

No. 877,857.

PATENTED JAN. 28, 1908.

L. H. PARCELS.
TELEGRAPH SWITCH.
APPLICATION FILED AUG. 5, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

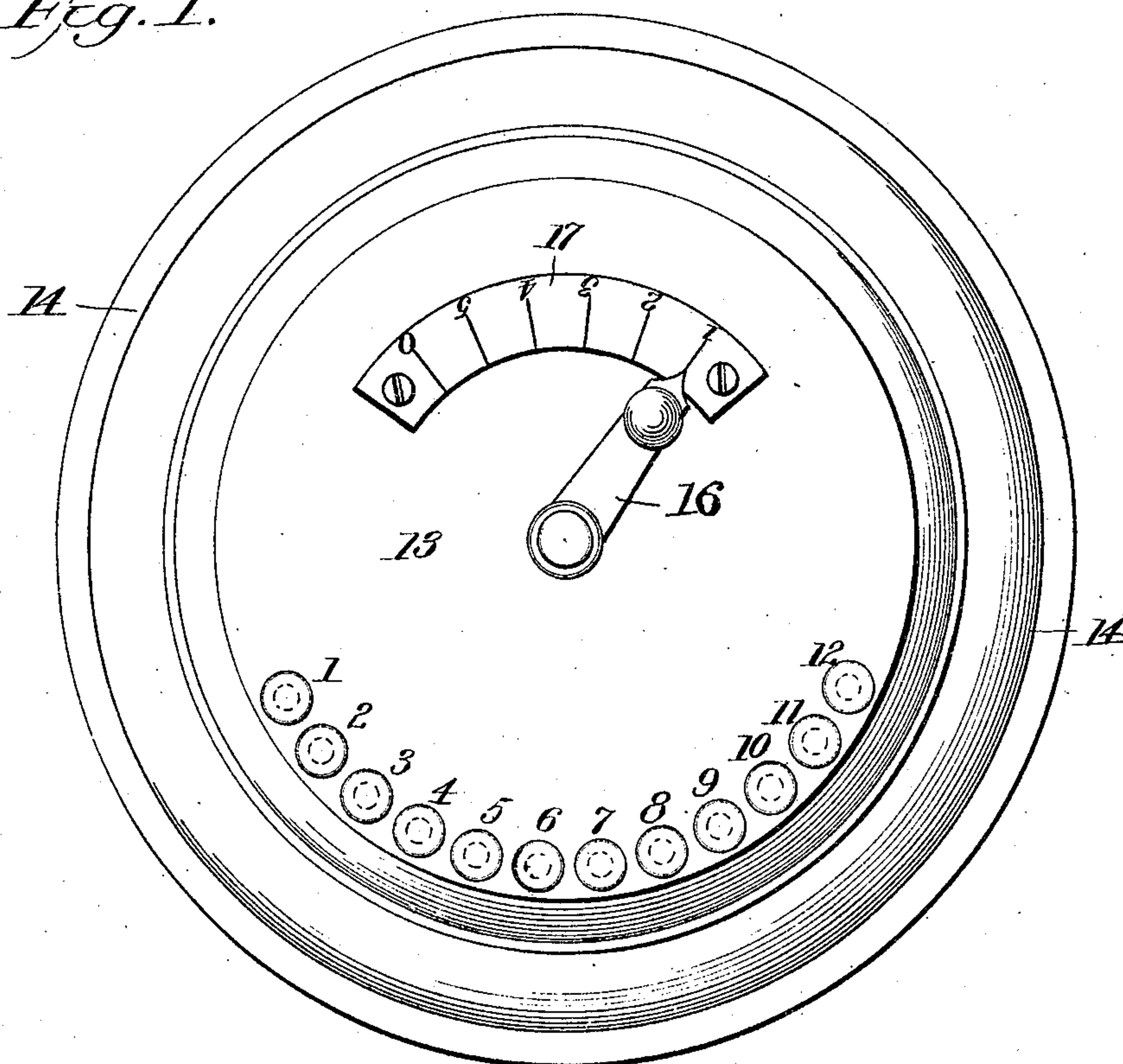
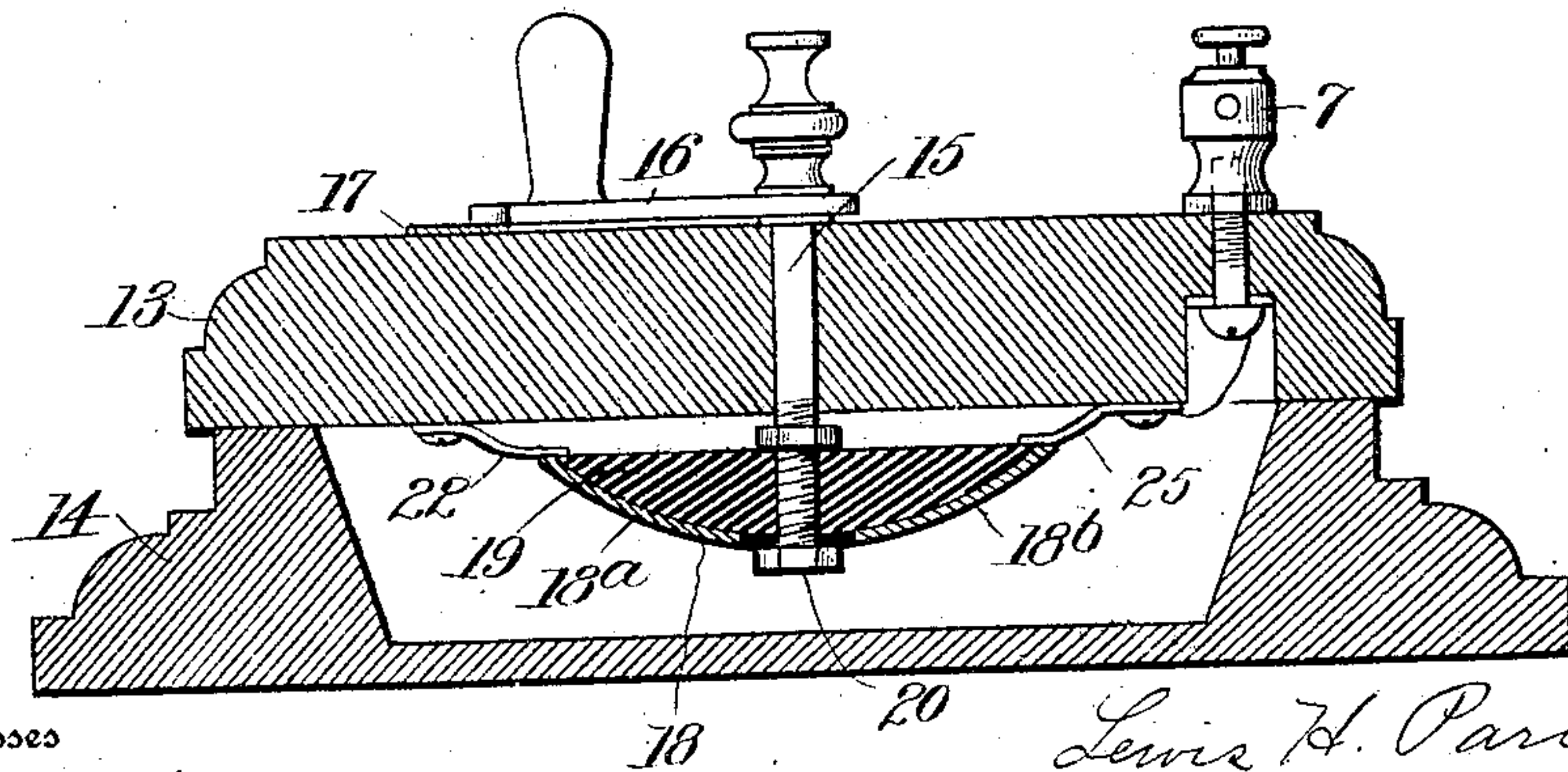


