

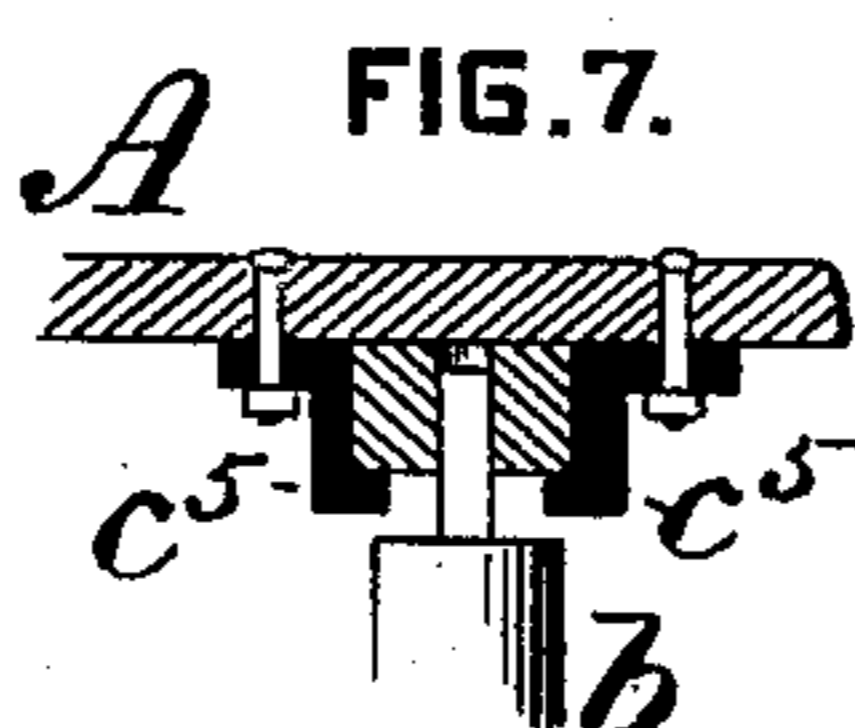
