

1,425,123.

R. H. MANSON.
IMPULSE TRANSMITTER.
APPLICATION FILED AUG. 29, 1919.

Patented Aug. 8, 1922.

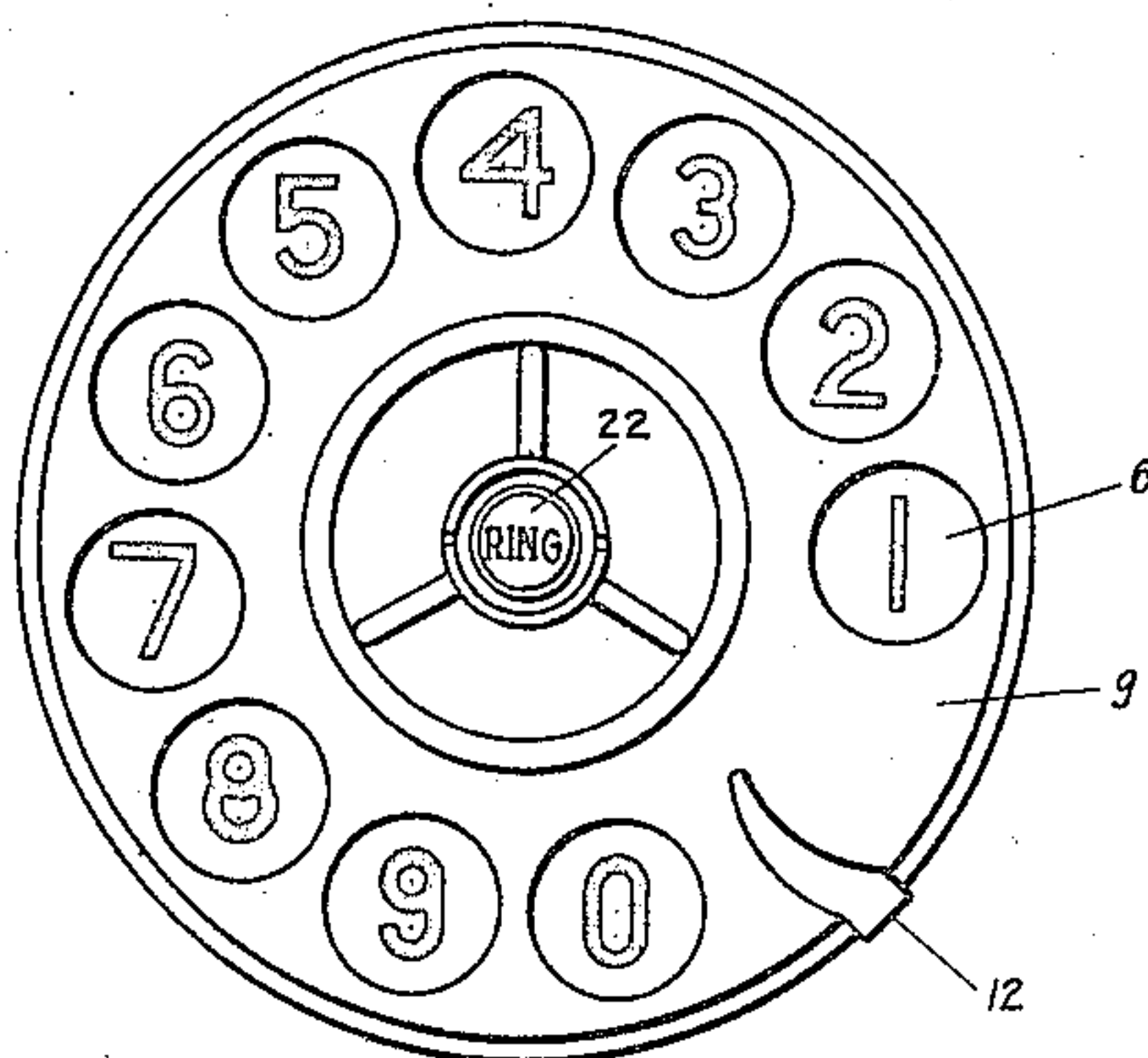


FIG. 1

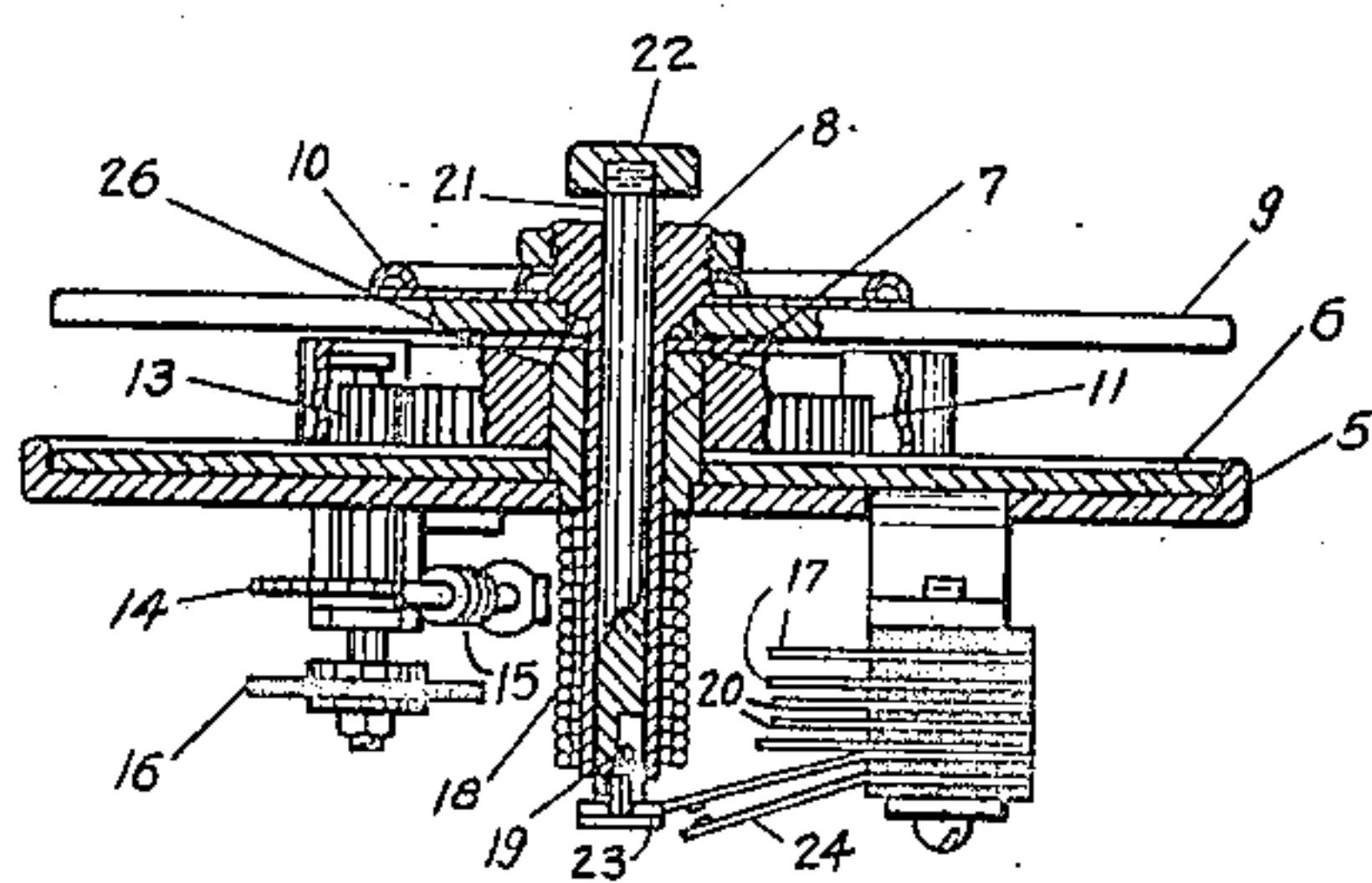


FIG. 2

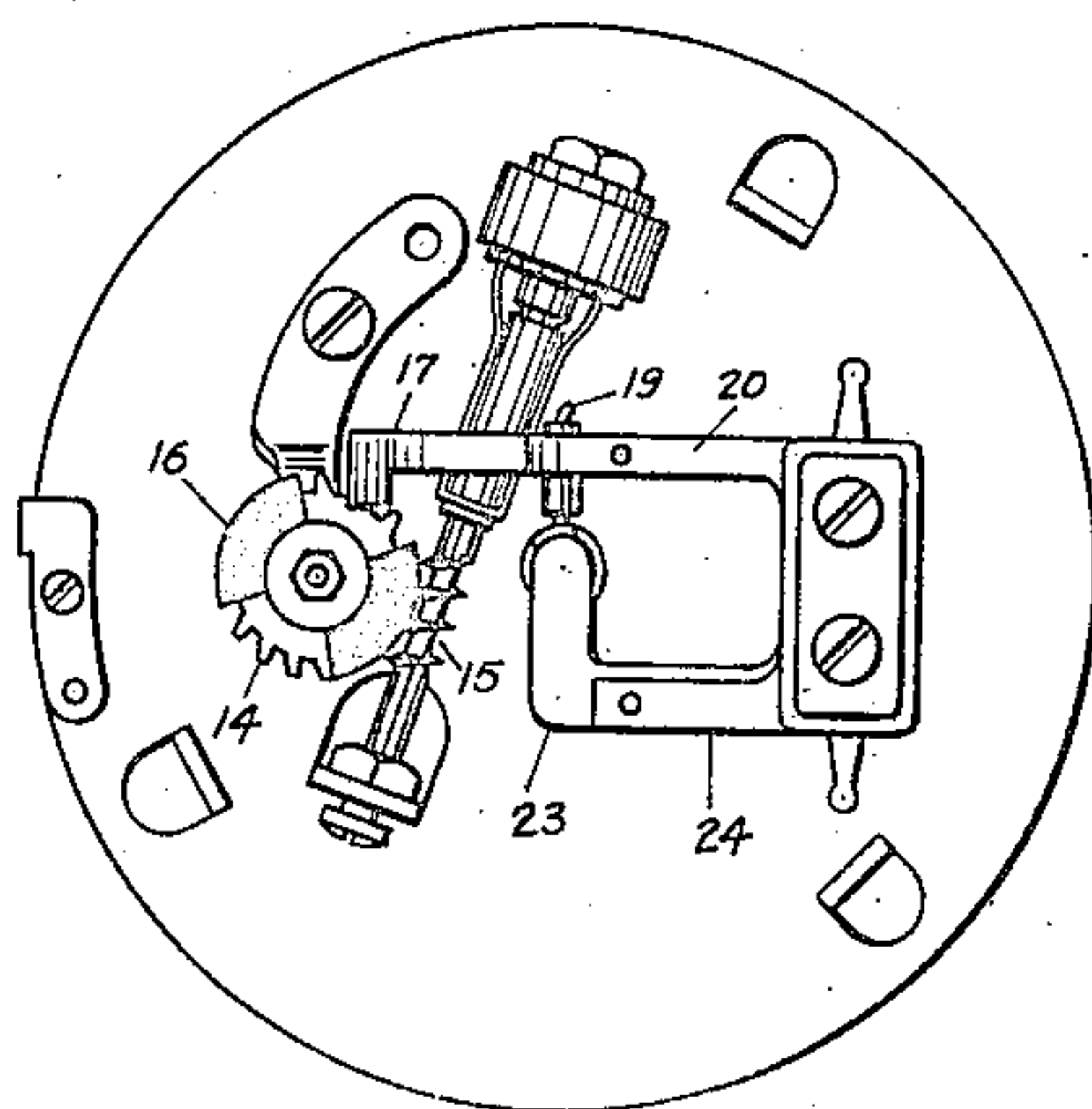


FIG. 3

INVENTOR
RAY H. MANSON.
BY *S. Clyde Jones.*
ATTORNEY

UNITED STATES PATENT OFFICE.

RAY H. MANSON, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

IMPULSE TRANSMITTER.

1,425,123.

Specification of Letters Patent.

Patented Aug. 8, 1922.

Application filed August 29, 1919. Serial No. 320,677.

To all whom it may concern:

Be it known that I, RAY H. MANSON, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Impulse Transmitters, of which the following is a full, clear, concise, and exact description.

This invention relates to impulse transmitters, and more particularly to impulse transmitters for use in controlling directly operated automatic switches.

In automatic telephone systems in which it was desired to use substation controlled ringing, it was previously necessary to have special desk stands and wall sets which were provided with a special push button or other means to control contacts in a signaling circuit. Since it is not only undesirable to have several types of desk stands and wall telephone sets, but since the addition of the push button to the sets was a source of additional expense, it is proposed in the present invention to so position the push button in relation to the impulse transmitter that the push button need not be mounted in the structure of the desk stand itself or of the wall telephone set, but it is placed in the impulse transmitter and is so placed with respect to the other parts of the impulse transmitter that it will be convenient to operate, neat in appearance and yet will not interfere with the accurate transmission of current impulses.

Referring to the drawings, Fig. 1 represents a front view of the impulse transmitting device provided with a ringing push button.

Fig. 2 is a side view of the impulse transmitting device partially in cross section with certain parts broken away to more clearly disclose the features thereof.

Fig. 3 is a rear view of the impulse transmitting device of this invention.

