

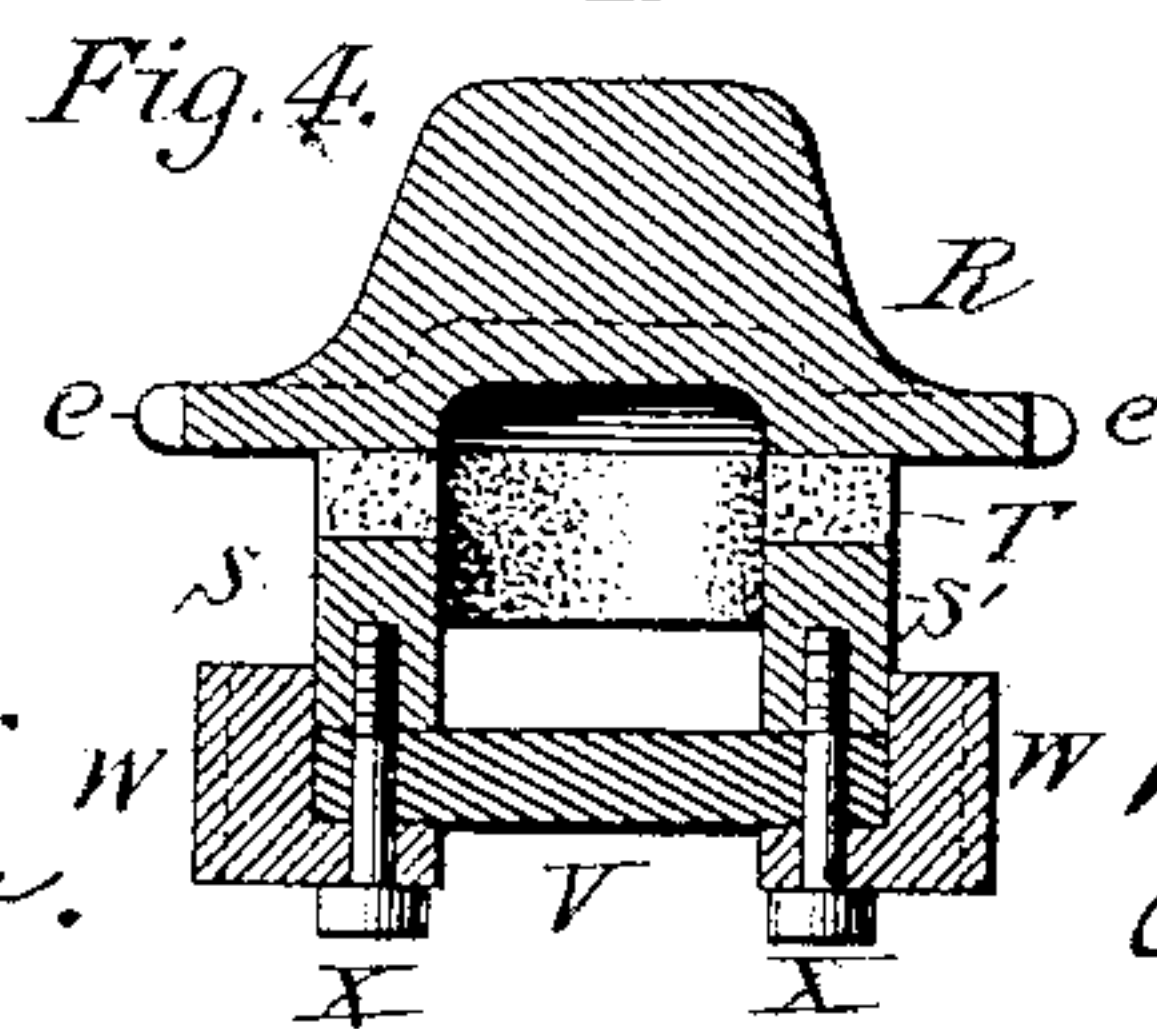