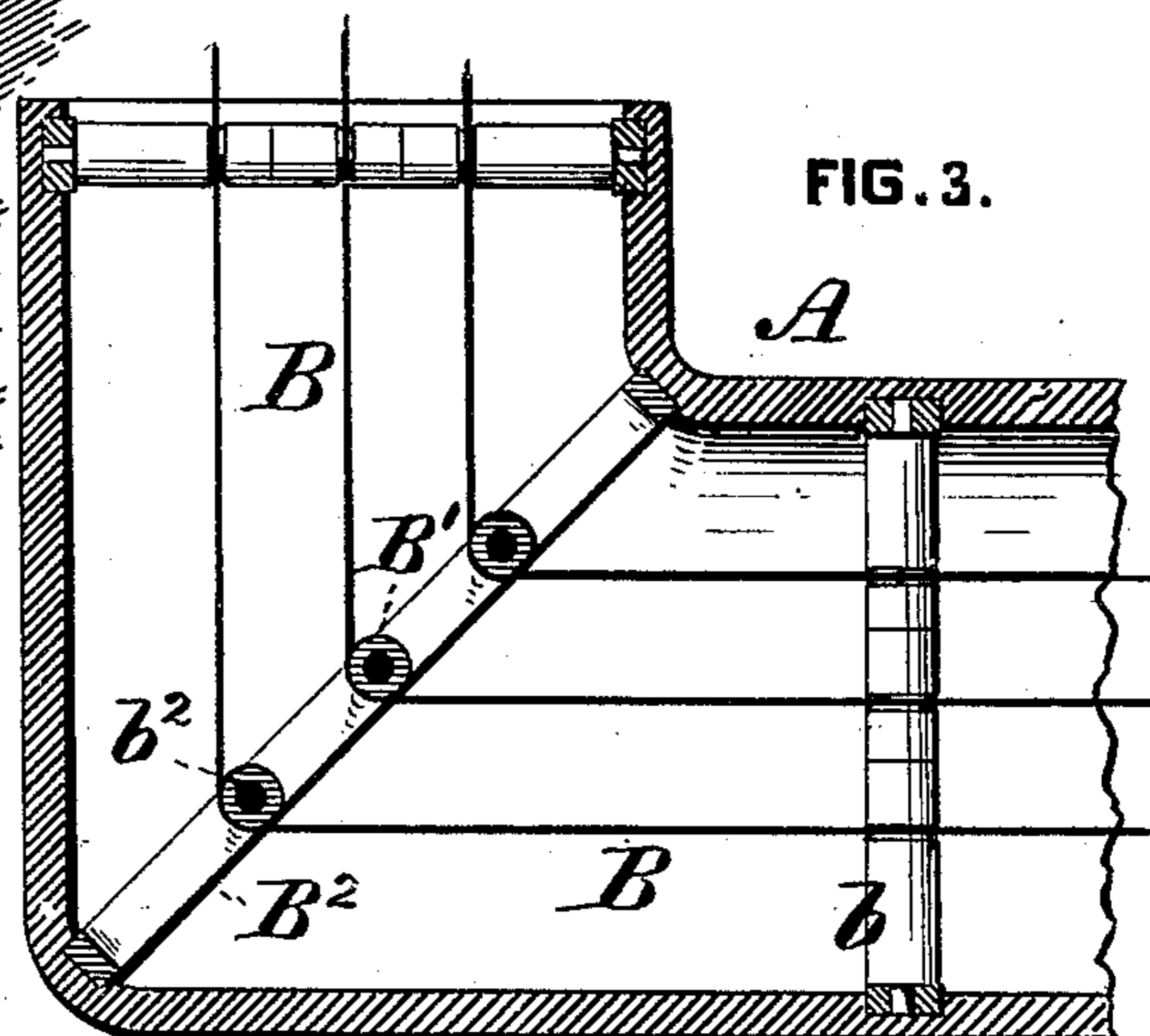
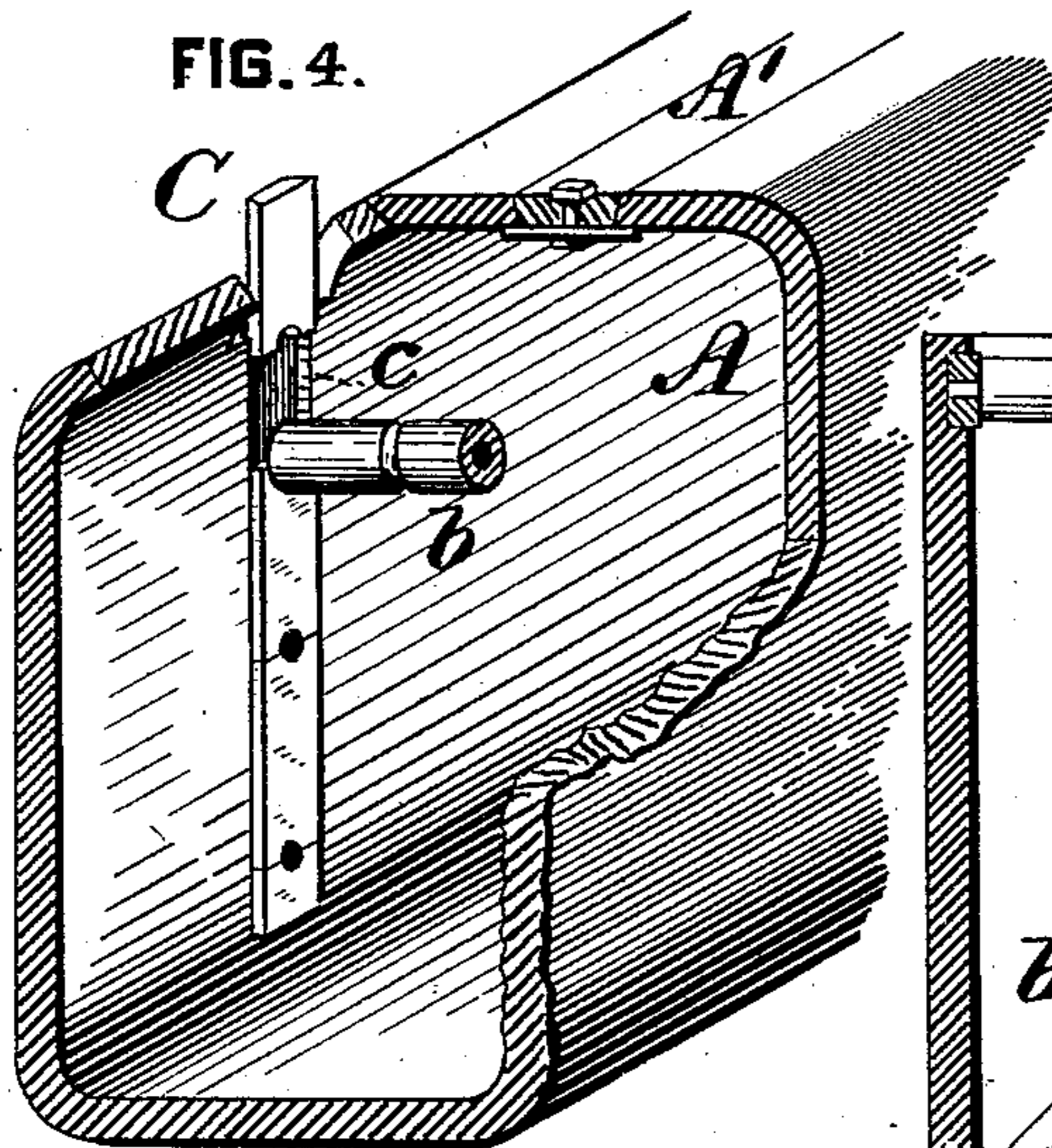
