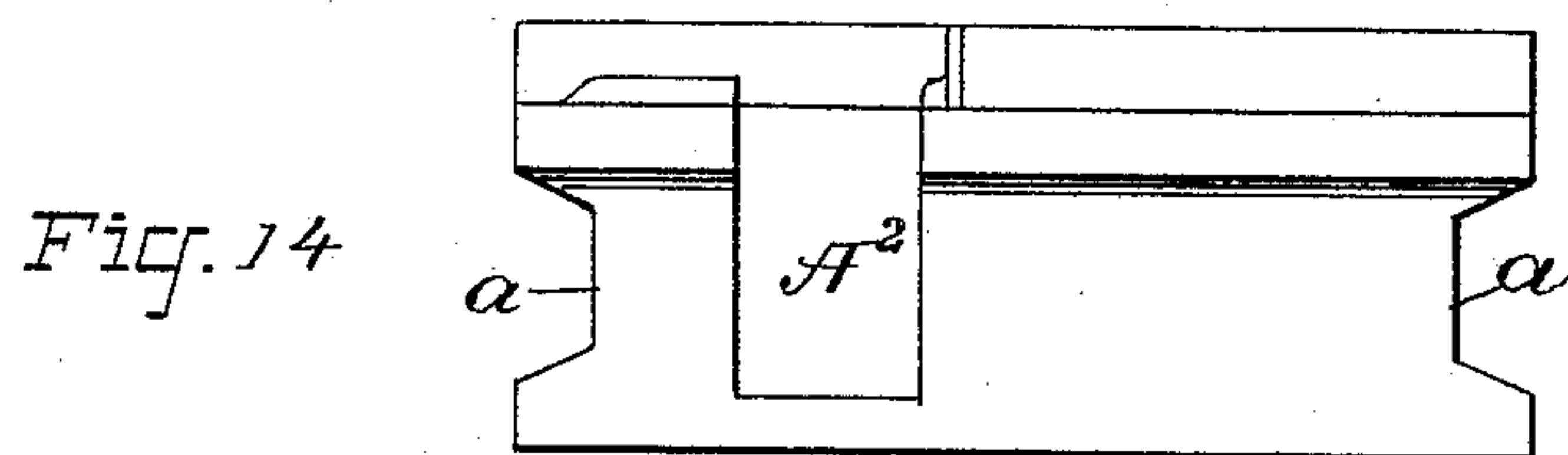
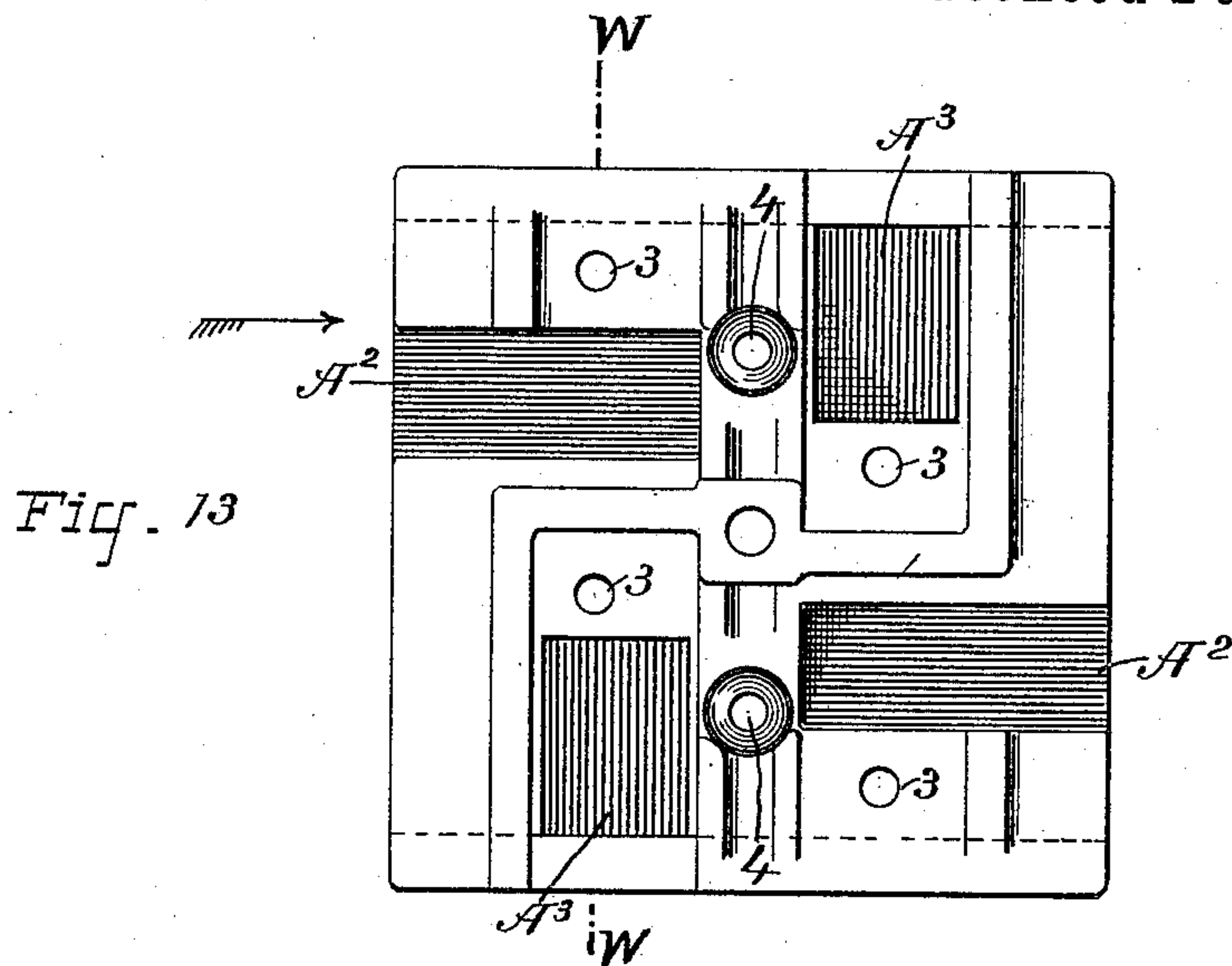
(No Model.)

