

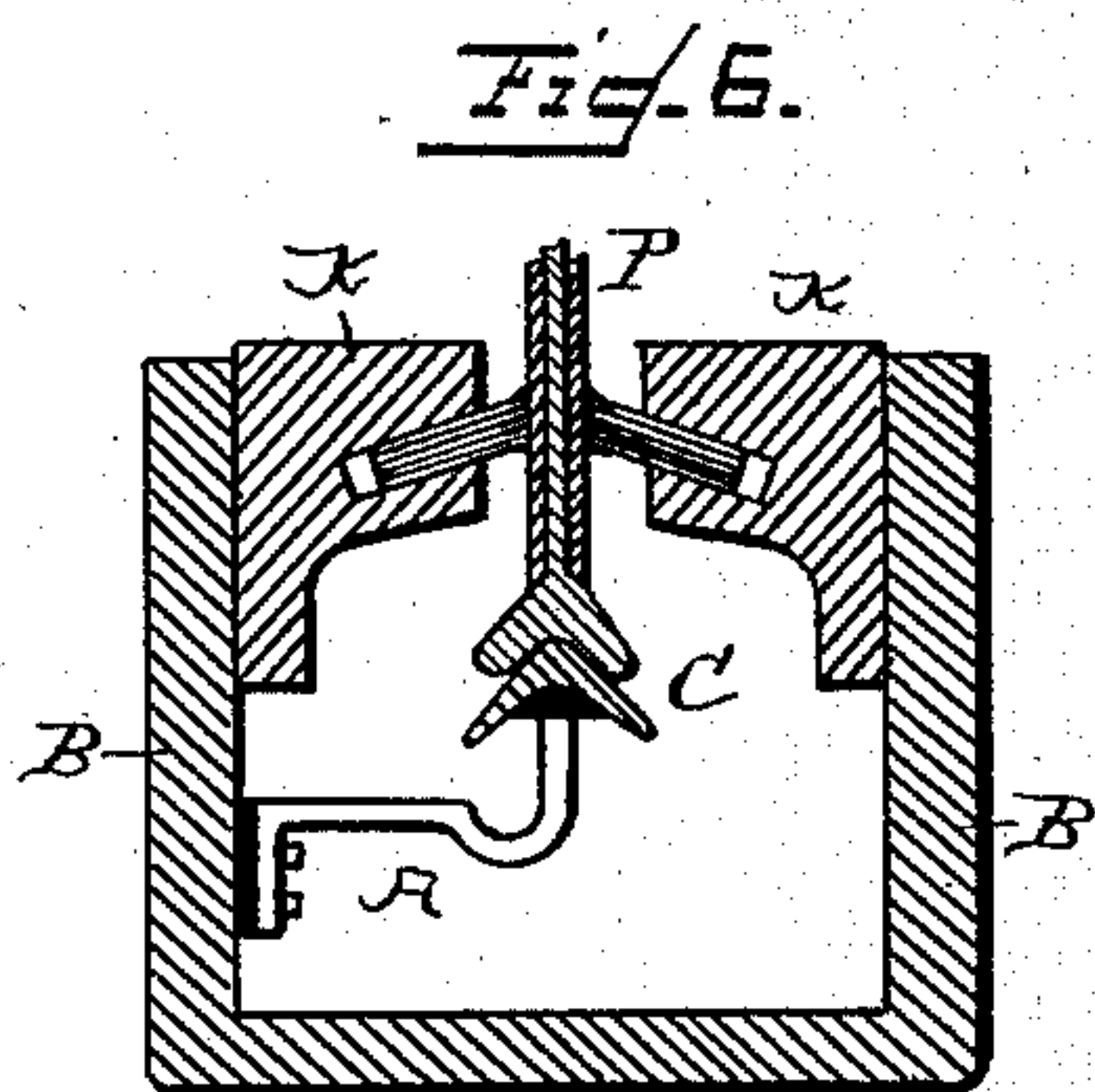