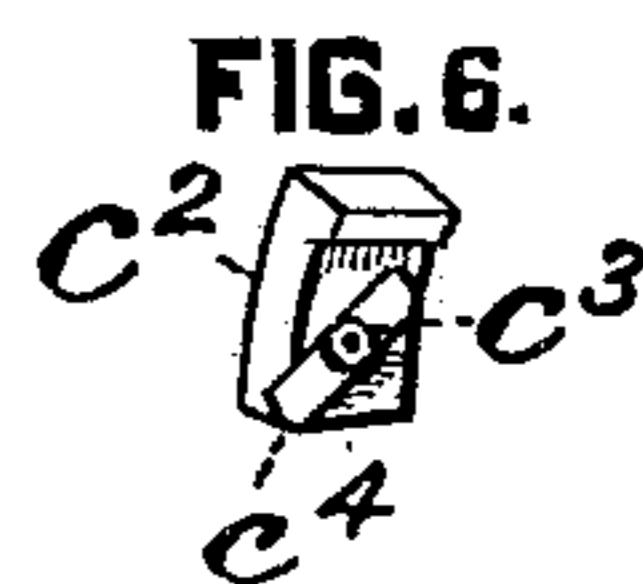
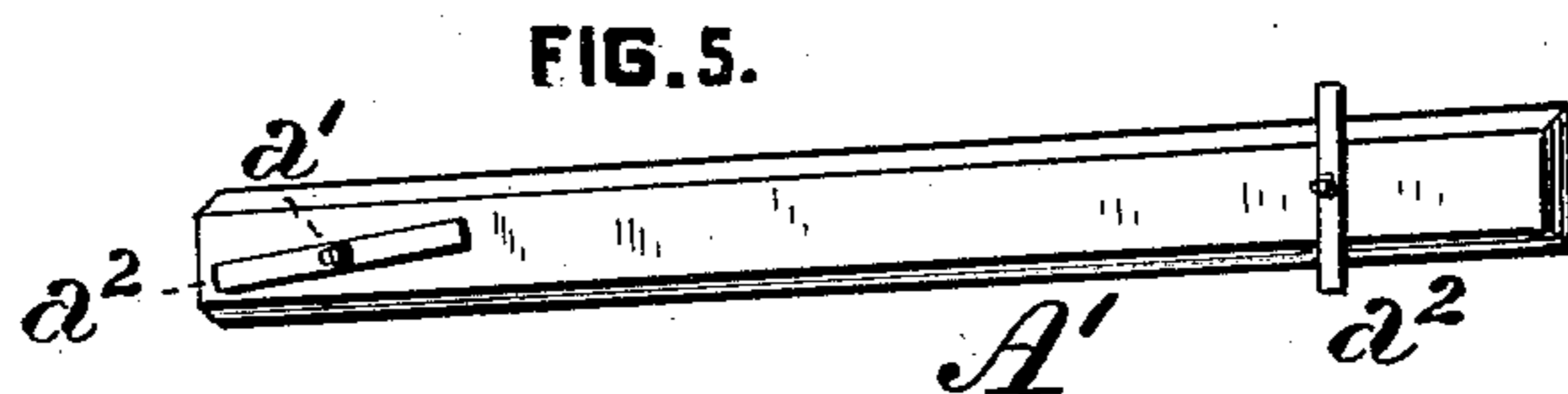
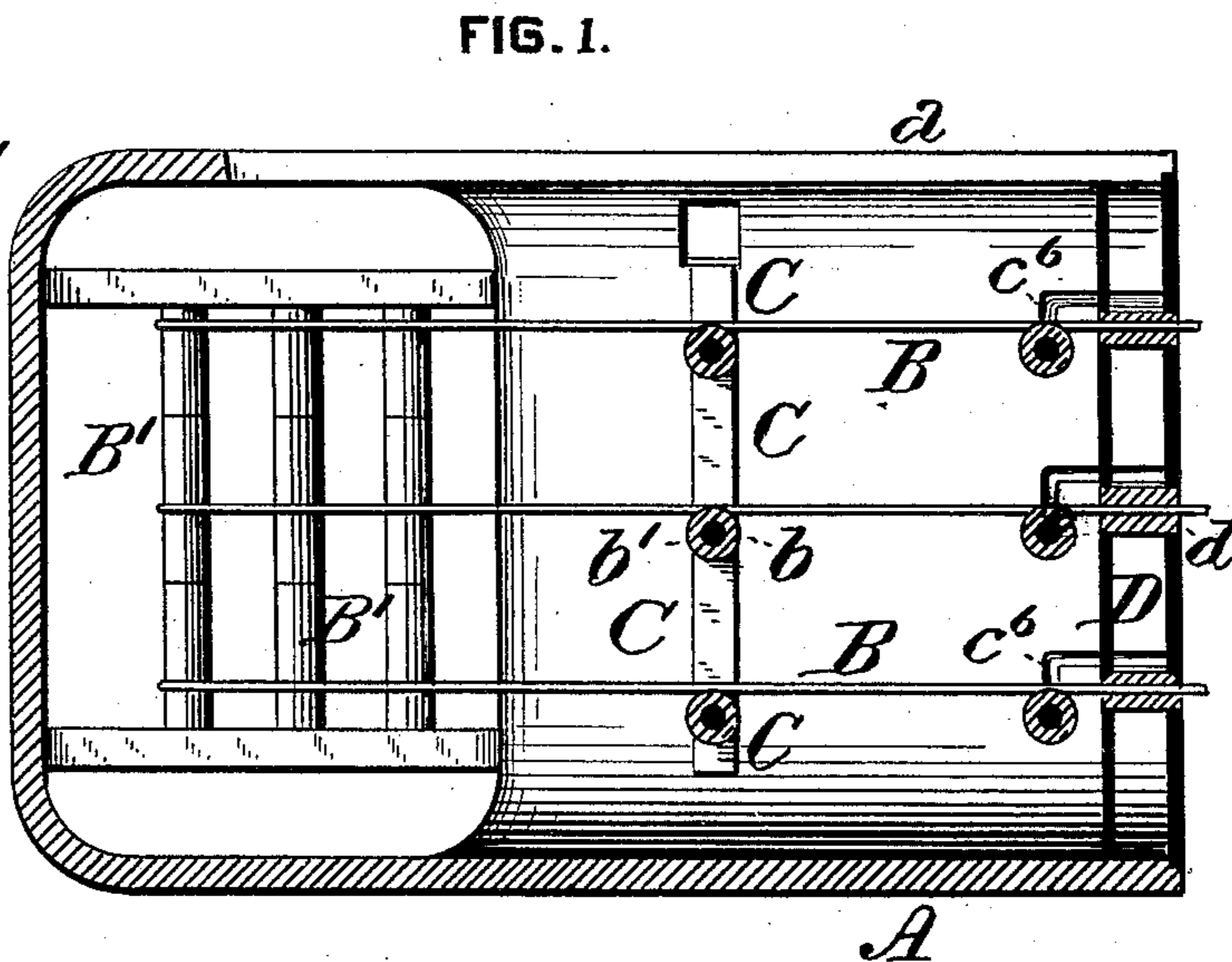