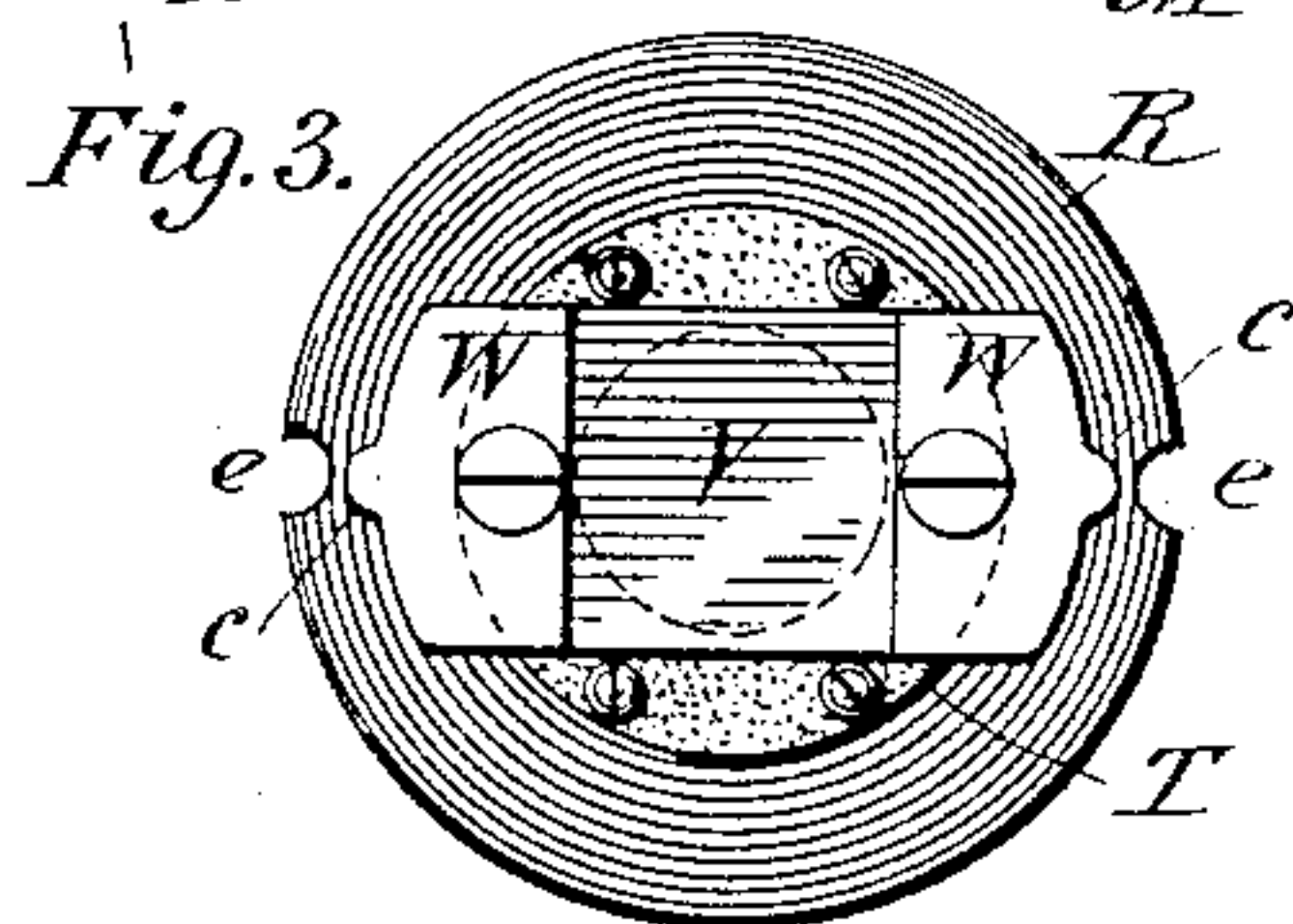
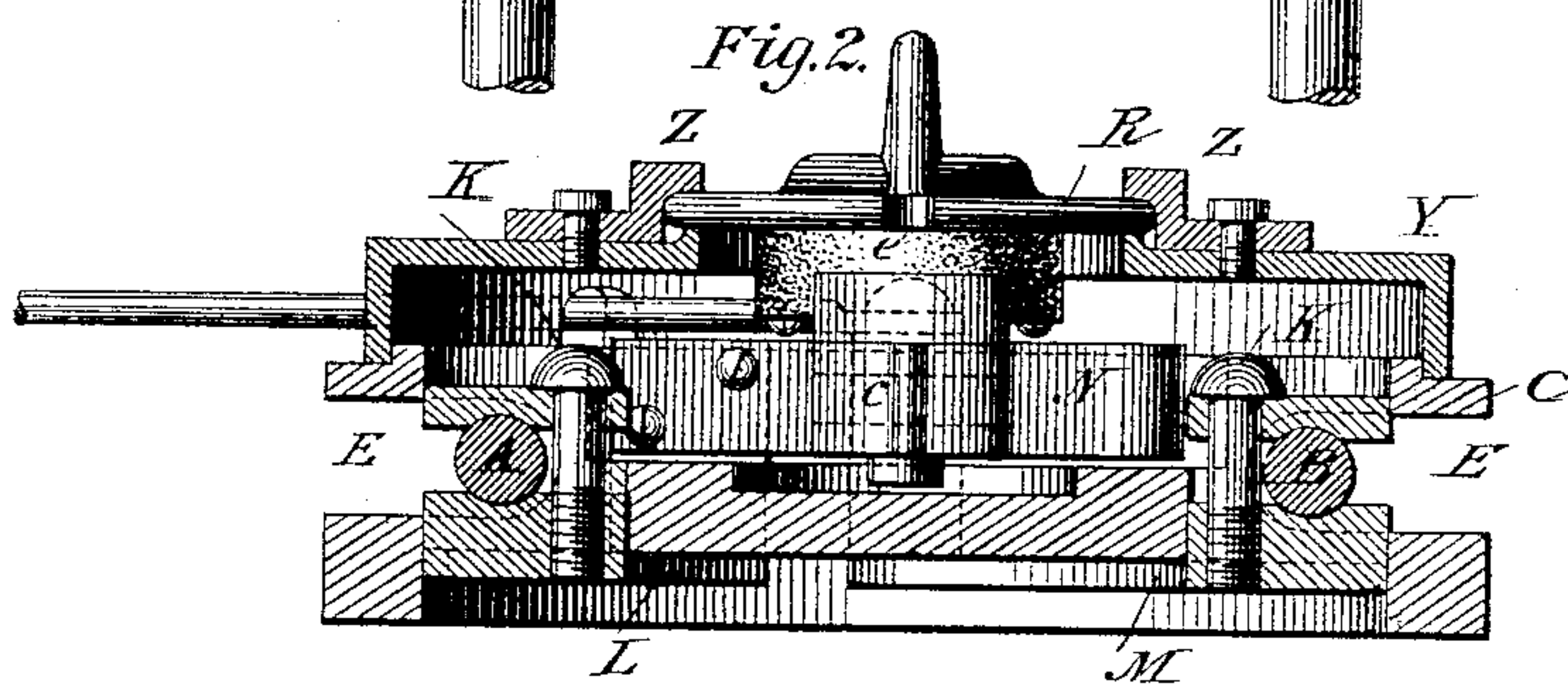
