

No. 765,889.

PATENTED JULY 26, 1904.

J. HARRIS.  
SHUNT.

APPLICATION FILED JAN. 25, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

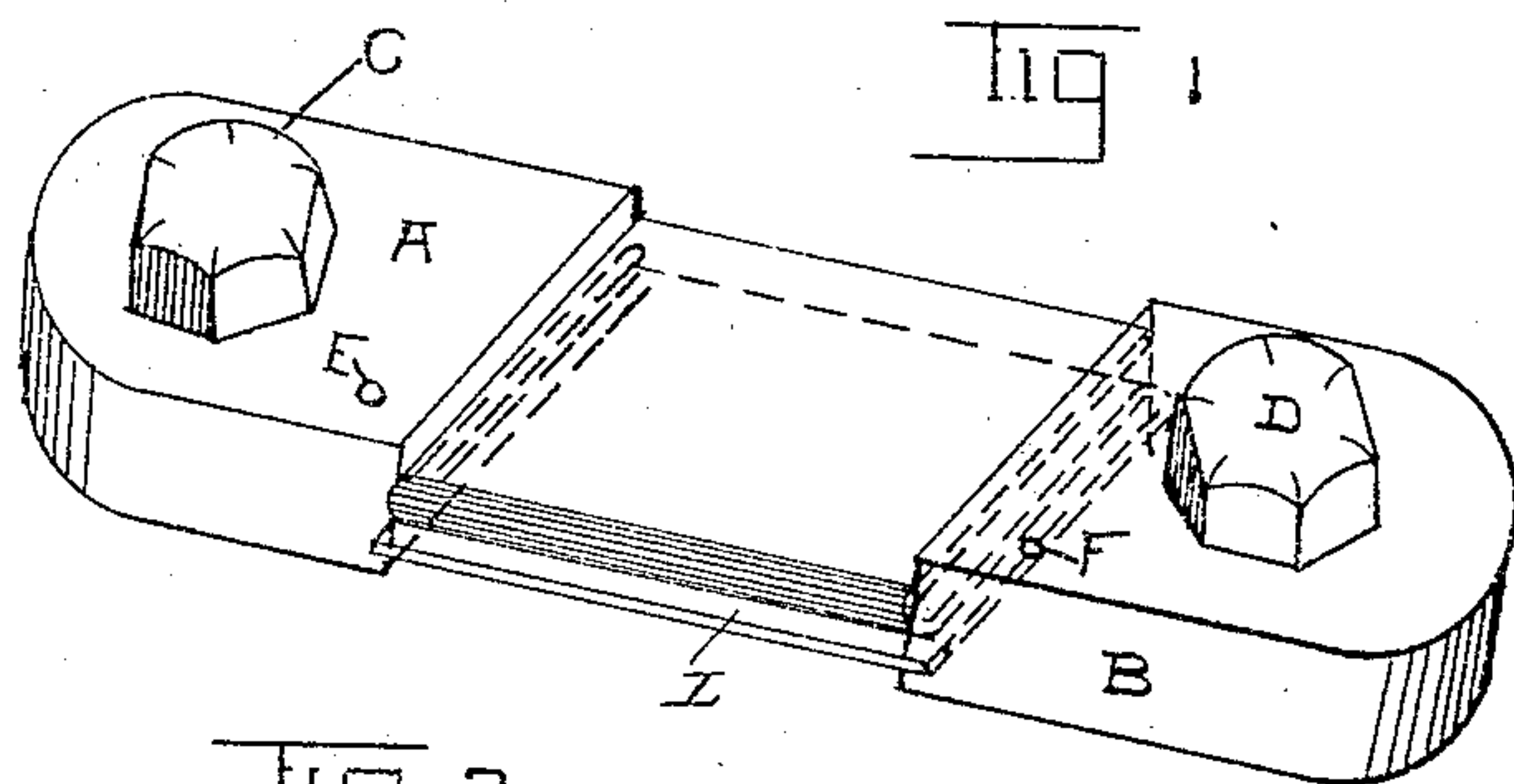