3 Sheets—Sheet 3.

A. P. SEYMOUR.  
FUSE BLOCK.

No. 446,895.

Patented Feb. 24, 1891.



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# UNITED STATES PATENT OFFICE.

ALBERT P. SEYMOUR, OF SYRACUSE, NEW YORK.

## FUSE-BLOCK.

SPECIFICATION forming part of Letters Patent No. 446,895, dated February 24, 1891.

Application filed July 26, 1889. Serial No. 318,748. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT P. SEYMOUR, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Fuse-Blocks, of which the following is a specification.

My invention relates to clamping or connecting devices for holding and forming electric connection with electric conductors, and is designed especially for use in holding electric fuses and conductors or wires with which such fuses are electrically connected.

My invention relates also to a fuse-block which holds or receives the clamping or connecting devices.

The object of my invention is to avoid certain defects found to exist with devices at present in use for clamping or holding electric conductors. In the present forms of devices, especially those which are used for holding electric fuses, it frequently happens that the fuse gets loose in its clamp, especially in positions where it is subject to jar. The difficulty seems to arise from the turning back of the clamping or holding screw. I aim to overcome this difficulty by the application of a spiral take-up spring in the manner hereinafter described, which allows a number of turns backward of the screw without releasing the grip of the clamping device upon the fuse or other conductor.

A further object of my invention is to provide a convenient device for clamping the fuse and at the same time holding the wires or conductors electrically connected therewith.

A further object of my invention is to provide a cheap and convenient form of insulating-block for holding the fuse and wire clamps.

My invention consists in special devices and combinations of apparatus to be hereinafter more fully described, and then specified in the claims.