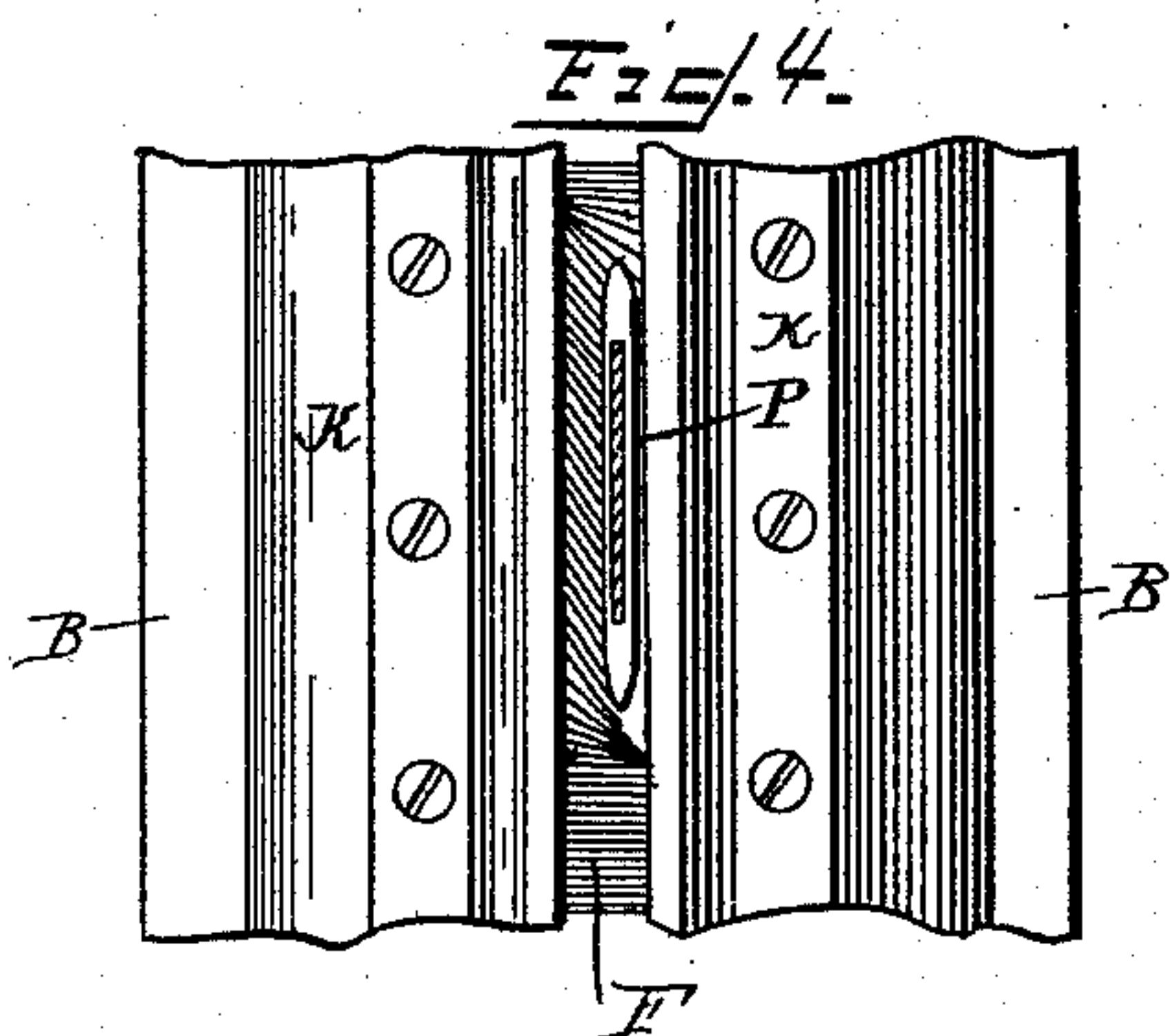