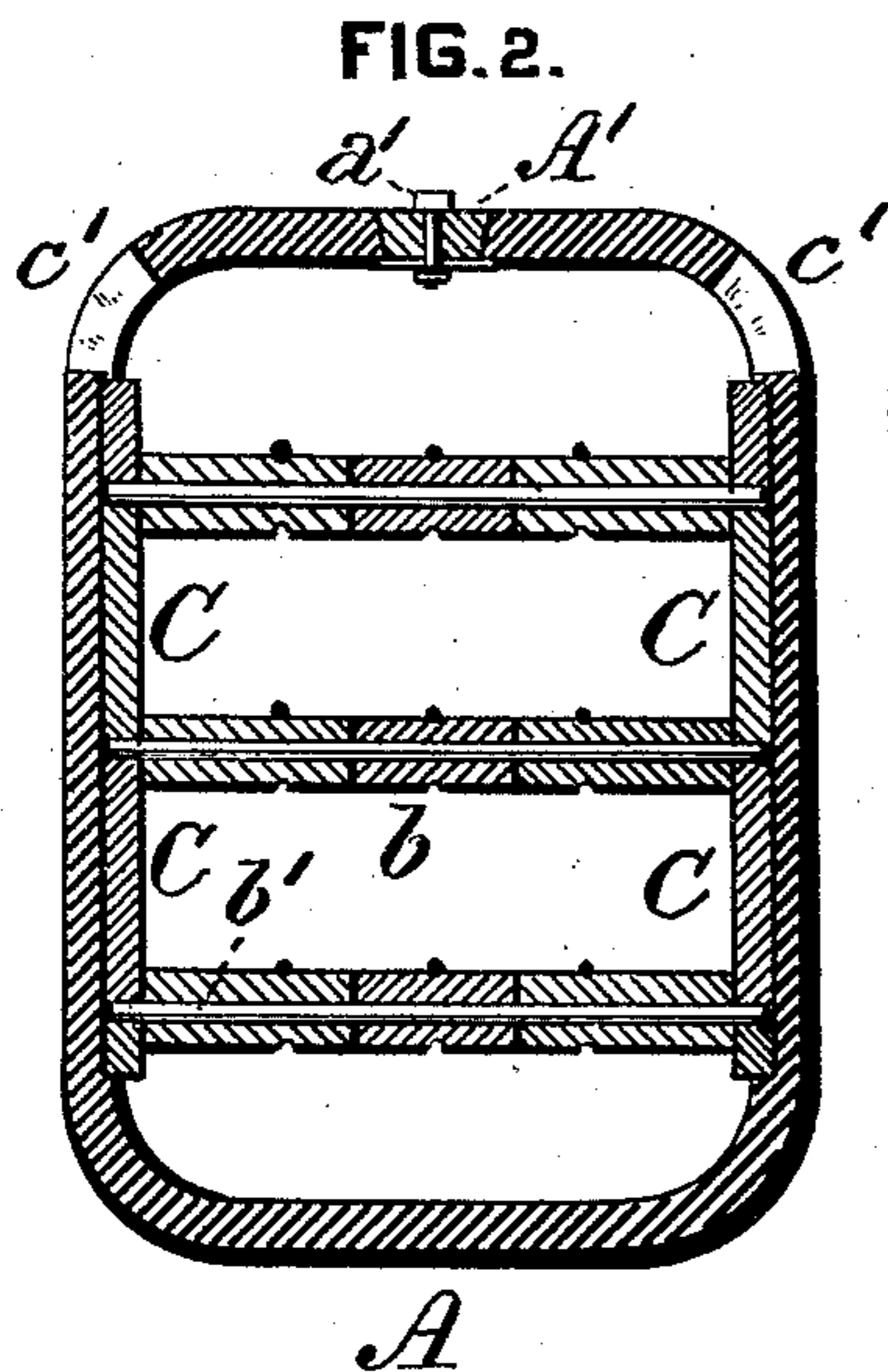
(No Model.)