Fig 2

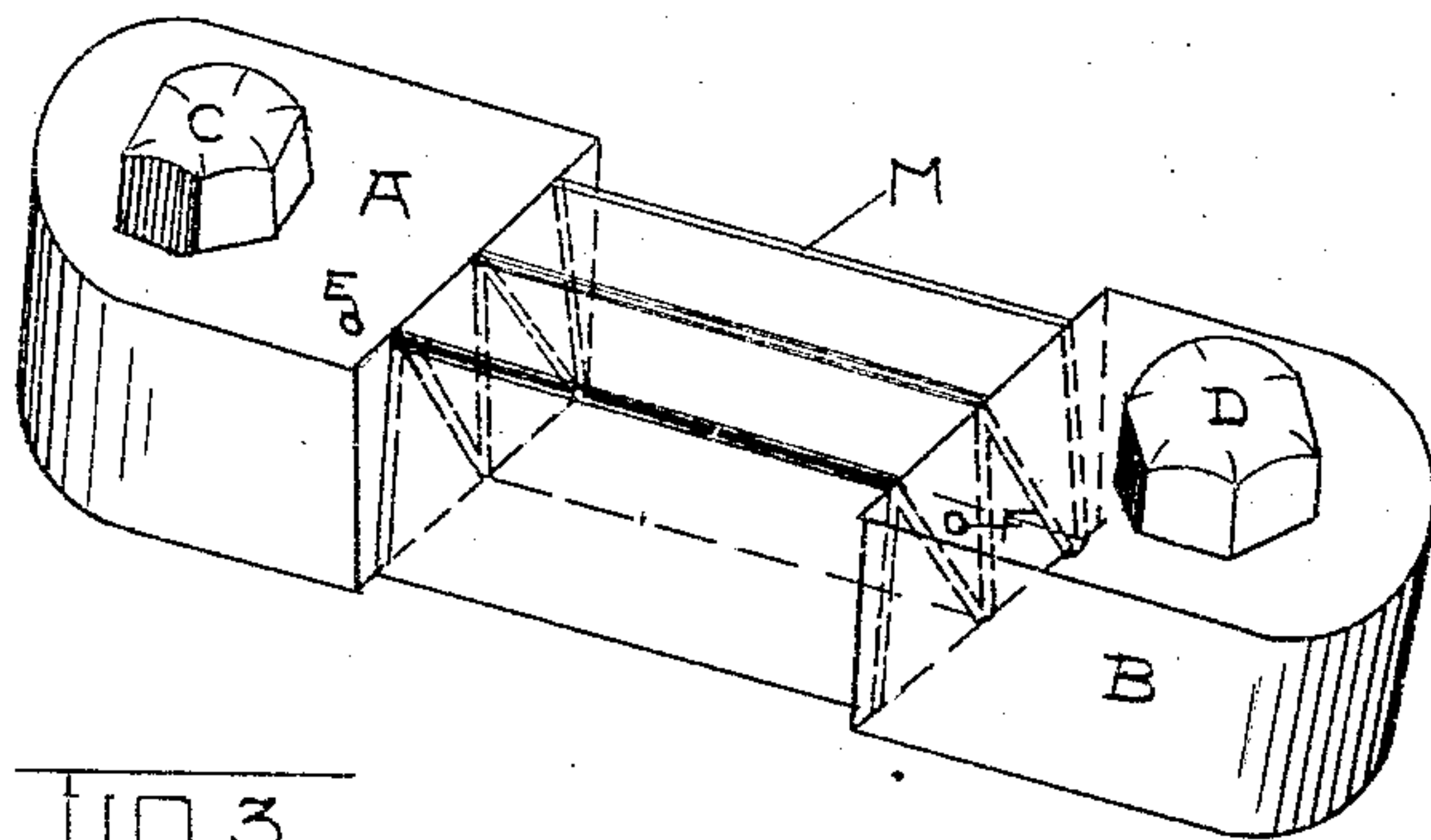
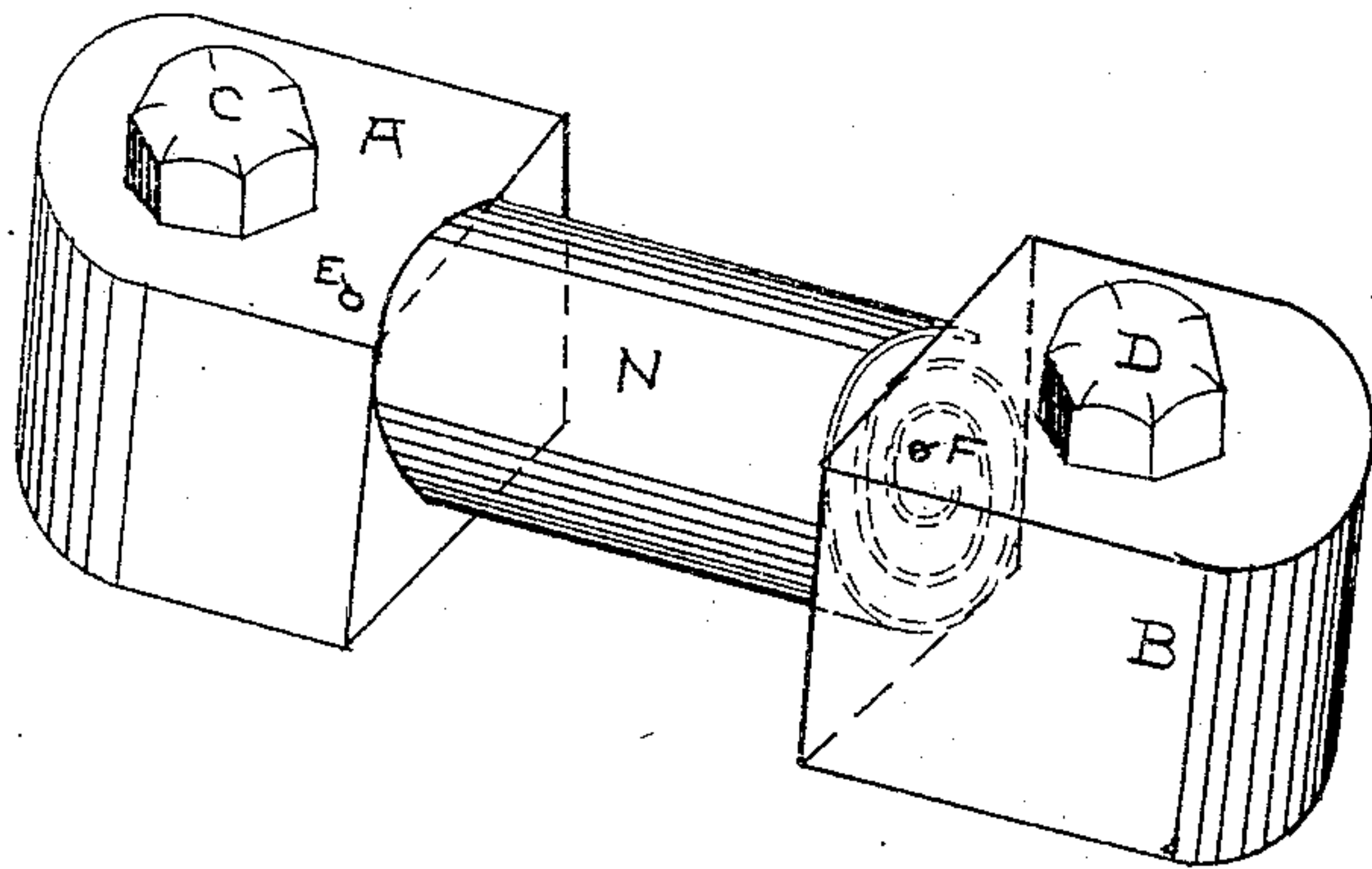