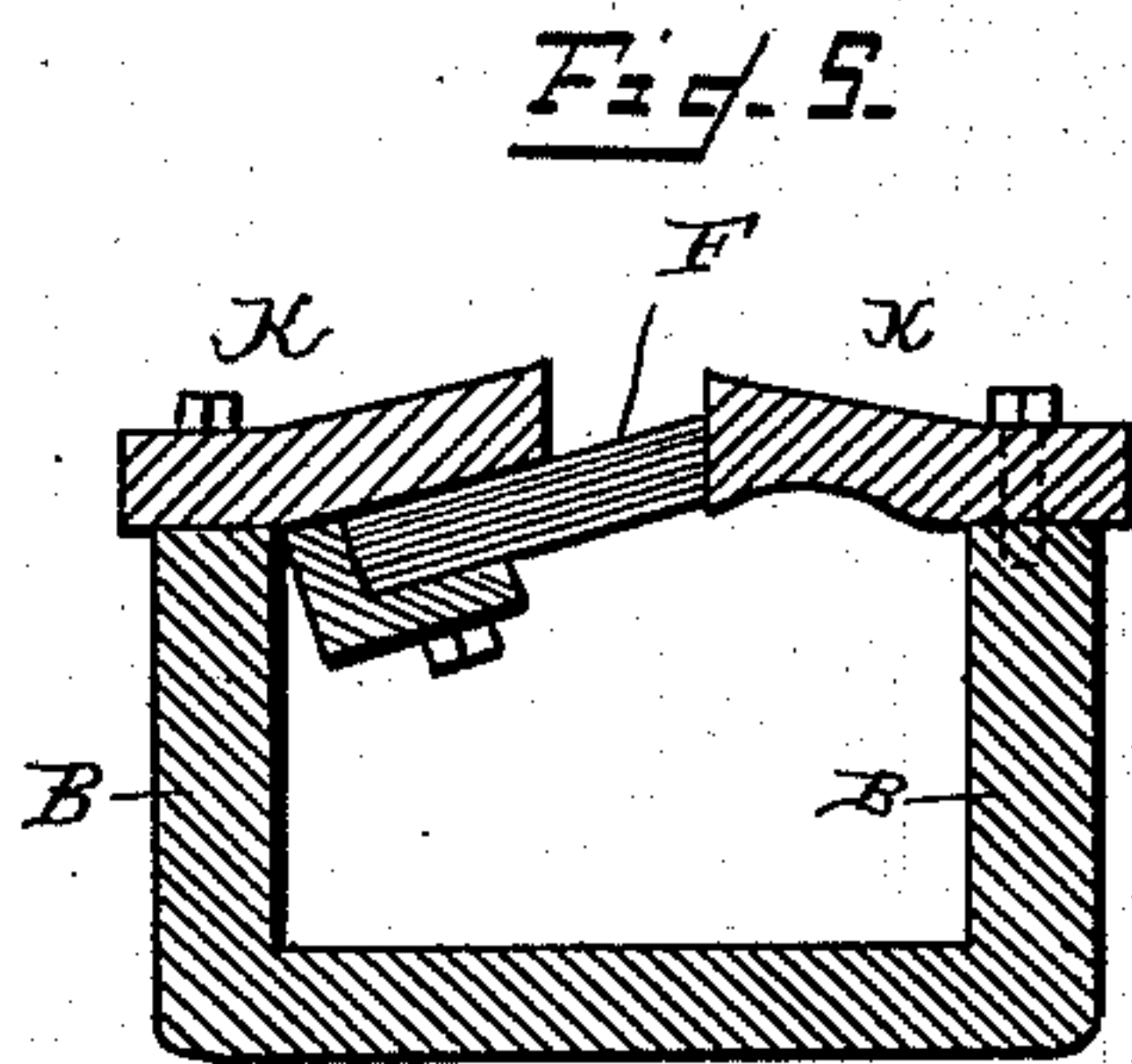
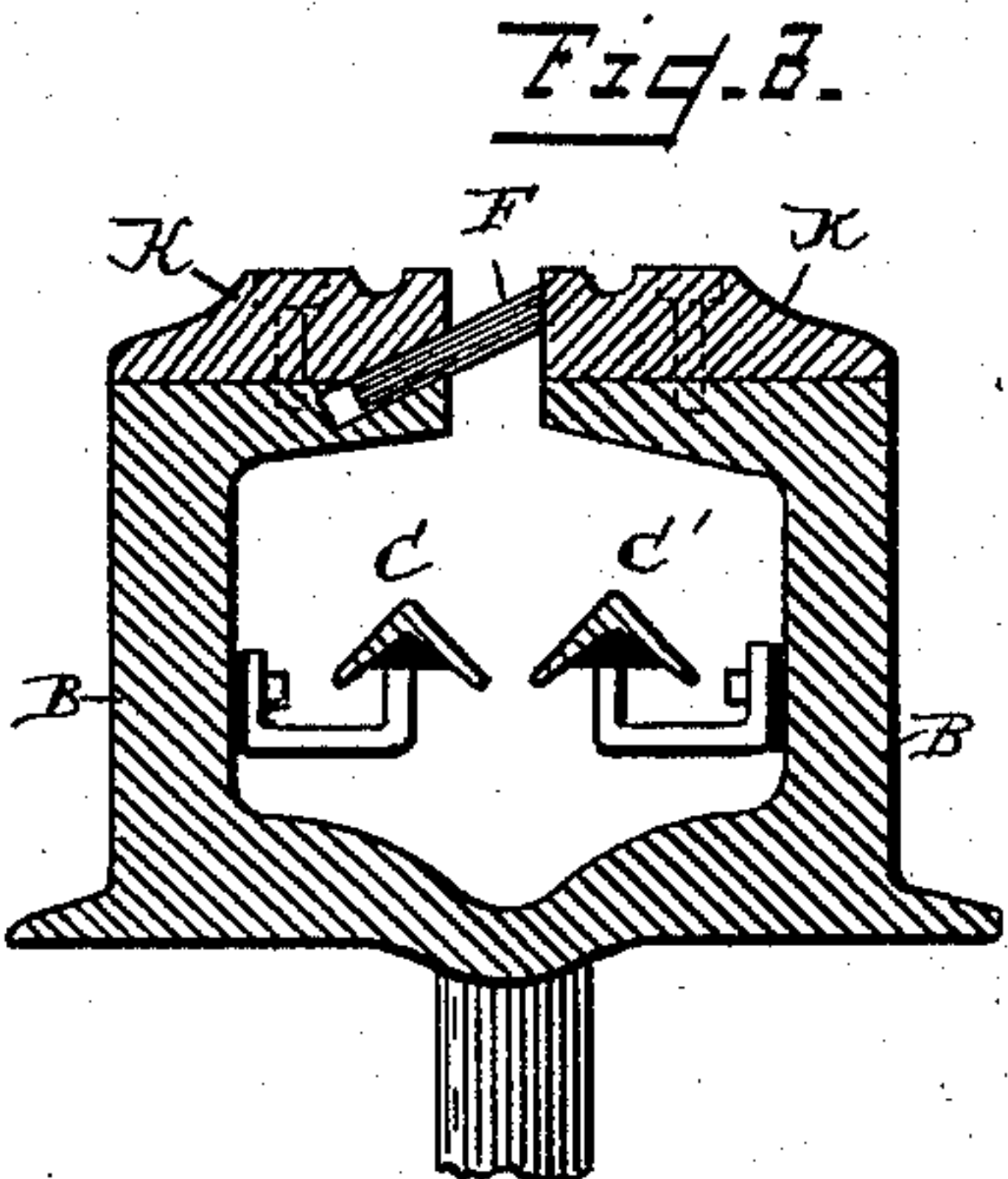
