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J. A. DICKMAN

1,781,916

TELEPHONE SUBSTATION EQUIPMENT

Filed Oct. 5, 1929

FIG. 2

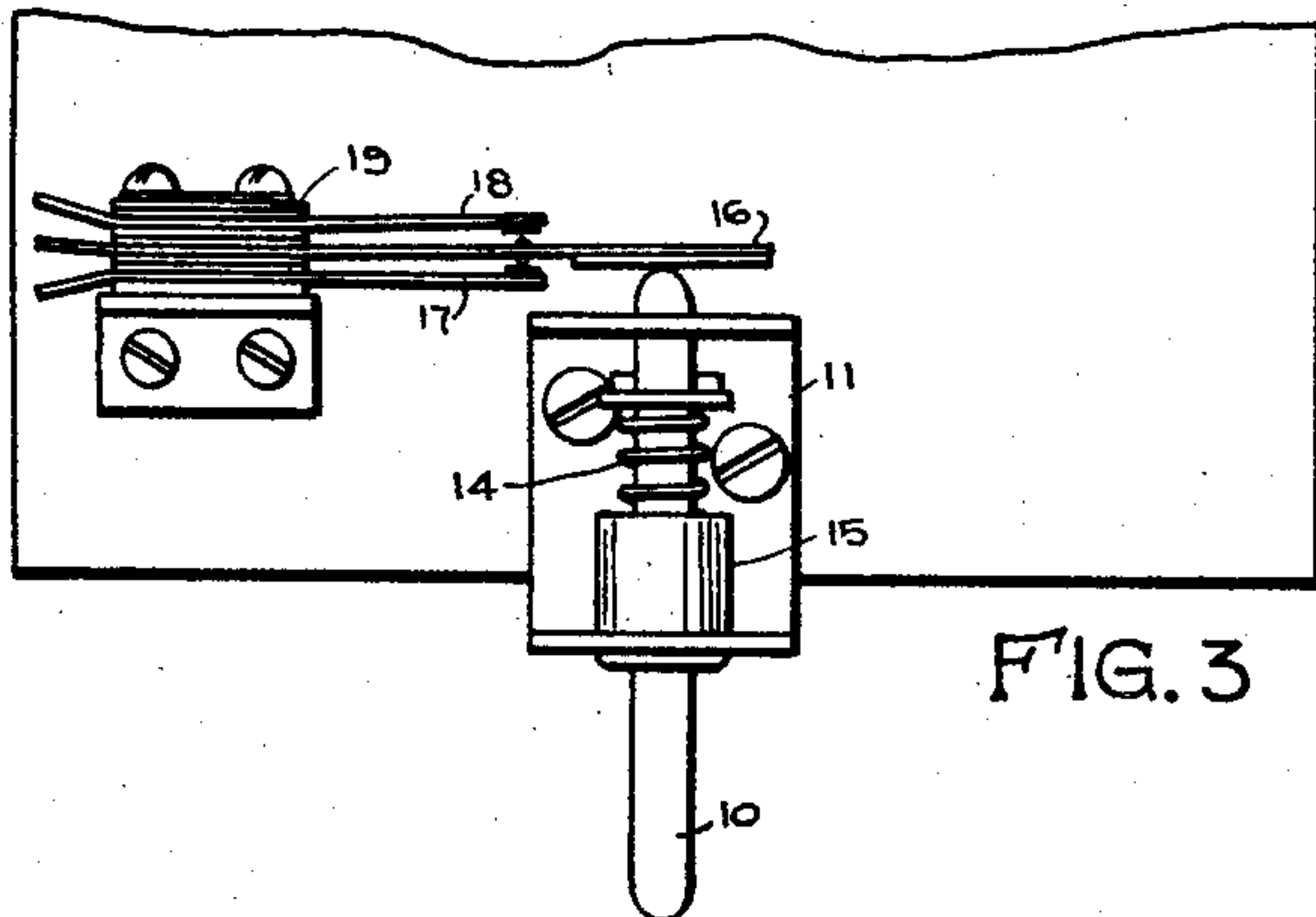
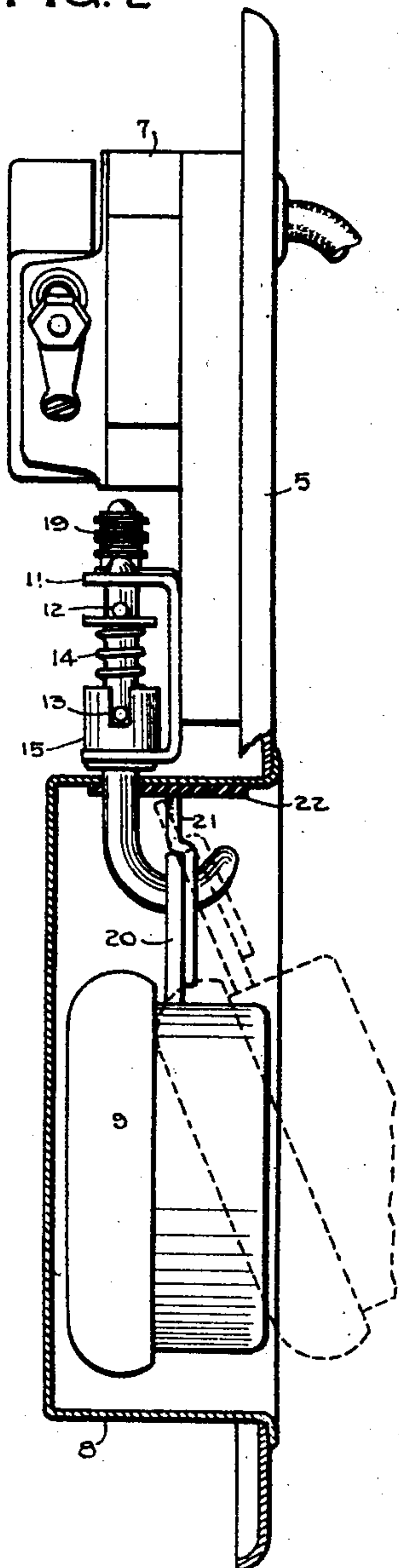
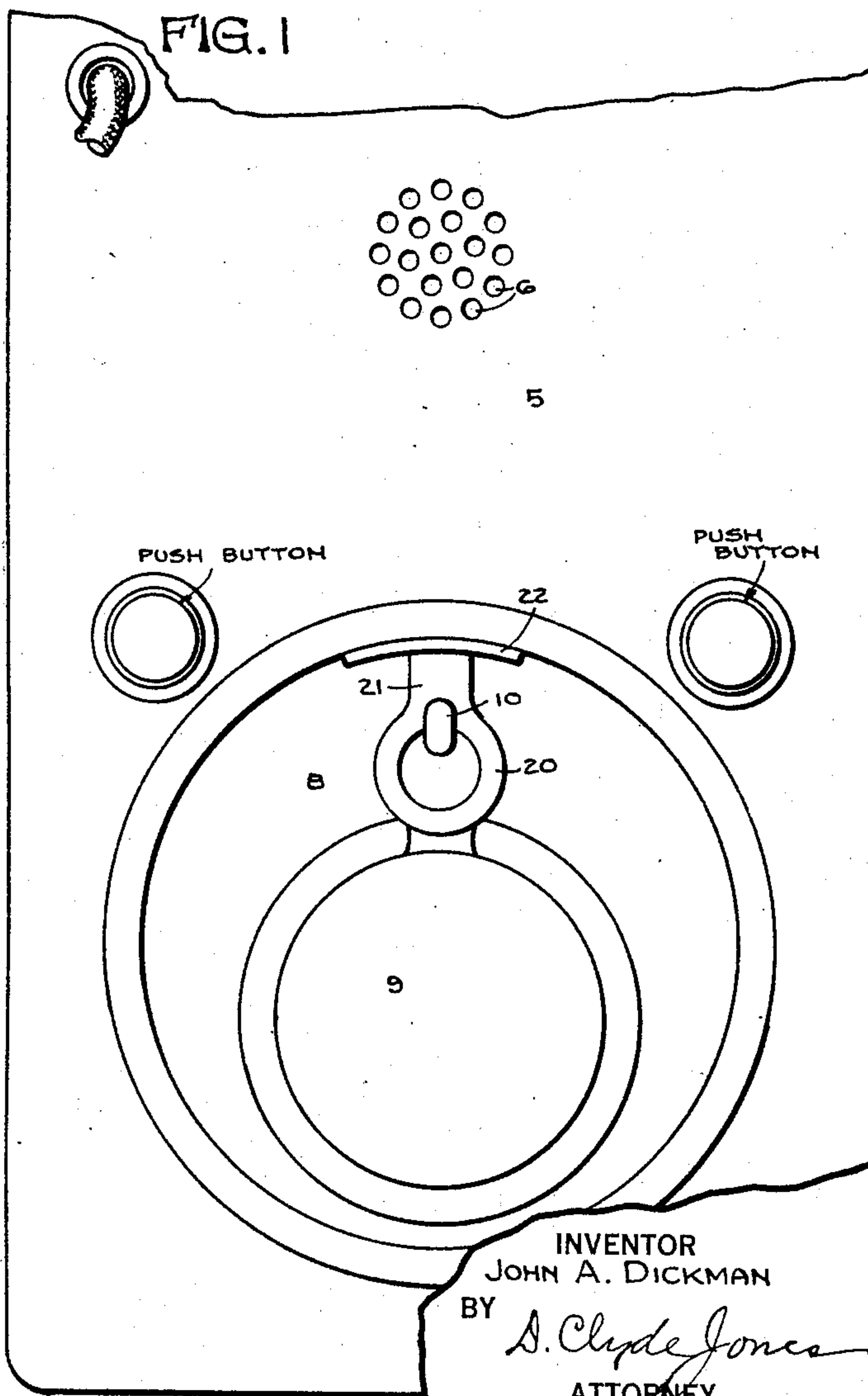