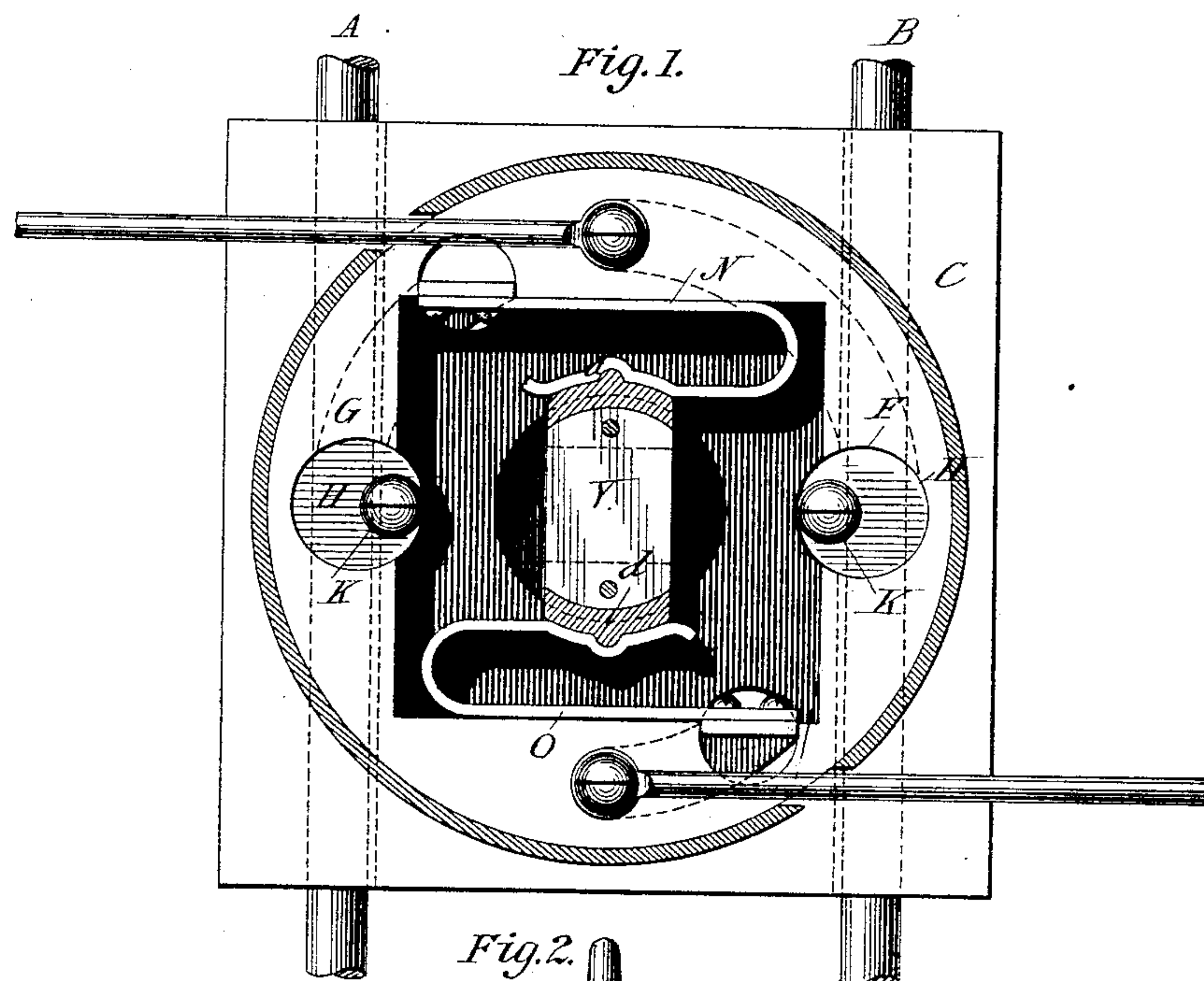
(No Model.)