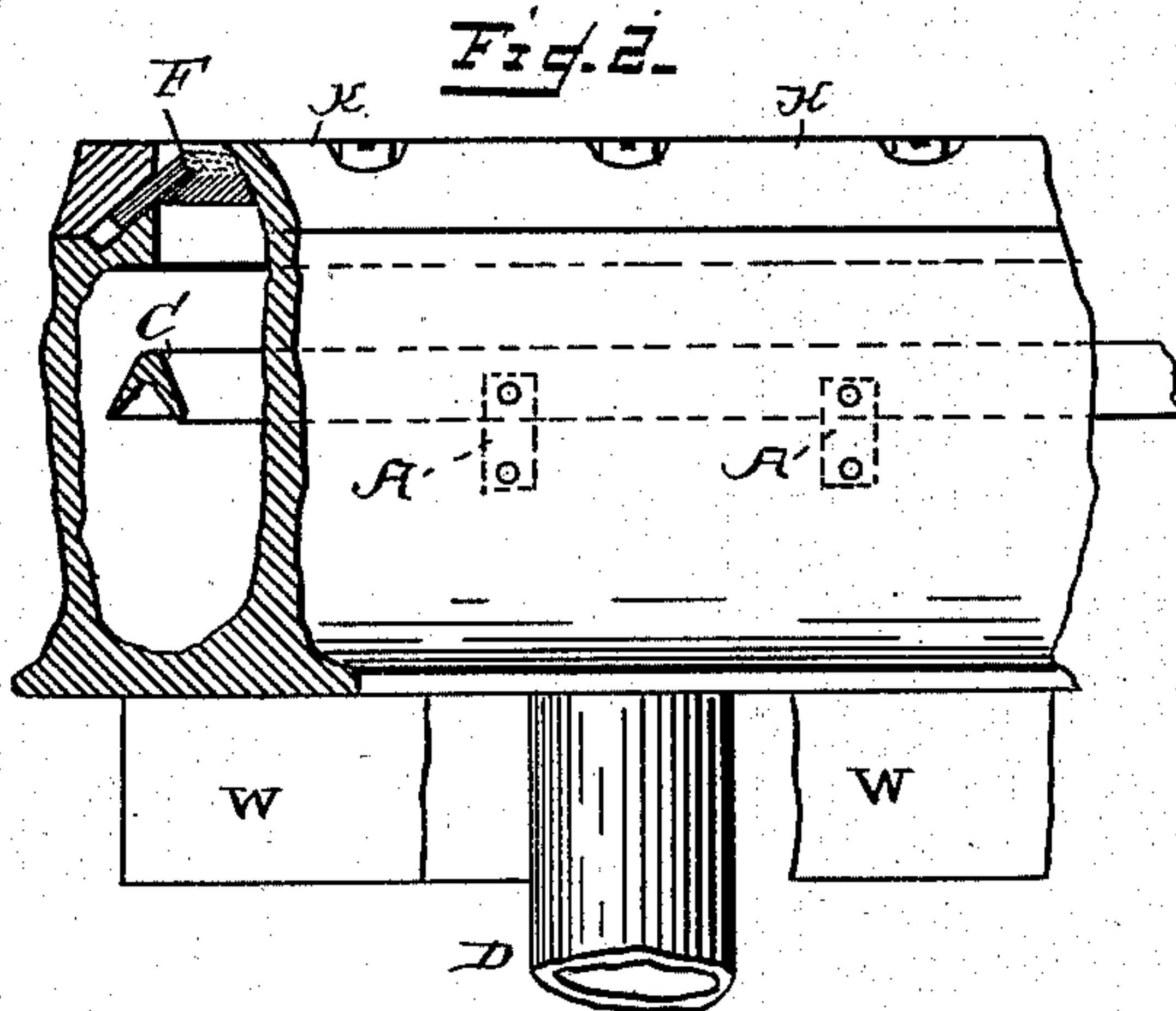