FIG. 3

FIG. 1



INVENTOR
JOHN A. DICKMAN
BY *S. Clyde Jones*
ATTORNEY

UNITED STATES PATENT OFFICE

JOHN A. DICKMAN, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE STROMBERG-CARLSON
TELEPHONE MANUFACTURING COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK

TELEPHONE SUBSTATION EQUIPMENT

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This invention relates to telephone equipment and more particularly to substation telephone equipment.

It is well-known that telephone substation equipment, in addition to speech transmission and speech reception devices, includes electrical circuits connected thereto. Such a switch-hook is normally actuated by the weight of a telephone receiver suspended therefrom to open certain of said electrical circuits and to close others; and when the receiver is removed from said switchhook a spring moves it to a position to render certain of said electrical circuits effective and others ineffective. In any case, it is essential that the switch-hook be actuated only when it is desired to initiate or to terminate a call. However, when such telephone equipment is mounted on an elevator car which is subjected to sudden starting and stopping, or on similar supports, the inertia of the receiver causes the switch-hook to actuate the electrical contacts falsely so that undesired circuit breaks are caused in the telephone system.

In accordance with the present invention it is proposed to provide such substation equipment with means for preventing the hook-switch contacts from being falsely actuated, that is, to prevent the actuation of the hook-switch contacts except by the intentional removal or replacement of the receiver on the switch-hook.

One of the main features of the invention includes means whereby the telephone receiver while on the switch-hook locks this hook in its normal position. A further feature of the invention includes a recess in which a telephone receiver may be suspended from a switch-hook projecting through the wall of the recess, in such a way that a part of the receiver engages the wall of said recess to lock said hook in actuated position. An additional feature of the invention includes substation equipment having a support provided with a recess of such dimensions as to receive a watch case type of telephone receiver, and having a switch-hook movably mounted on said support and projecting through a wall of said recess so that means on said receiver may engage the wall

of said recess and said switch-hook for holding said hook in its lowermost position.

These and other features of the invention will appear from the detailed description and claims when taken with the drawings in which Fig. 1 is a front elevation of a telephone substation unit with a portion of the top and bottom thereof broken away; Fig. 2 is a side elevation of the equipment of Fig. 1 with a portion of the walls of the receiver recess broken away to more clearly show the arrangement of parts; and Fig. 3 is a detail view of the switch-hook mounting and the spring assembly controlled thereby.