W. MAGNER.

CONDUIT FOR TELEGRAPH WIRES.

No. 299,992.

Patented June 10, 1884.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM MAGNER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO JOHN M. DOYLE, OF SAME PLACE.

CONDUIT FOR TELEGRAPH-WIRES.

SPECIFICATION forming part of Letters Patent No. 299,992, dated June 10, 1884.

Application filed April 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MAGNER, of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Conduits for Telegraph and other Wires, of which improvements the following is a specification.

The object of my invention is to provide an inclosing and protecting casing for telegraph, telephone and other wires or cables which shall be simple and inexpensive in construction, and afford ready and convenient facilities for the insertion and removal of any one or more of the contained series of wires, and for the maintenance of the same at such normal degree of tightness as will prevent their contact one with the other or with the casing.

To this end my improvements consist in certain novel devices and combinations, herein-after fully set forth.

In the accompanying drawings, Figure 1 is a vertical longitudinal central section through a portion of a conduit embodying my invention; Fig. 2, a vertical transverse section; Fig. 3, a horizontal section, and Fig. 4 a perspective view, partly in section, of the same; Fig. 5, a view in elevation of a section of the cap or cover for closing the central opening of the conduit, as seen from the under side; Fig. 6, a view in perspective of one of the caps of the side openings, and Fig. 7 a horizontal section showing a modification of the device for retaining the roller-supports in position.

In the practice of my invention I form in sections of desired length, and of any suitable material possessing sufficient strength and impermeability to moisture—as cast metal, terracotta, &c.—a conduit, casing, or trunk, A, which, for economy of space, is preferably elliptical or rectangular with rounded corners in its transverse section, but may be varied in form, at the discretion of the constructor. A longitudinal slot or opening, *a*, for the introduction of the wires or cables, is formed in the top of each section of the conduit, said openings being beveled or inclined on their sides, and being closed by caps or covers A', of corresponding form, and being secured tightly in position by bolts *a'*, which carry clamps *a''*,

bearing against the inside of the conduit, and are tightened by nuts.