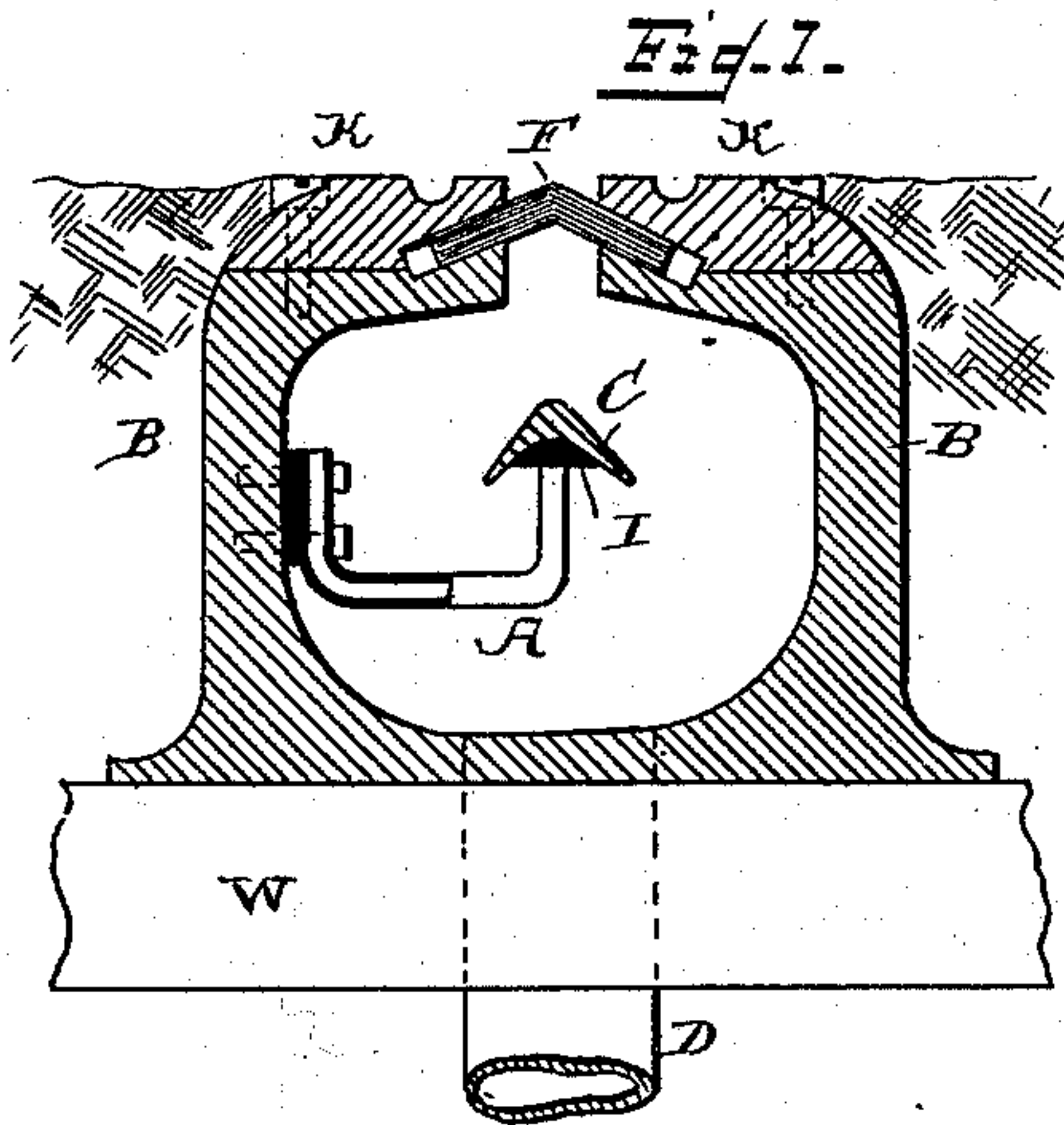
(No Model.)