Referring to the drawings, 5 designates a front plate or support provided with a series of openings 6 leading to microphone equipment 7 of a well-known type, mounted on the rear of this supporting plate. The lower part of plate 5 is formed with a circular opening in which there is fastened a circular cup 8. As shown in Figs. 1 and 2 this cup provides a recess of such diameter that a telephone receiver 9 may be readily engaged with and disengaged from a switch-hook 10, on which it is normally supported, behind the plane of the plate 5. The switch-hook 10, as best shown in Fig. 2 is a J-shaped member mounted for vertical movement in a U-shaped element 11 indirectly fastened on the rear of plate 5. Stop 12 in this member engages the upper part of the element 11 when the switch-hook 10 is elevated under the action of spring 14 after the receiver 9 is removed from the switch-hook, while its stop 13 engages a notch in sleeve 15 to limit the downward movement of the switch-hook when the receiver is replaced thereon. The upper end of the switch-hook 10 in its several positions engages an actuating spring 16 to make contact with either the contact springs 17 or 18 of the spring assembly 19 according to the well-known practice.

In order to prevent the switch-hook 10 from falsely engaging either of the contacts 16 or 18 when the elevator car is suddenly started or stopped, the ring 20 secured to the receiver 9 by which it is normally suspended from the switch-hook, is provided with an extension 21 of such length that its

upper end firmly engages the upper wall of the recess, which may be protected by a strip of insulation material 22, at the same time that the ring forces the switch-hook to its lowermost position.

When it is desired to remove the receiver from its switch-hook, its lower portion is swung to the right as shown in dotted lines in Fig. 2 after which the ring 20 and its extension 21 are then withdrawn through the space between the switch-hook and the upper wall of the cup. In replacing the receiver on its switch-hook the ring 20 and the extension 21 are first inserted in the space between the hook and the upper wall of the cup and the receiver is then permitted to swing into place, the ring 20 and its extension 21 then serving as a lever to force or lock the switch-hook in its normal position.

It will be understood that the present disclosure is for purposes of illustration only and that there may be many variations and modifications thereof within the scope of the appended claims without departing from the spirit of the present invention.

What I claim is:

1. In telephone substation equipment, a support, electrical contacts mounted on said support, a switch-hook movably mounted in said support to actuate said contacts, a telephone receiver normally suspended from said switch-hook to move the same to its normal position, said receiver engaging said support to hold said switch-hook in its normal position, and means to move said switch-hook to its opposite position when said telephone receiver is removed therefrom.

2. In telephone substation equipment, a support, electrical contacts mounted on said support, a switch-hook movably mounted on said support to actuate said contacts, a telephone receiver provided with a ring by which said receiver is normally suspended from said switch-hook to move the same to its normal position, said ring engaging said support to hold said switch-hook in its normal position, and means to move said switch-hook in its opposite position when said telephone receiver ring is removed therefrom.

3. In telephone substation equipment, a supporting plate provided with a recess, contacts mounted on said supporting plate, a switch-hook projecting into said recess and movably mounted on said support to actuate said contacts, a telephone receiver normally suspended in said recess from said switch-hook to move the same to its normal position, a portion of said receiver engaging the wall of said recess to hold said switch-hook in its normal position, and means to move said switch-hook to its opposite position when said telephone receiver is removed therefrom.

4. In telephone substation equipment, a flat supporting plate provided with an open-

ing, a cup secured in said opening, electrical contacts mounted on said plate, a switch-hook projecting into said cup and movably mounted on said support to actuate said contacts, a telephone receiver suspended completely within said cup from said switch-hook, means on said receiver engaging said switch-hook and the inside of said cup to lock said switch-hook in its normal position, and means to move said switch-hook to its opposite position when its telephone receiver is removed therefrom.

5. In telephone substation equipment, a flat supporting plate provided with an opening, a cup secured in said opening, electrical contacts mounted on said plate, a switch-hook projecting through said cup and movably mounted on said support to actuate said contacts, a telephone receiver provided with a supporting ring having an extension, said telephone receiver being suspended completely within said cup by said ring from said switch-hook, a portion of said ring and said extension respectively engaging said switch-hook and the inside of said cup to lock said switch-hook in its normal position, and means to move said switch-hook in its opposite position when its telephone receiver is removed therefrom.

In witness whereof, I hereunto subscribe my name this 30th day of September, A. D. 1929.

JOHN A. DICKMAN.