In the drawings, 5 designates a circular frame plate which serves as a support for the other parts of the impulse transmitter. This plate has a rim within which is placed a second plate 6 on which there may appear various designations, in the present instance the numerals 1 to 0. The plate is provided with a central opening in which there is secured a hollow hub 7, in which a hollow shaft 8 is adapted to rotate. A finger-hold

dial 9 is secured to the upper part of this shaft to rotate therewith and an instruction disk 10 lies on the upper surface of the dial plate and is held in position by a nut threaded on the upper portion of the hollow shaft. A gear wheel 11 is mounted to rotate on the hollow shaft and has its upper surface provided with teeth to co-operate with a resilient dog (not shown) carried by a washer 26 and secured to the dial 9, so that when the dial 9 is rotated in the direction of the stop 12, the resilient dog rides over the teeth of the ratchet wheel 11, permitting this wheel to remain stationary, but when the dial rotates in a counter clockwise direction the resilient dog engages the teeth of the ratchet wheel and causes it to rotate with the dial. A small gear 13 engages the ratchet, wheel 11 and is rotated thereby. This gear wheel is mounted on a shaft which is provided with a second gear wheel 14 engaging the worm 15 controlling a well known type of governor, and is also provided with impulse segments 16 which control the opening and closure of the impulse springs 17. A spiral spring 18 surrounding the hollow shaft is secured at one end to the frame plate 5 and at its lower end to a pin 19. This spring as is well known, is wound up when the dial is moved from normal and tends to restore the dial to its original position. Mounted on the pin 19 is a piece of insulation, such as hard rubber, which holds the shunting springs 20 open, except when the dial is moved from normal position. A rod 21 provided at one end with a ringing button 22 is threaded through the hollow shaft and has a notch in its lower portion to receive the pin 19, to prevent the rod 21 from being removed from the transmitter. At the extreme lower portion of the rod there is fastened a piece of insulation which engages the ringing spring 23, and when the button 22 is depressed the spring 23 engages the spring 24 to close contacts in a signaling circuit. The impulsing springs 17, the shunting springs 20 and the ringing springs 23 and 24 are suitably insulated from each other and mounted on a spring assembly secured to frame plate 5 as shown in Fig. 2.

When it is desired to use the present impulse transmitter in a system wherein the ringing is not substation controlled, the springs 23 and 24 may be omitted from the

spring assembly, and the rod 21 is likewise omitted. A blank disk may then be placed over the opening in the hollow shaft.

What I claim is:—

- 5 1. In an impulse transmitting device, a circular frame having a central opening, a numeral plate associated therewith, a shaft having a longitudinal opening, a dial se-
10 cured to said shaft arranged to be manually rotated in a clockwise direction, a spring for rotating said shaft and dial in the re-
verse direction, a spring assembly supported by said frame and provided with sets of flat
15 contact springs lying in parallel planes, means operative during the reverse move-
ment of said dial for actuating one of said sets of springs and a rod provided with a
button on one end and insulation on the
20 other, said rod being movable through the opening in said shaft for actuating a second set of springs.
2. In an impulse transmitting device, a circular frame having a central opening, a numeral plate associated therewith, a shaft
25 having a longitudinal opening therein, a dial secured to said shaft arranged to be manually rotated in a clockwise direction, a spring for rotating said shaft and dial in
the reverse direction, a spring assembly sup-
30 ported by said frame and provided with sets of flat contact springs lying in parallel planes, means operative during the reverse movement of said dial for actuating one of
said sets of springs, another of said sets of
35 springs having one member thereof extending at an angle to said spring assembly and means movable through the opening in said

shaft for actuating said last mentioned set of springs.

3. In an impulse transmitting device, a 40 circular frame having a central opening, a numeral plate associated therewith, a shaft having a longitudinal opening, a dial se-
cured to said shaft arranged to be manually rotated in a clockwise direction, a spring 45
for rotating said shaft and dial in the reverse direction, a spring assembly supported by said frame and provided with sets of flat contact springs lying in parallel planes,
50 means operative during the reverse movement of said dial for actuating one of said sets of springs and a rod movable through the opening in said shaft for actuating a second one of said sets of springs.

4. In an impulse transmitting device, a 55 circular frame having a central opening, a numeral plate associated therewith, a shaft having a longitudinal opening therein, a dial secured to said shaft arranged to be manually rotated in a clockwise direction 60
a spring for rotating said shaft and dial in the reverse direction, an angular arm supported by said frame, a plurality of springs mounted in parallel planes on said arm,
65 means operative during the reverse movement of said dial for actuating one of said springs and means movable through the opening in said shaft for actuating another one of said springs.

In witness whereof, I hereunto subscribe 70 my name this 26th day of August, A. D. 1919.

RAY H. MANSON.