E. THOMSON.

CONDUIT FOR ELECTRIC RAILWAYS.

No. 413,294.

Patented Oct. 22, 1889.



Witnesses
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UNITED STATES PATENT OFFICE.

ELIHU THOMSON, OF LYNN, MASSACHUSETTS.

CONDUIT FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 413,294, dated October 22, 1889.

Application filed March 5, 1889. Serial No. 301,912. (No model.)

To all whom it may concern:

Be it known that I, ELIHU THOMSON, a citizen of the United States, and a resident of Lynn, in the county of Essex and State of Massachusetts, have invented a certain new and useful Conduit for Electric Railways, of which the following is a specification.

The object of my invention is to effectually close the slot of the conduit containing the line conductor or conductors of an electric railway against the entrance of dirt and moisture.

A further object is to improve the insulation of the conductor or conductors, which object I accomplish by making the conductor in the form of an inverted trough, channel, or V-shaped bar, and supported by suitable brackets or supports carrying insulating-pieces, upon which the grooved or channeled side of the conductor rests, while the upper surface of the conductor forms the contact-surface upon which the contact borne by the car or vehicle travels.

My invention consists in closing the slot of the conduit with a brush or broom like septum or guard, the fibers of which extend transversely into the slot from the side thereof. One brush extending across the slot may be used, or two meeting at their free ends in the slot may be employed. The brush effectually closes the slot, although not solidly, because of the capillary action of the spaces between the fibers or individual stems making up the brush or broom, while its springy nature enables it to yield in the direction of the slot to permit the plow or bar carried by the car and supporting the contact shoes or brushes within the conduit to pass.