Fig 3



WITNESSES

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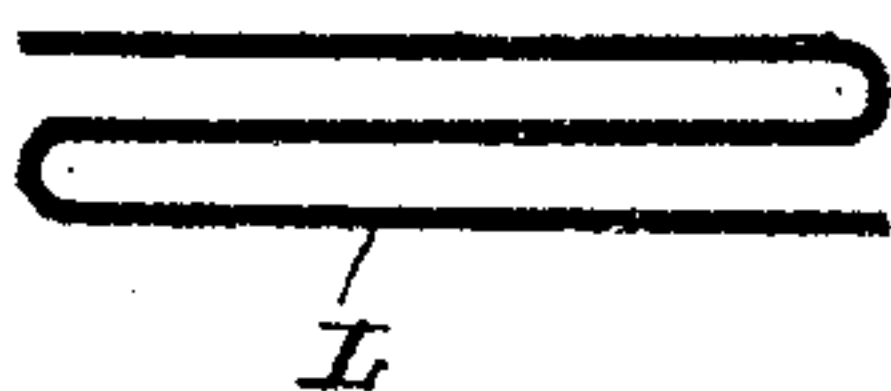
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2 SHEETS—SHEET 2.

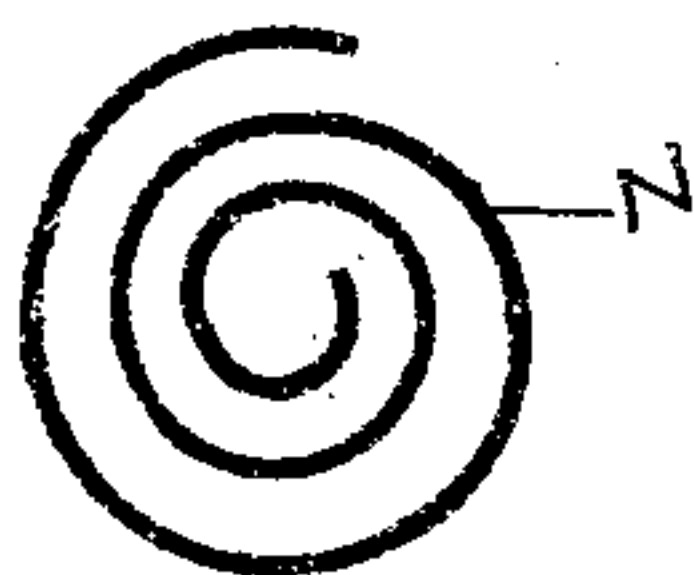
Fig 4



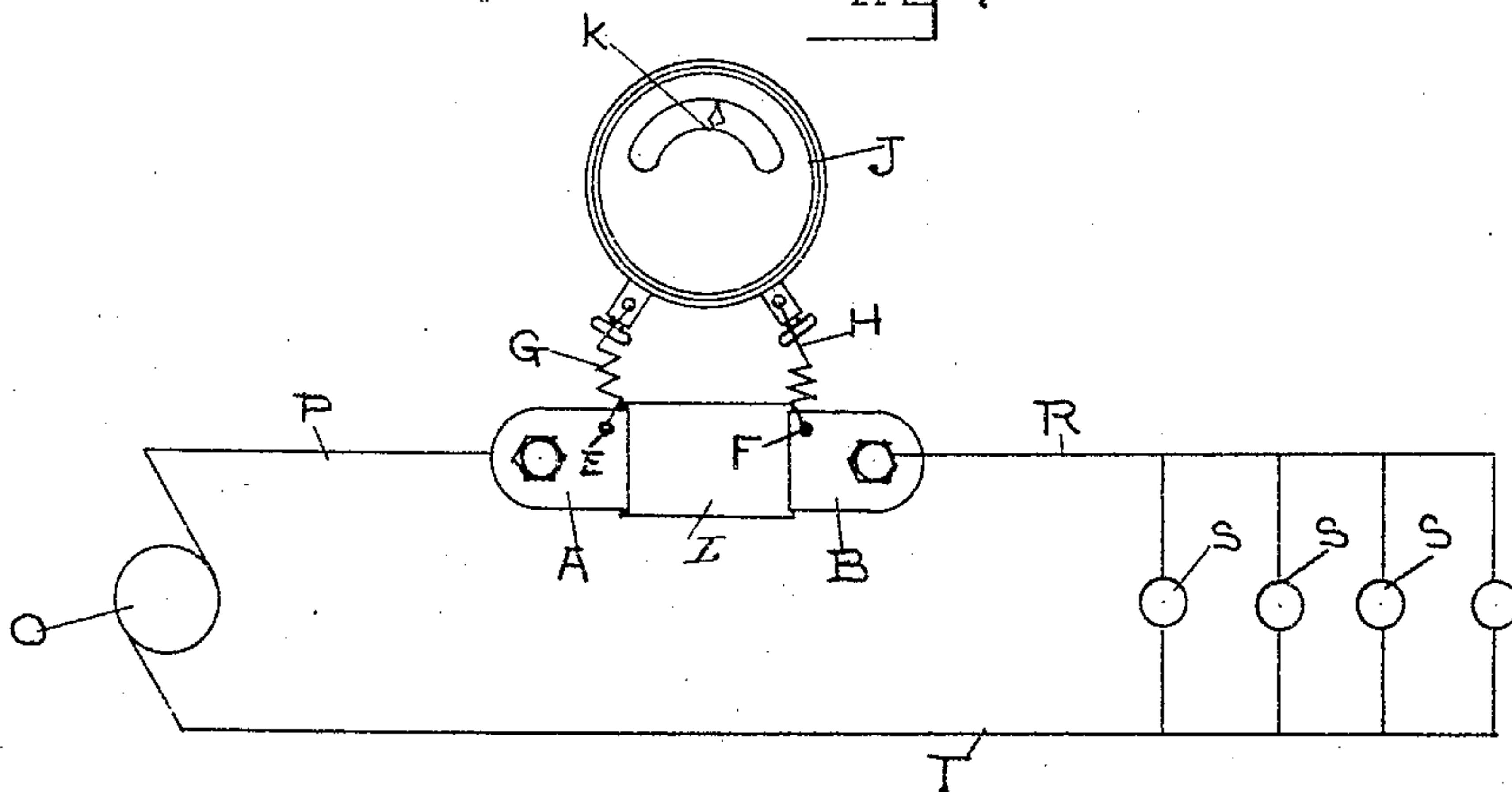
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WITNESSES

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# UNITED STATES PATENT OFFICE.