The wires or cables B are supported upon a series of rollers, *b*, of glass or other suitable insulating material, which are fitted to revolve freely upon horizontal shafts or stems *b'*, each roller having one or more grooves upon its periphery for the reception of a wire or cable. Each of the shafts *b'* extends entirely across the conduit, and carries a series of rollers, which may either adjoin each other directly, as shown, or be separated one from the other by collars or washers, a prime consideration being that end movement of the rollers upon their shafts shall not be permitted. The shafts *b'* are arranged in vertical series at such distance apart horizontally as may be proper to insure ample clearance, and the several vertical series are spaced longitudinally at as great a distance as is permissible for the support of the wires without undue tendency to sag or droop between the several supports. The ends of the roller-shafts rest upon and are retained vertically in position by sectional standards C, having recesses in their ends to receive the shafts, and fitting in vertical grooves *c*, which are preferably dovetailed, and are formed in the sides of the conduit A, each of said grooves leading to an upper side opening, *c'*, in the conduit, which is closed by a cap, *c''*, secured in position by a bolt, *c'''*, clamp *c''''*, and nut, similarly to the cover of the central opening.

In lieu of grooving the sides of the conduit, as above set forth, the recesses for the standards may be formed by securing pairs of shouldered guides *c⁵* to the conduit by bolts or rivets, as shown in Fig. 7, such construction fulfilling the required function of retaining the standards and shafts as against both vertical and longitudinal displacement. The several shafts, each with its series of rollers, are secured in position by first inserting a pair of standards in two opposite grooves and resting the lowest shaft thereon, then inserting another pair of standards and a shaft, and so on, the upper portions of the grooves being closed by a pair of standards reaching to or near the caps *c''*, so that the entire series will be secured in position by said caps when fastened. It will

be obvious that a single roller extending across the conduit may be employed, if desired, instead of a series as shown, and in such case the ends of the roller can bear directly on the standards and a separate shaft be dispensed with.

Figs. 1 and 3 show an elbow or quarter-turn formed in the conduit, around which the wires are carried by guide-rollers B' , mounted on vertical shafts b^2 , which rest in transverse bearing-bars B^2 , inserted in vertical grooves in the conduit and retained therein by interposed standards or distance-pieces. Packing of any proper description may be employed around the joints of the several openings in the conduit, to prevent the access of moisture thereto, and its ends may be closed by suitably-packed plates D , having a series of insulating rings or thimbles, d , through which the wires are passed. The shafts of the rollers adjacent to each end of the conduit may be supported as shown in Fig. 1—that is, in angular recesses c^6 , formed in the sides of the conduit, and extending to its end, to admit of the insertion and removal of the shafts; but in such case the facility of variation of their distance horizontally one from the other which is afforded by the use of the continuous vertical grooves and sectional standards, hereinbefore described, is not admissible.

By the employment of my invention any desired number of wires within the capacity of the conduit may be effectually supported without interference one with the other, and without being affected by the different inclinations of the conduit necessitated by the grades of the streets through which it is laid. Moreover, the diminution of friction resultant up-

on the use of rotating supports greatly facilitates the tightening of the wires, as may from time to time be required.

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

1. The combination, substantially as set forth, of a conduit or casing and a series of wire or cable supports, each resting upon standards fitting in grooves in the sides of the conduit.

2. The combination, substantially as set forth, of a conduit or casing having vertical grooves or recesses on its sides, a series of sectional standards fitting in said grooves or recesses, and a series of shafts, each carrying a roller or rollers, said shafts being arranged vertically one above another, and each being retained in position by the standards which support the shaft next above it.

3. The combination, substantially as set forth, of a conduit or casing having vertical internal grooves or recesses, a series of standards fitting in said recesses and supporting a series of roller-shafts, a series of openings each giving access to one of said grooves, a series of caps or covers closing said openings, and a longitudinal opening or slot and cover for the introduction and removal of wires or cables.

4. The combination, substantially as set forth, of an elbow or quarter-turn conduit, a series of vertical guide-rollers arranged at or across the line of the turn, and a series of horizontal supporting-rollers arranged at either side of said line.

WILLIAM MAGNER.

Witnesses:

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GEO. T. KELLY.