E. WESTON.

SAFETY STRIP FOR ELECTRIC CIRCUITS.

No. 348,646.

Patented Sept. 7, 1886.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

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## SAFETY-STRIP FOR ELECTRIC CIRCUITS.

SPECIFICATION forming part of Letters Patent No. 348,646, dated September 7, 1886.

Application filed November 16, 1885. Serial No. 182,948. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD WESTON, a subject of the Queen of Great Britain, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Safety-Strips for Electric Circuits, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

My invention is an improvement in devices for inserting fusible safety-strips in electric circuits, the object of the device being to facilitate the insertion or removal of the strip, to protect the same from injury, and to prevent the electrical contact from becoming impaired by long use.

The safety device which I use is a strip or block of fusible metal, which is introduced at any given point in the circuit, with the object of interrupting the circuit upon the passage of too strong a current, the safety-strip, under such circumstances, being fused by the heat before any damage can result to the rest of the circuit. The soft and yielding character of the metal or alloy employed for this purpose makes it difficult to obtain a good contact with circuit-terminals of ordinary kind. To secure a permanent or lasting connection, I have devised various forms of strip and holder. For example, I have formed caps of hard metal on the ends of the strips, which are inserted into the terminal clamp. I have also employed spring-terminals, upon which the strips are placed, and I have also adopted other means to secure the desired result.