In the accompanying drawings, Figure 1 is a plan of a fuse-block and clamping or connecting devices embodying my invention. Fig. 2 is a cross-section on the line X X, Fig. 1. Fig. 3 is a plan of a modified form of fuse-block suitable for use in electric fixtures. Fig. 4 is a cross-section through the clamping

devices for the fuse. Fig. 5 shows a modified construction adapted for use with electric fixtures. Fig. 6 is a cross-section through the clamping devices of Fig. 5. Fig. 7 shows the clamping devices of Fig. 2 with the spring compressed so as to allow a number of turns backward of the screw without releasing the wire. Fig. 8 is a cross-section on the line Y Y of Fig. 3. Fig. 9 is a cross-section on the line Z Z of Fig. 5. Fig. 10 is a side elevation of the clamping devices which hold the main wire or conductor detached from the fuse-block. Fig. 11 is a longitudinal section of the same. Fig. 12 is an edge view of Fig. 1, looking in the direction of the arrow. Fig. 13 is a plan of the fuse-block with the clamping devices removed. Fig. 14 is an edge view of the same, looking in the direction of the arrow, Fig. 10. Fig. 15 is an inverted plan view of the fuse-block. Fig. 16 is a cross-section through the fuse-block on the line W W, Fig. 13.

A is a block of some insulating material, preferably porcelain, and provided with sockets at A<sup>2</sup> and A<sup>3</sup>, which receive the clamping devices, those for the main conductors (indicated at M M) being placed in the sockets A<sup>3</sup>, and those for the branch conductors K in the sockets A<sup>2</sup>.

I H indicate two clamping plates or blocks provided with extensions B C, formed as clamping-jaws. The jaws B C for the main wires or conductors M extend into a groove *a* at the edge of the block in which the main conductors lie, while the jaws B C for those clamping devices which receive the conductors K extend upwardly above the face of the block, as shown in Fig. 2, so that the wires K K can lie upon the top of the block, thus obviating any danger of connection of the main and branch wires. By locating the groove or depression for the main conductor in the edge of the block, as shown, I provide for the ready connection and disconnection of the wire without entirely disconnecting the two parts of the clamping devices, as is necessary in previous constructions where the clamping devices rest on the body of the block and the groove for the reception of the wire is on the face thereof. The plates I H are perforated to permit the passage of a



screw G, the lower end of which engages with a nut *g*.

S is a spiral spring encircling the screw and held between the nut *g* and the plate II. The nut is held against turning by engagement with the ridge *c*, formed on the lower extension or body of the plate II. When the screw is turned, the nut rises and gradually compresses the spring, which by its tendency to expansion forces the plates I H toward one another by pressing at one end upon the plate II and at the other by pulling down the screw which engages by its head with the plate I. By this means any wires or conductors secured between the plates or clamps I H or the clamping-jaw extensions B C of the same will be firmly held, and even if the screw should be turned back a number of turns the force of the spring would still preserve the grip upon the electric conductor.

F F indicate electric fuses which connect the main and branch conductors. These devices are clamped or held by the action of the springs S, owing to the fact that their ends are placed beneath the heads of the screws and between the same and the plate I. The washer B<sup>2</sup> may be interposed, as shown, between the head of the screw and the plate I.

C<sup>2</sup> indicates the face of the clamp for the fuse, which corresponds to the clamping-jaw C, and upon which the fuse is held in the same manner that the wire is held on the jaw C, owing to the continued expansive effort of the spiral spring. It is obvious that the clamp-plate or washer B<sup>2</sup> might be omitted and the fuse held directly between the plates I H. Any other means might be employed for guiding or preventing the nut *g* from turning.

The fuse-block itself is held to any suitable support by means of screws, which pass through perforations 4 in the body of the fuse-block, and the clamping devices are fastened to the block by screws 2, which pass through perforations 3 in such block. These screws engage directly with lateral extensions from the top clamp-plates I.