JESSE HARRIS, OF RENSSELAER, NEW YORK.

## SHUNT.

SPECIFICATION forming part of Letters Patent No. 765,889, dated July 26, 1904.

Application filed January 25, 1904. Serial No. 190,419. (No model.)

*To all whom it may concern:*

Be it known that I, JESSE HARRIS, a citizen of the United States of America, and a resident of the city and county of Rensselaer, State of New York, have invented certain new and useful Improvements in Shunts, of which the following is a specification.

My invention relates to devices for shunting out a portion of the current of an electric circuit; and the object of my invention is to provide a shunt adapted to be placed in the circuit of an electric system so arranged and constructed that the major portion of the current passing from one metallic terminal of the shunt to the other shall be obliged to pass by conductivity through a thin strip of metal securely and positively mounted between said terminals, a certain portion of the current supplied to the terminal nearest the source of supply being shunted through a measuring instrument or other device, together with the elements and combinations hereinafter more particularly set forth. I attain these objects by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my invention. Fig. 2 is a perspective view of a modified form of my invention. Fig. 3 is a perspective view of a further modified form of my invention. Fig. 4 is a cross-section of the metal strip placed between the terminals in device shown in Fig. 1. Fig. 5 is a cross-section of the strip shown between the terminals in Fig. 2. Fig. 6 is a cross-section of the strip shown in Fig. 3. Fig. 7 is a plan showing the shunt and its connections.

Similar letters refer to similar parts throughout the several views.

The terminals A and B of my shunt are metallic blocks provided with suitable screws or connecting-posts C D, respectively, for the purpose of connecting the terminals in the circuit. I also in each terminal arrange a contact, as at E F, respectively, for the shunt-wires G H, Fig. 7, which connect with the measuring instrument J. Between the two terminals A and B and securely connected therewith I place a thin metallic strip L, which is preferably folded in the manner shown in cross-section, Fig. 4, and in perspective in

Fig. 1, in which the parallel portions of the strip when placed in position are separated from each other except along the folded-over edge thereof and along said folded edge rounded by bending the strip for the purpose of forming said adjacent parallel portions.

I have shown the strip L bent so as to form three substantially parallel layers which extend from one terminal to the other and which are securely fastened to said terminals at each end of the strip, each parallel portion being secured to and forming a part of the other parallel portions; but I do not limit myself to this number, so that there is rigidity and homogeneity between them, and they are so secured to the terminals that there can be no possibility of disengagement of the parts.

In Fig. 2 I show the strip M bent to form V-shaped angles between the adjacent portions of the strip, securing the ends firmly to the terminals A B, as described in connection with Fig. 1.

In Fig. 3 I show the strip N in the form of a coil fastened at its ends to each of the terminals A B, as in Figs. 1 and 2, each of the spirals of the coil being slightly separated from its adjacent spiral and prevented from getting loose or changing its relative position because of being fastened into the ends of the terminals A and B, respectively. The metallic strip is constructed of one continuous piece bent or coiled in such a manner that when placed between the terminals of the shunt and secured in any suitable manner thereto there is added to the shunt a solidarity or rigidity which is very necessary for the permanency and effectivity of the device.

I am aware that shunts have been constructed in which separate layers of thin metal have been used between the terminals; but I do not know that a single piece or strip has been arranged for bending or coiling the same upon itself, making separate layers united together in the manner herein set forth, and I do not know that any shunt has heretofore been constructed which provides for a perfectly rigid and homogeneous arrangement of the conducting-strip and which prevents the parts from becoming separated by the constant jar and vibration or other strains frequently at-

tendant upon apparatus when placed in connection with an electric system.

In Fig. 7 I show one means of connecting up my shunt, in which O represents a generator or source of supply; P, the line carrying the current to the terminal A; G, the shunt-wires connected with the measuring instrument J; H, a shunt-wire connected with the terminal B; R, a wire connected with the terminal B, carrying the current to the load S, T being the return-wire.

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

1. In a shunt; metallic terminal blocks; contacts arranged for connecting said blocks in an electric circuit; shunt-wires connected to said blocks, respectively; a conducting-plate of

thin metal bent to form two or more partially slightly separated surfaces; said plate secured to and between said terminals, respectively, substantially as described.

2. A shunt consisting of two terminals; means for securing the current-bearing wires thereto; shunt-wires connected therewith; a thin metallic plate arranged to form two or more layers secured to and between said terminals.

Signed at Albany, New York, this 31st day of December, 1903.

JESSE HARRIS.

Witnesses:

FREDERICK W. CAMERON,  
DUDLEY B. WADE.