In my present device I insert the strip between two spring-terminals, that are forced apart to a sufficient extent by the insertion of the strip to maintain a constant spring-pressure; but inasmuch as the safety-strips are capable of withstanding only a very limited pressure without yielding or bending, I employ any suitable form of holder or support or re-enforcing device that is sufficiently rigid to resist the pressure of the springs. This and the details of the construction of the said device constitute my present improvements.

In the drawings, Figure 1 is a junction and a safety-strip box combined, shown partly in horizontal section, and containing my improve-

ments. Fig. 2 is a vertical central section of a complete box. Fig. 3 is a plan view of the strip, holder, and cap or plug. Fig. 4 is a central section of the same.

The device illustrated shows the improvements as applied to a junction-box—that is, a device for taking off a branch from a main circuit. The improvement is more particularly adapted for this purpose, but is also suited to a great many other uses.

A B are the conductors of a given circuit. At a point where a branch is to be taken off a block of insulating material, C, is secured to the wall or support along which the wires are run. In this block are cut two deep grooves, E, and holes F G are bored through the block over these grooves. In the holes are inserted the metal plates H, between which the conductors A B are clamped by the screws K, which pass also through the plates L M. The latter lie in a recess in the bottom of the block, and one extends up through the block, as shown in dotted lines in Fig. 2, and to it the end of a branch wire is joined in any convenient way. The other plate extends up to a spring, N, secured to one side of a recess in the top of the block. Opposite to this spring in the recess is another spring, O, to which the end of the second branch wire is electrically connected. The break in the branch circuit thus made is closed by the introduction of a safety-strip between the two springs N O; but as the pressure which these springs exert would be apt to bend an ordinary fusible strip, I employ a device such as that shown in detail in Figs. 3 and 4.

R is an iron or wooden cap. If iron, a ring, T, of insulating material is secured to it, in which ring are set and fastened two metal pieces, S S'. These are bridged by a safety-strip, V, which is held in position by the metal blocks or heads W and screws X. With such or any similar arrangement the pressure of the springs is upon the rigid parts of the holder, and not upon the safety-strip, while the circuit is completed through the strip.

To render this device easy to insert and to improve the contact, it is desirable to form lugs *c c* on the heads W and corresponding seats or indentations, *d d*, in the springs. With these the strip is inserted in any position and



turned until the lugs enter the indentations, where the force of the springs holds it securely. The recess containing the springs is covered by a metal cap, Y, having a central perforation to admit the plug and safety-strip. The cap R is held down on this by the ears Z, though it may be lifted off by turning it until the notches *e e* register with the ears Z.

The construction of the device for holding the safety-strip and sustaining the pressure of the springs may be greatly varied. Generally I may use any re-enforced safety-strip provided with rigid contacts in conjunction with the springs, and may adopt such obvious modifications as would be exemplified by dispensing with one spring and using in place of the other a fixed or rigid contact.

I do not claim, broadly, herein a spring-holder for safety-strips such as is shown in my prior patent, No. 259,614, dated June 13, 1882, my present improvements being limited to a holder in which the spring-pressure is in line with the safety-strip, and serves to maintain it in position.

What I claim is—

1. The combination, with spring-terminals, of a re-enforced safety-strip for completing the circuit between said springs, the strip being inserted between the springs, so as to force them apart, and held in position by them, as set forth.

2. The combination, with spring-terminals, of a re-enforced safety-strip having contacts provided at its opposite ends, and adapted to complete the circuit between the springs, the strip being inserted between the springs and held in position by them, as set forth.

3. The combination, with spring-terminals, of a safety-strip and rigid holder therefor adapted for insertion between the springs, and provided with contacts, whereby the circuit is completed between the springs through the safety-strip, as set forth.

4. The combination, with a box or case containing spring-terminals, of a cap carrying a fusible safety-strip and forming a rigid holder therefor, the said cap being formed with contacts in electrical connection with the ends of the strip, and adapted for insertion between the springs, as set forth.

5. The combination, with a box or case containing spring-terminals, of a cap having contacts, a safety-strip secured to the cap with its ends in electrical connection with the contacts, and means for holding the cap in position, so that the circuit between the springs is completed by the safety-strip, as set forth.

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Witnesses:

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