My invention consists, also, in certain details of construction, to be more particularly hereinafter described and claimed.

In the accompanying drawings, Figure 1 shows a transverse section of a conduit embodying my invention. Fig. 2 is a side elevation of a broken section. Fig. 3 is a transverse section of a modified form. Fig. 4 is a top or plan view of the same. Figs. 5 and 6 show other modifications in transverse section.

In Fig. 1, B B is the trough or conduit of any material—such, for instance, as cast-

iron—with a slot at top, and, if desired, cap-plates K K, surmounting the conduit and receiving the wear at the street-surface. The conduit rests, as usual, on sleepers W, or is otherwise supported, and is provided with the usual drain-tube D.

F indicates the continuous brush or broom which closes the slot. This brush is virtually a continuous bundle or succession of bundles of springy fibers or stems, which may be of any desired material. For cheapness, tampico, broom-corn, or other cheap material such as is employed in making brushes and brooms may be used.

In the form shown in Fig. 1 two brushes or brooms are used, projecting from opposite sides of the slot and meeting at their free ends to close it. The fibers or stems are set to project transversely to the slot and preferably with a slight upward inclination. A single brush, as indicated in Figs. 3, 4, and 5, might be used. Before or after being put in place I prefer to thoroughly soak the brush with melted tallow, thick oil, or other lubricating water-repellent, thereby more effectually preventing the passage of water and the wetting of the brush, so that it might in cold weather freeze solid.

The contact-plow P, or other supporting device depending from the car and entering the slot, is tapered at each end and pushes the brush aside as it passes along, as indicated in Fig. 4. The elasticity of the brush causes it to close up the slot behind the plow.

The brush may be supported in any desired way—as, for instance, in grooves in the edge of the slot. A desirable way, permitting ready removal, as shown in Fig. 1, is to employ the removable wear-plates K as clamps for holding the brush.

The brush might be supported, in the manner indicated in Fig. 5, beneath the top plate of the conduit instead of from a groove at the edge of the slot.

As a conductor within the conduit, I employ an inverted channel-piece or V or trough-shaped bar C, resting on insulating-pieces I, which latter lie within the groove and are fastened to the supporting rods, arms, or brackets A, of iron or other desired metal, in any suitable manner. The arms A are bolted

or otherwise fastened to the side of the conduit, and are preferably enameled or coated all over with an insulating material. The fastening-bolts are also insulated from the arms by suitable interposed insulating material, and insulating material is likewise interposed between the brackets and the side of the conduit at the point of support. By these devices strength is secured and leakage is prevented. The enameling of the bracket gives it a moisture-resisting surface and insulates it. The accidental fall of dirt or water upon C will not hurt its insulation, as it acts as a shed to protect the insulator I, on which it is sustained.

In Fig. 3 two conductors C and C' are shown. The upper surface of the conductor is the contact-surface, as indicated in Fig. 6.

What I claim as my invention is—

1. A railway slotted conduit having a continuous slot-closing brush or brushes the fibers or stems of which project transversely into the slot, as and for the purpose described.

2. A railway slotted conduit having a slot-closing brush or brushes projecting transversely into the slot from the side thereof and at a slight upward inclination.

3. The combination, with the slotted conduit, of a yielding slot-closer soaked with an oily material or water-repellent substance.

4. The combination, with the slotted conduit, of a springy slot-closer adapted to yield in a longitudinal direction or in the direction of travel of the vehicle.

5. The combination, with the conduit, of the fibrous or springy slot-closer clamped by a removable top piece of the conduit, as and for the purpose described,

6. The combination, with a slotted electric conduit, of an elastic or springy slot-closer clamped by a removable wear-plate at the edge of the slot, as and for the purpose described.

7. A slotted conduit having a groove at the edge of the slot holding a yielding or springy slot-closer.

8. The combination, with the inverted-V or trough shaped conductor, of the supporting-brackets A, having at their upper ends insulating-pieces in the groove or trough of the conductor and coated or enameled with an insulating material, as and for the purpose described.

Signed at Lynn, in the county of Essex and State of Massachusetts, this 28th day of February, A. D. 1889.

ELIHU THOMSON.

Witnesses:

J. W. GIBBONEY,
A. L. ROHRER.