In the modification shown in Fig. 3 separate clamp-screws are employed for the fuse and for the connecting-wires. This form of fuse-block is adapted for use in electric fixtures and is designed simply for placing an electric fuse in the connection from a wire to an electric lamp. The fuse-block is made of porcelain, and the clamping devices are received in sockets or depressions in the same. The screw which clamps the wire is indicated at G<sup>2</sup>, and is provided with a nut *g* and spring S, similar to those already described. The clamping plates or blocks between which the wires are grasped are shown as a washer B<sup>2</sup> and a plate C<sup>2</sup>, which forms an extension of that by which the fuse is grasped. The clamping devices in this case are held in the fuse-block by means of a screw 5, which passes through a perforation and engages the plate C<sup>2</sup>. C<sup>3</sup> is a washer-plate at the opposite side of the fuse-blocks. The nuts *g* are prevented

from turning by engagement with the sides of the socket in which they move up and down.

In the form shown in Fig. 5 the fuse-block is of a little different shape; but the same clamp-screw and spring S serve to hold the conductor and the fuse. In this instance the clamp-plates H and I are extended in the direction of the screw and toward the end of the same, which receives the nut, as shown in Fig. 6. The spring when compressed by turning the screw serves, as before, to force the clamping-plates toward one another. In this instance the clamp-jaws B C receive the ends of the fuse-wire and the insulated conductors are clamped or held against the face of plate I between the same and the head of the screw or washer B<sup>2</sup>. It will be observed that by this construction of clamping device I am enabled to clamp wires or conductors of different size by means of the same clamping-screw. Thus, for instance, the wire or conductor received between the jaws B C, forming extensions of the clamp-plates I H, may be of a different size from that which is received between the plate I and the head of the screw or another plate engaged by such head. This is a distinct advantage arising from my invention, and is in addition to that which is obtained when the screw and spring are employed for clamping a single conductor, as would be the case if the clamping-jaws B C were dispensed with and a fuse or other wire received either between the plates I H or simply between the plate I and the plate engaged by the head of the screw.

In the form of my invention illustrated in Fig. 6 the nut may be prevented from turning by engagement of its flat side with the side of the extension from plate I, connecting such plate with the jaw B.

While I have shown the spring as applied to the screw between the nut and the lower clamp-plate, it is obvious that it might be applied in other positions and still effect the same result, my invention consisting, essentially, in the combination, with two clamp plates or blocks I H, of the clamp-screw passing through the same, a nut on the end of the screw, and a spring which is applied to the screw and put under compression as the screw is turned for causing the nut to ride upon the same.

What I claim as my invention is—

1. In a clamp or connecting device for electric conductors, the combination, with a screw and nut therefor, of two perforated clamp-blocks or pieces of metal between the head of the screw and nut, and a spiral spring encircling the stem of the screw, as and for the purpose described.

2. The combination, with the perforated clamping-blocks having clamp-jaws, of a clamp-screw passing through the perforation, a nut guided on one of said blocks, and a spiral spring applied to the screw between the nut and the perforation.



3. The combination, with the movable clamp-block, of the screw, the nut, the spiral spring, and the fixed clamp-block provided with a guide for the nut.

5 4. The combination, substantially as described, of a clamping-screw for holding the parts which clamp the conductor together, a movable guided nut on such screw held against turning, and a spiral take-up spring  
10 between the screw and nut and encircling the stem or barrel of the screw, as and for the purpose described.

5 5. In a combined fuse and conductor clamp, the combination of the clamping-screw, a movable guided nut on such screw held against  
15 turning, a spiral take-up spring through which the stem of the screw passes, and extensions from the fuse-clamping devices provided with clamping-jaws for the electric con-  
20 ductor, as and for the purpose described.

6. The combination, with the perforated clamp-blocks having the clamp-jaws, of a screw passing freely through the perforations, a guided nut on the screw, and a spiral spring  
25 between the nut and the lower clamp-block, as and for the purpose described.

7. The combination, with the perforated clamp plates or blocks having lateral extensions formed as jaws, of a screw passing through the perforations in the plates, a  
30 guided nut at one end of the screw, a spiral spring on the screw, and a washer between the head of the screw and the top plate.

Signed at Syracuse, in the county of Onondaga and State of New York, this 24th day of  
July, A. D. 1889. 35

ALBERT P. SEYMOUR.

Witnesses:

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