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

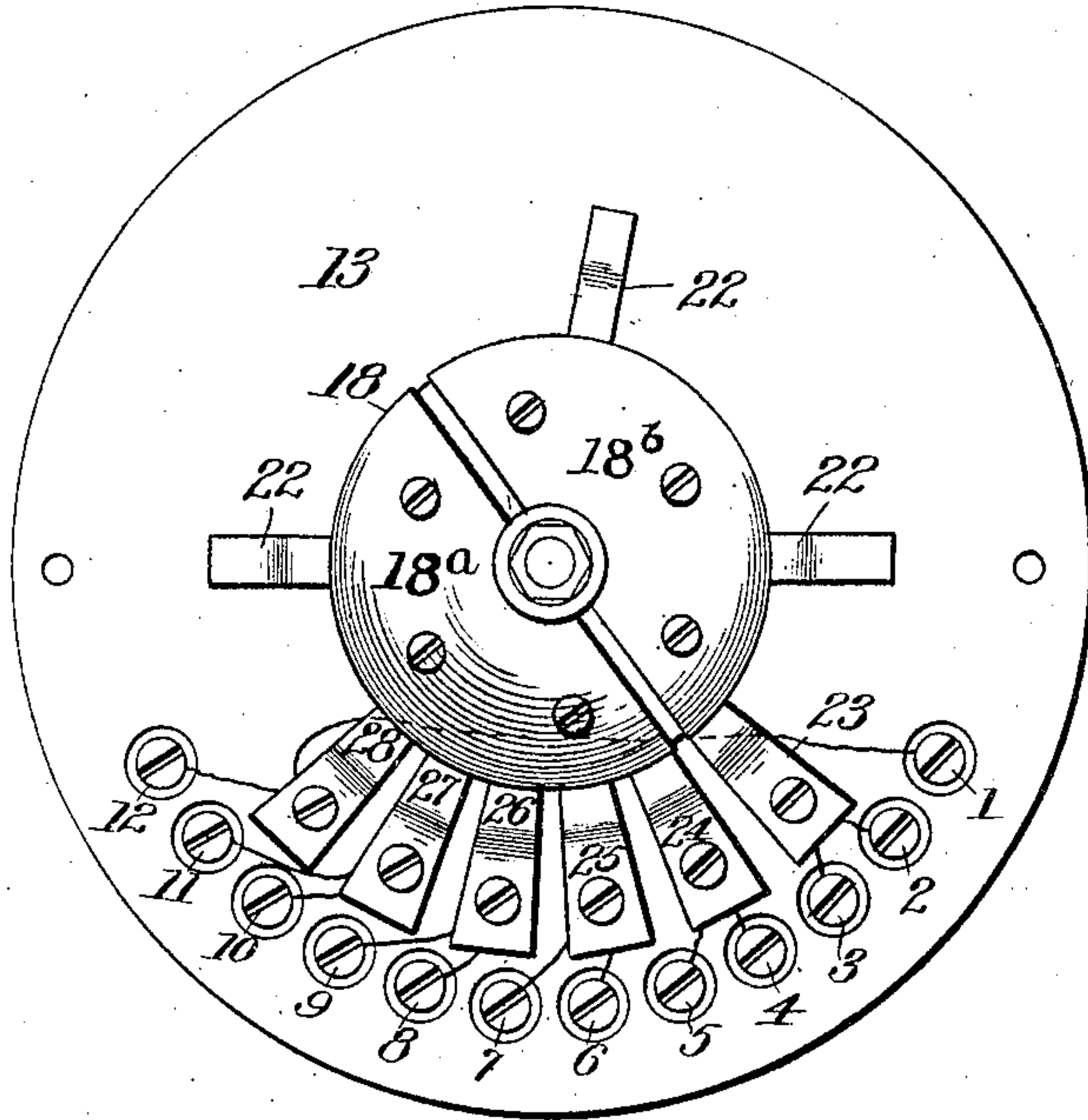
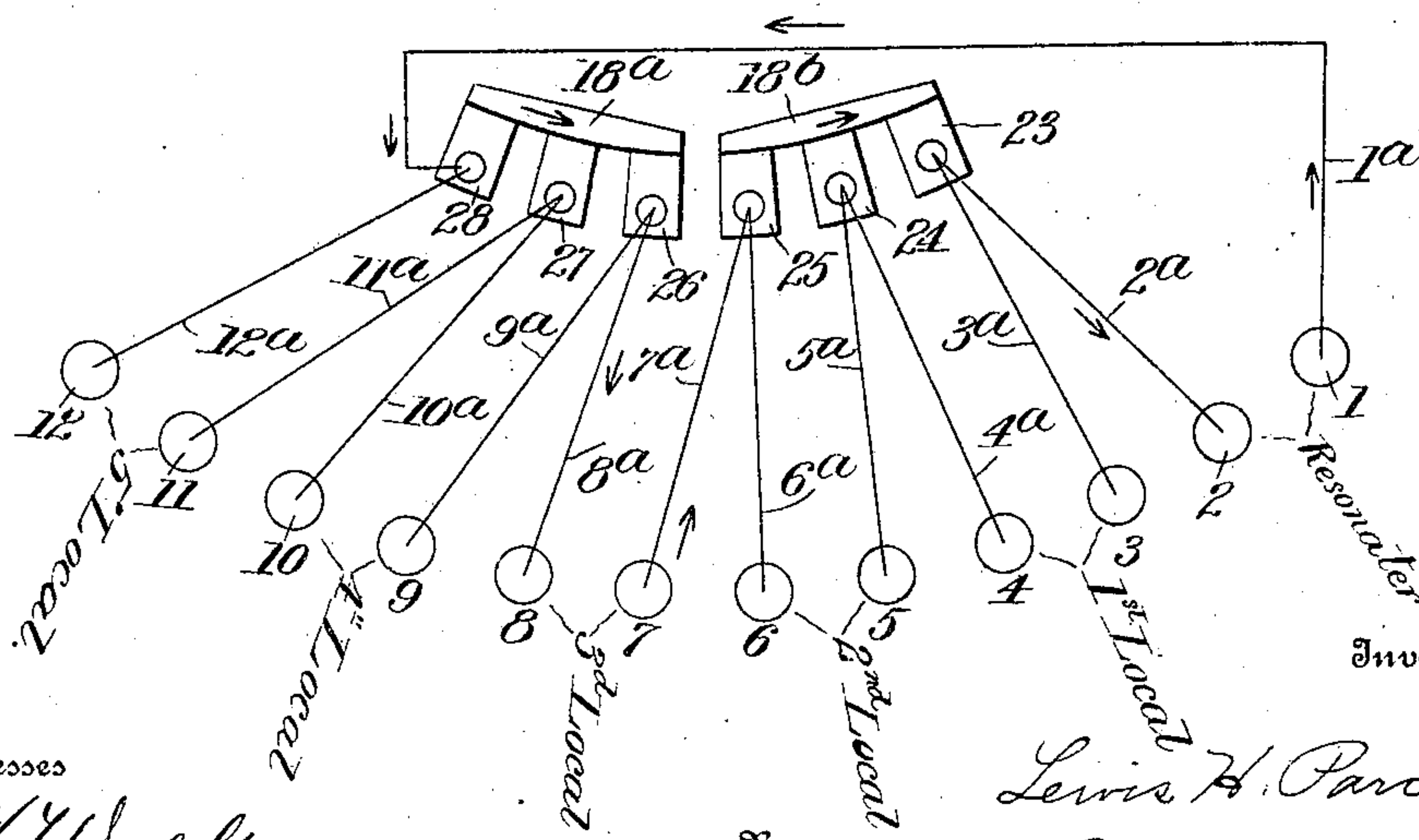


