

Aug. 23, 1927.

G. K. THOMPSON

1,639,819

CLEANING DEVICE FOR DIALS OF TELEPHONE INSTRUMENTS

Filed Aug. 7. 1925

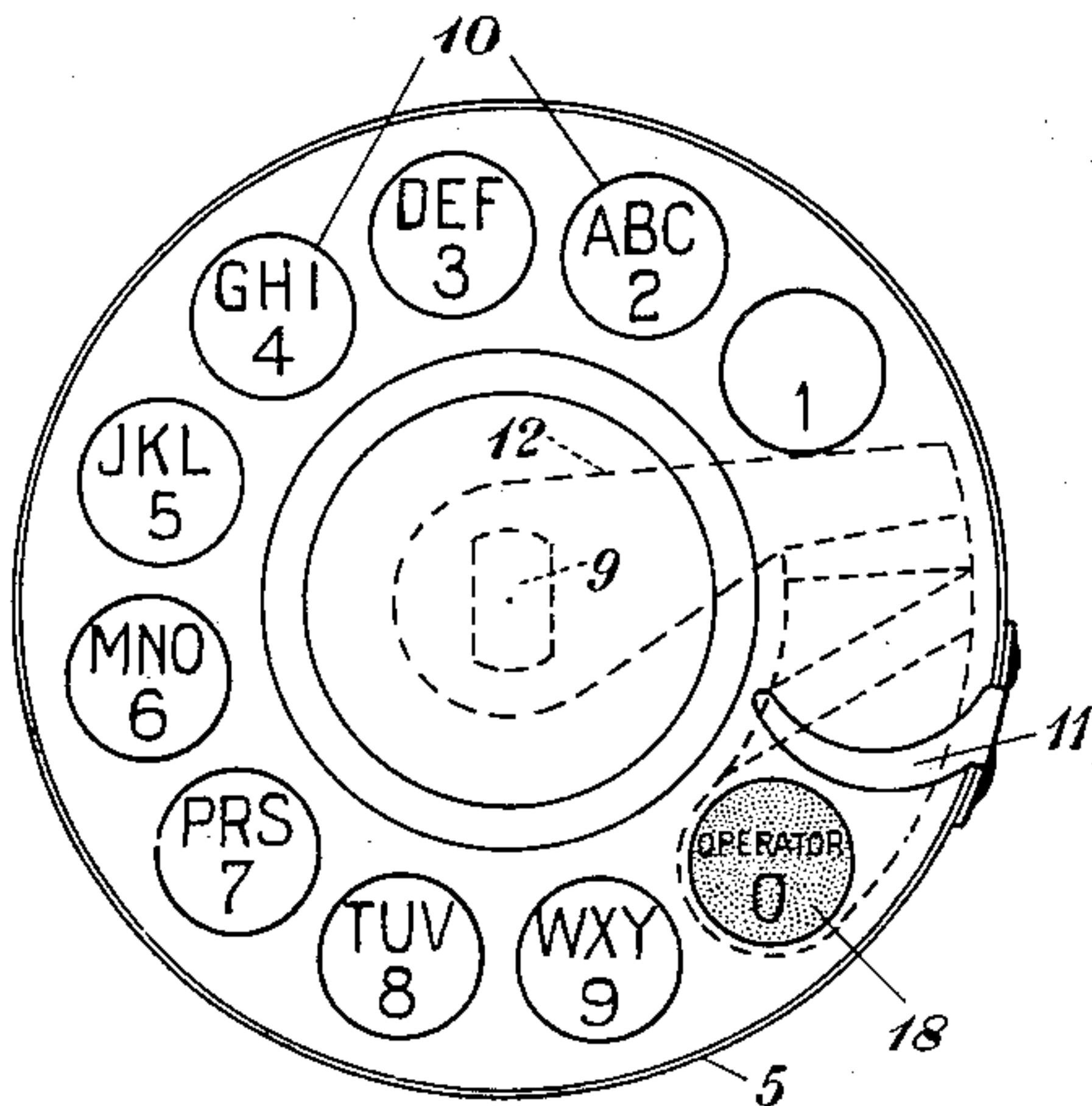


Fig. 1

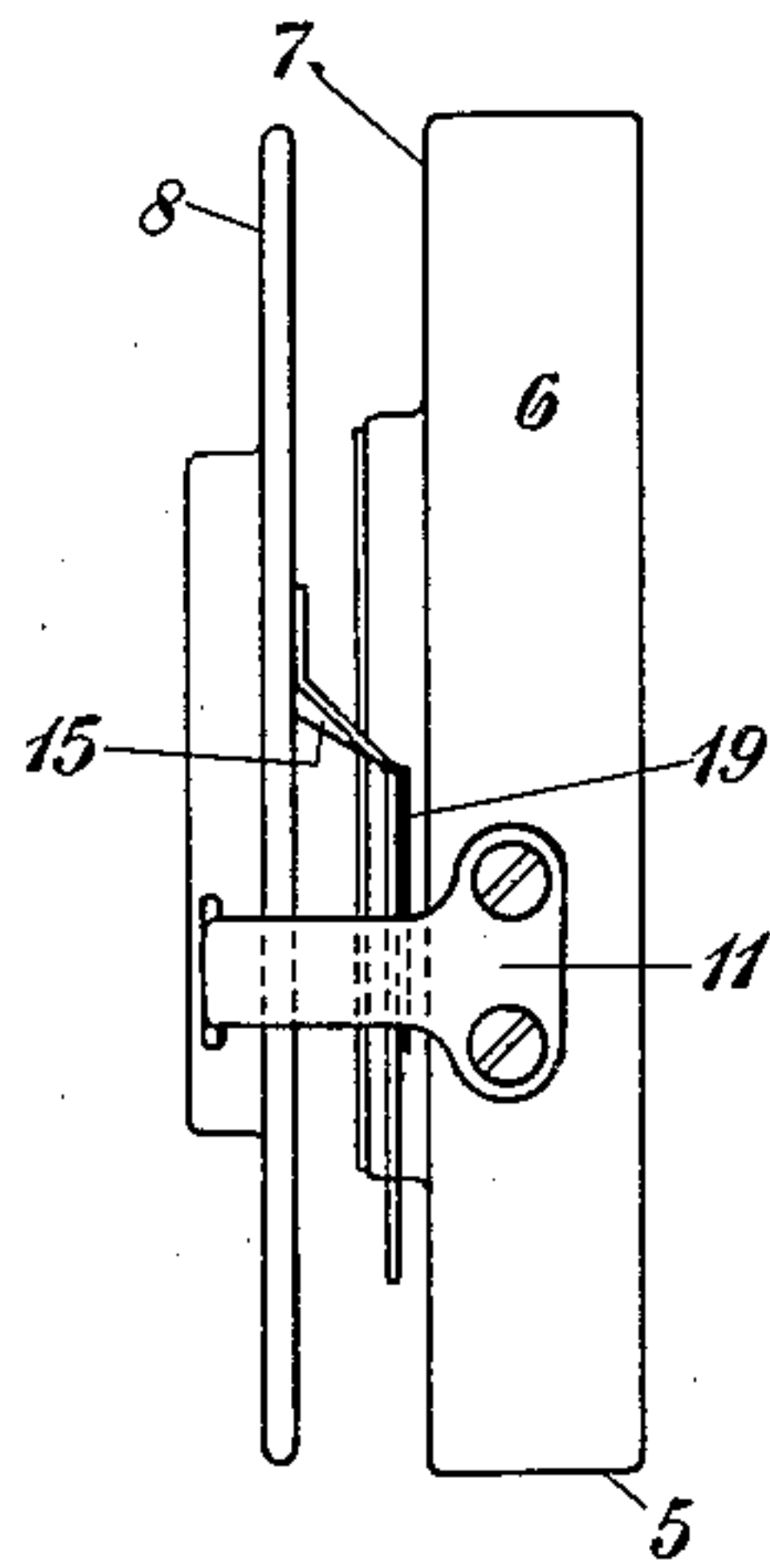


Fig. 2

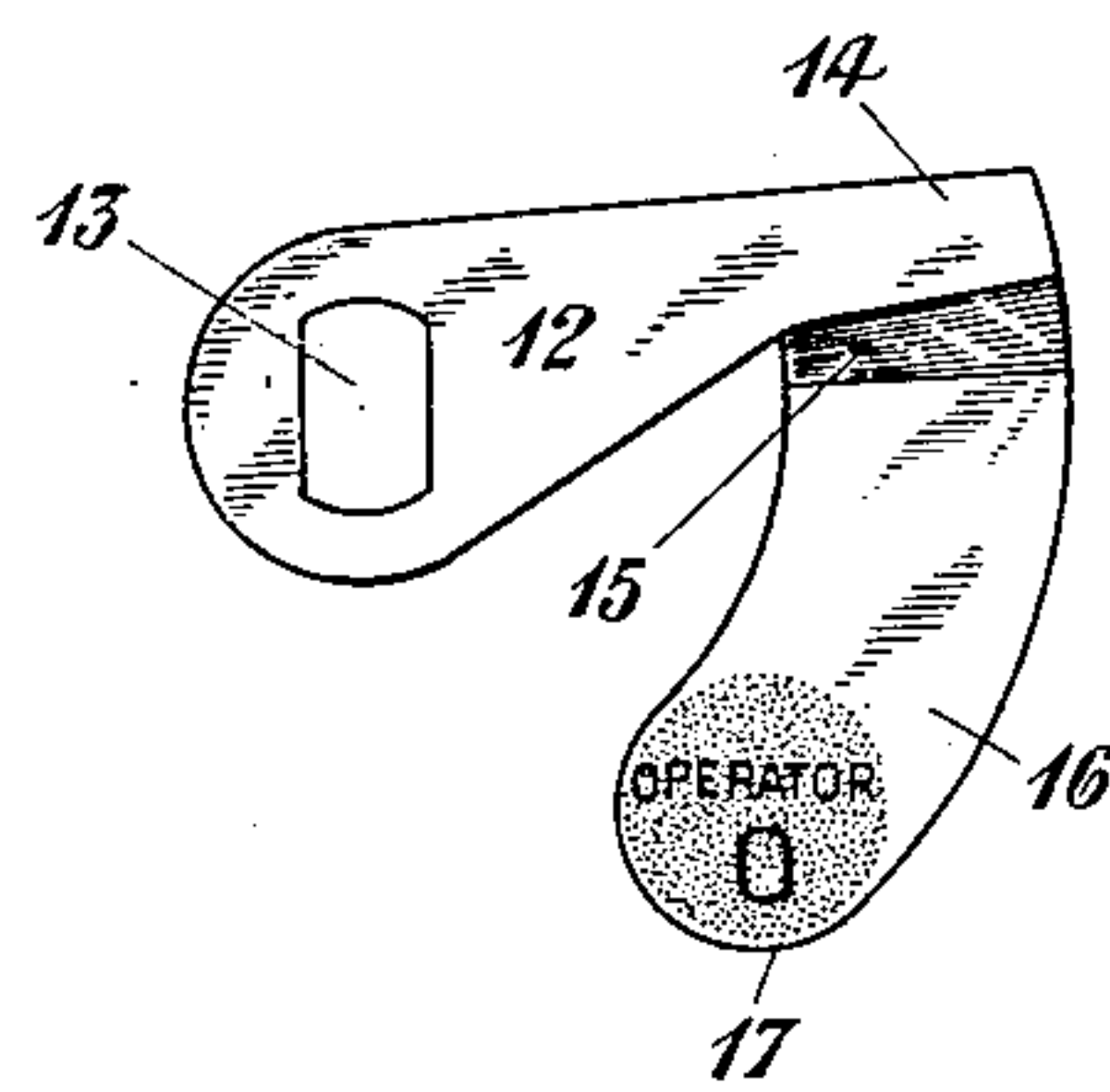


Fig. 3

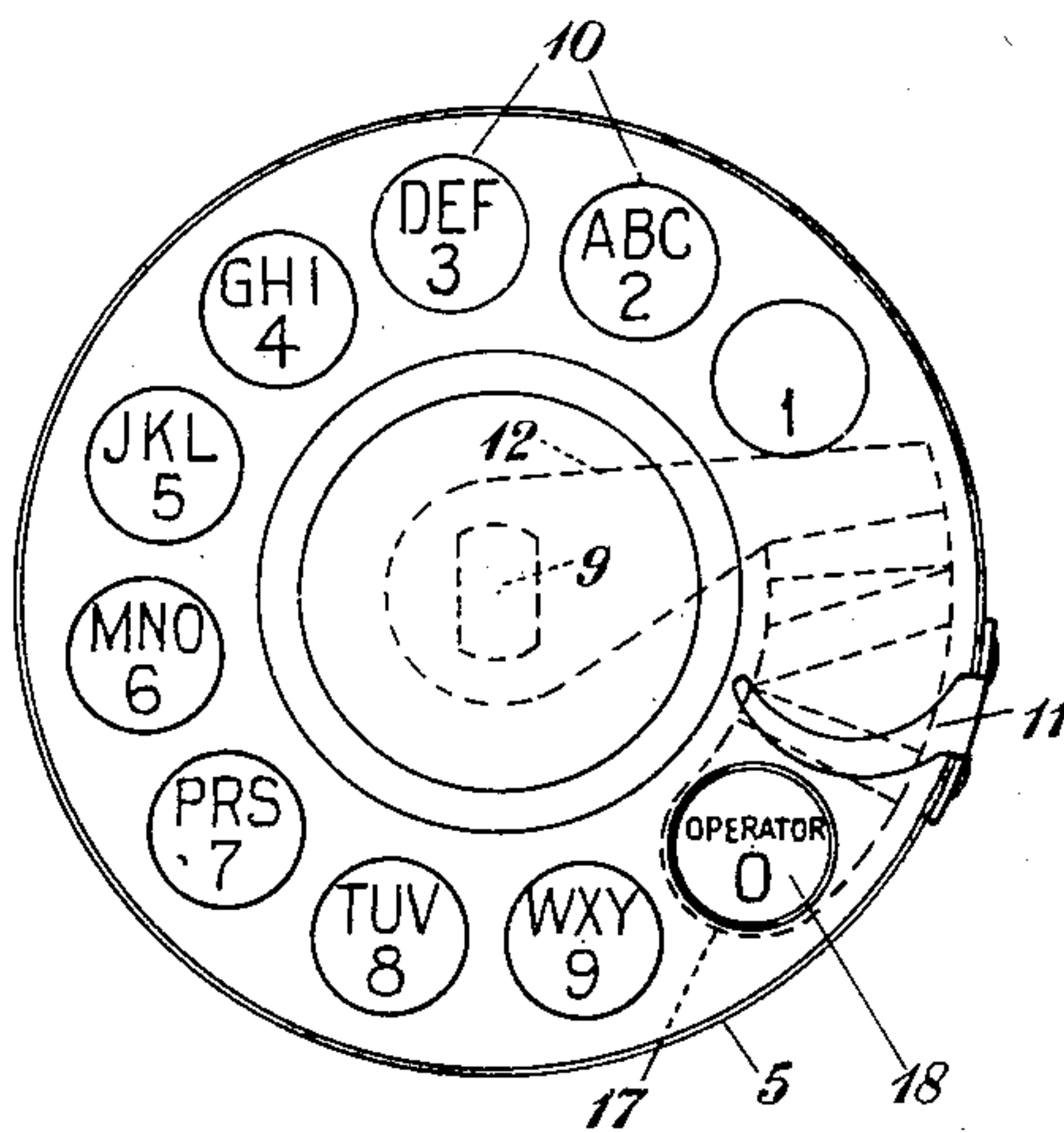


Fig. 4

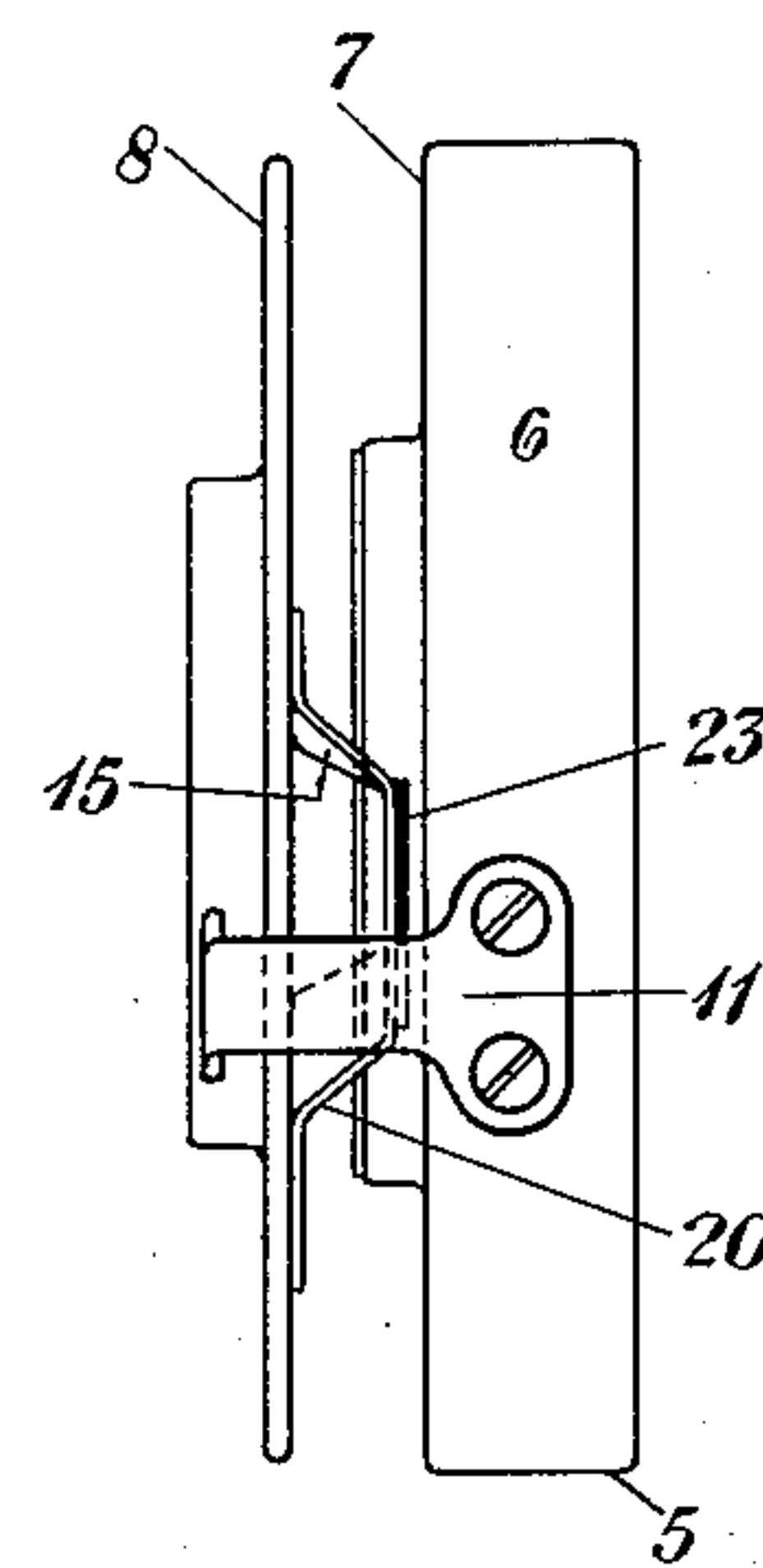


Fig. 5

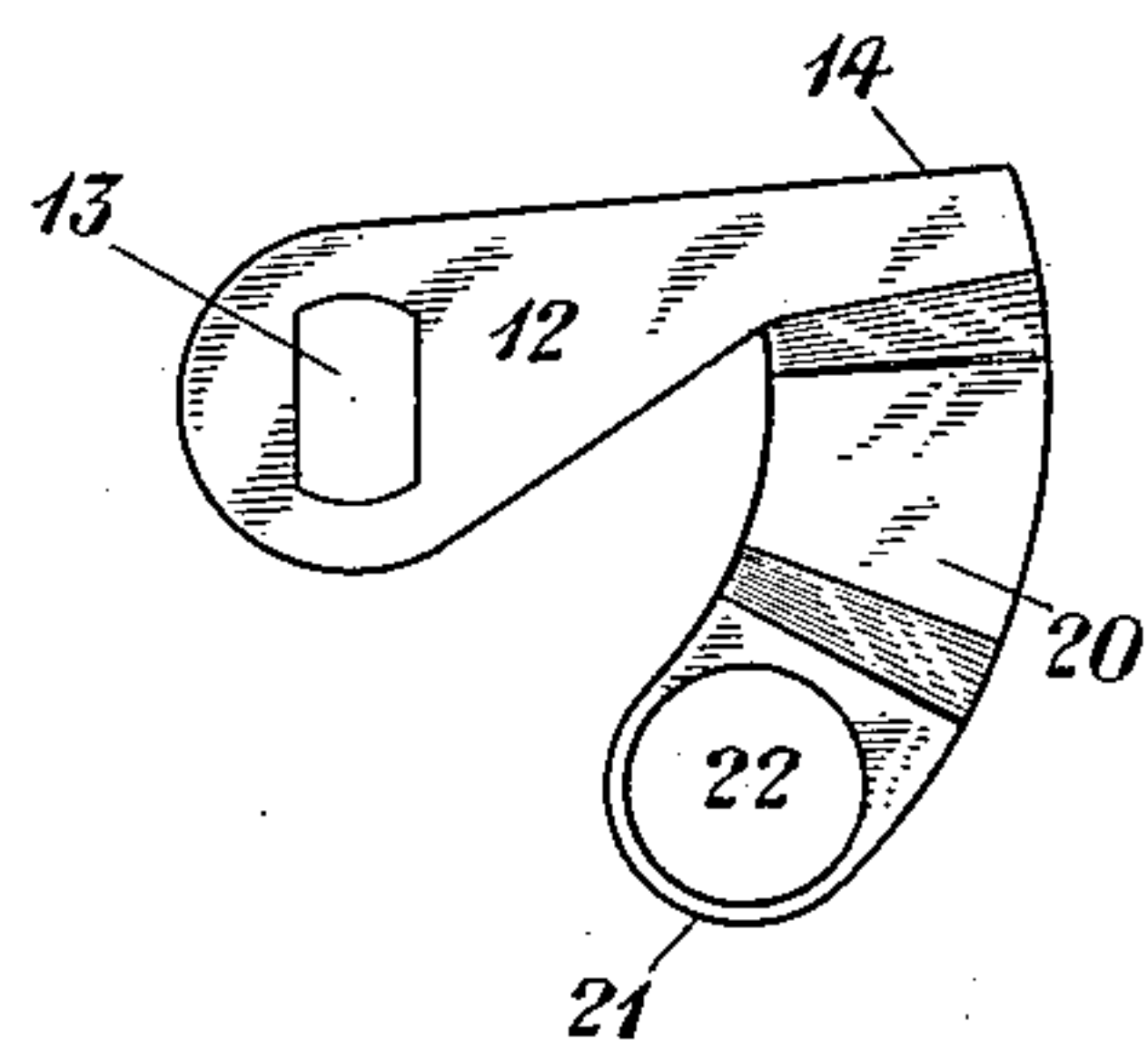


Fig. 6

INVENTOR
G. K. Thompson
BY *ger*
ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE K. THOMPSON, OF MAPLEWOOD, NEW JERSEY, ASSIGNOR TO AMERICAN TELEPHONE AND TELEGRAPH COMPANY, A CORPORATION OF NEW YORK.

CLEANING DEVICE FOR DIALS OF TELEPHONE INSTRUMENTS.

Application filed August 7, 1925. Serial No. 48,834.

This invention relates to automatic cleaning devices more particularly adapted for use in connection with calling devices of telephone instruments of the machine switching type.

In factories and like establishments, the number plates of telephone instruments are subjected to the accumulation of dust thereon to such extent that the letters and figures appearing on said plates become indistinct or obscured, and present considerable interference with the proper operation of the instruments.

It is an object of this invention to provide a device which will automatically remove dust and clean the surface of the number plate in an efficient and simple manner.

It is a further object of this invention to automatically remove the dust on the number plate in such a manner that proper operation of the calling device is not interfered with.

Other and further objects will be apparent from the following description when considered in connection with the accompanying drawing in which certain embodiments of the invention are illustrated.

In the drawing, in which like reference characters represent like parts throughout, Figure 1 is a face view of the calling device showing, in dotted lines, the cleaning attachment applied thereto; Fig. 2 is a side view of Fig. 1; Fig. 3 is a front view of the improved cleaning attachment, and Figs. 4, 5 and 6 are views similar to Figs. 1, 2 and 3, respectively, showing a modification of the attachment applied to the instruments in Figs. 4 and 5, and the modification detached from the instruments in Fig. 6.

Referring to the drawing, 5 represents a form of calling device of the dial type of telephone instrument, by the operation of which impulses may be transmitted in a manner well understood in the art. The interior mechanism of the calling device is enclosed within a casing 6. As this mechanism forms no part of the present invention it need not be described further than to say that it may comprise the usual elements well known in the art. A number plate 7 is mounted on one side of the casing 6 and is provided with symbols arranged concentrically about its surface near

its periphery. A movable plate or finger wheel 8 is suitably mounted on a shaft 9 above the plate 7 in a plane parallel therewith and concentrically movable with respect thereto. The finger wheel 8 is provided with a plurality of finger-holes as shown at 10. The symbols on the number plate 7 are in vertical alinement with respect to the holes 10 and may be readily seen beneath these holes.

A finger stop 11 is shown secured to the side of the casing 6 and is arranged to engage the finger of the person operating the dial and to thus limit the movements of the finger wheel 8 in a well known manner.

A punching 12, which may be composed of any flat resilient material, is suitably clamped under the finger wheel 8 and rotates therewith on the shaft 9. A slot 13, which is provided at one end of the member 12, conforms to the shape of the shaft 9, and is of such size that it rests snugly against the sides of the shaft when in position thereon. At 14 is shown a radial arm which extends from the slotted end 13 toward the edge of the finger wheel 8 at which point it is bent downward at an angle to the plane of said arm, as indicated by the numeral 15.

In Figs. 1, 2 and 3, the punching 12 is shown as extending in the form of an arc 16 from the bent portion 15 to a rounded portion terminating at 17 beneath the finger hole 18. The curved portion 16 is sufficiently wide to cover the portion of the number plate 7 on which the symbols appear. A strip of fabric 19, such as felt or the like, is attached in any suitable manner to the under side of the curved portion and at the top surface of the terminating portion 17 a legend or marking such as "Operator" or "O" may be applied to the punching. The marking may be covered by a disc of celluloid or the like to prevent the characters from being destroyed through contact with the finger of the person dialing.

In the modification shown in Figs. 4, 5 and 6 a depressed portion 20 is provided between the portion 14 of the arm 12 and the free end 21 in which the hole 22 is provided. On the underside of the depressed portion 20, which is sufficiently wide to cover the portion of the number plate 7 on which the symbols appear, a strip of felt 23 is suitably attached. The free end 21 of the

punching lies against the underside of the finger wheel with the hole 22 in vertical alinement with the finger hole 18 of the finger wheel. The hole 22, however, is of smaller diameter than the hole 18 so that when the finger is inserted through the latter the free end of the punching is depressed, causing its depressed portion to engage the surface of the number plate 7 in wiping contact.

The calling device above described is operated in the usual manner by placing a finger in engagement with the finger hole through which is visible the numeral or character corresponding to the digit for which it is desired to transmit impulses, and by rotating the finger wheel 8 in a clockwise direction until the finger engages the finger stop 11. The finger is then removed and the finger wheel returns to normal position under the influence of the impulse-sending mechanism enclosed within the casing 6.

The spring members attached to the movable plates are so adjusted that they normally clear the number plate on which the symbols appear. When, however, the digit "zero" is dialed, the insertion of the finger in the hole of the finger wheel through which these legends appear causes the spring to be depressed, thereby bringing the felt or like material into contact with the number plate when the finger wheel is being rotated clockwise. When the finger is removed, the finger wheel carrying the spring returns to normal. The felt or like material is out of contact with the number plate so that no variable friction, detrimental to the transmission of impulses is introduced during the return of the finger wheel. It will be obvious that by this improved arrangement the wiping

material is not in contact with the number plate except when the finger wheel is being operated and the spring member is depressed in the manner indicated. By this means the number plate may be kept clean and free from dust so that the symbols appearing thereon are readily legible.

What is claimed is:

1. In a calling device having a number plate, a shaft, a finger wheel rotatably mounted thereon and movable concentrically with respect to the number plate, said finger wheel being provided with a plurality of finger holes, and means affixed to said shaft and rotatable with said finger wheel to form a wiping contact with the number plate upon the depression thereof through one of said finger holes.

2. In a calling device having a number plate, a shaft, a finger wheel rotatably mounted thereon and movable concentrically with respect to the number plate said finger wheel being provided with a plurality of finger holes and means affixed to said shaft and rotatable with said finger wheel to form a wiping contact with the number plate said means being actuated by the depression of one of its ends through one of said finger holes.

3. In a calling device having a number plate a finger wheel movable concentrically thereto and means associated with the latter for forming a wiping contact with the number plate upon its depression by the operator in dialing.

In testimony whereof I have signed my name to this specification this 5th day of August, 1925.

GEORGE K. THOMPSON.