Fig. 4.



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UNITED STATES PATENT OFFICE.

LEWIS H. PARCELS, OF HIAWATHA, KANSAS, ASSIGNOR OF ONE-HALF TO JOHN H. KOGER,
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TELEGRAPH-SWITCH.

No. 877,857.

Specification of Letters Patent.

Patented Jan. 28, 1908.

Application filed August 5, 1907. Serial No. 387,102.

To all whom it may concern:

Be it known that I, LEWIS H. PARCELS, a citizen of the United States, residing at Hiawatha, in the county of Brown and State of Kansas, have invented certain new and useful Improvements in Telegraph-Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in telegraph switches for connecting a resonator sounder into one or more sets of telegraph instruments without disturbing the circuits but allowing all local circuits to work free and clear when the resonator is cut out.

The main object of the invention is to allow messages from a plurality of circuits to be copied on a type-writer in a noisy office where instruments are numerous. This instrument does away with the old style spring jack and is much less expensive. Besides the spring jack always causes more or less trouble because of dirt gathering under the jack and on the jack plugs, etc., thereby leaving the main line wire open and causing great delays to telegraph service. My switch works on local circuits and may be connected up with any desired number of instruments.

The invention consists in the features of construction and combinations of parts hereinafter described and specified in the claims.

In the accompanying drawings, illustrating the preferred embodiment of my invention: Figure 1 is a plan view of a switch having connections for five local sounder circuits as well as the resonator sounder circuit. Fig. 2 is a central vertical section. Fig. 3 is an under plan view with the casing removed and showing the switch in position to cut in on the first local circuit, and Fig. 4 is a diagrammatic view showing the circuits when the resonator circuit is cut in on the third local circuit.

Referring more particularly to the drawings, twelve binding posts 1 to 12 inclusive are mounted on the supporting plate 13 which rests upon a socketed base 14 serving to house the switch apparatus. The binding posts 1 and 2 are designed to be connected with the resonator sounder circuit while the succeeding pairs are to be connected with five different local sounder circuits. While I have illustrated a switch which will operate

in only five local sounder circuits, it will be readily understood that any other desired number of circuits may be tapped by providing connections therefor. Through the center of said plate or disk a shaft or pin 15 is passed on the outer end of which is mounted an indicator arm 16 adapted to move above an arcuate scale or dial 17 bearing figures corresponding to the five local sounder circuits and a sixth place marked "0" to indicate when the resonator is cut out of all of the local circuits. On the lower end of said shaft is secured a split disk 18 preferably comprising two semi-circular copper plates 18^a and 18^b concavo-convex in form and mounted on a block 19 of wood or other suitable material whereby they are insulated from each other. The nut 20 which retains said disk on the shaft is also insulated from said copper pieces by a rubber washer 21. Said split disk is dropped below the under surface of the plate 13 and is retained by spring metal strips 22 arranged at three sides thereof. At the other side are placed six contact strips 23, 24, 25, 26, 27 and 28 spaced apart about the same distance as the halves of the split disk are separated whereby it is possible for the edge of one of said halves to engage one of said contact strips while the edge of the other half engages the next contact strip.

The binding post 1 to the resonator circuit is connect up with the contact strip 28 by an insulated wire 1^a passed below all of said contact pieces or strips. The binding post 2 also to the resonator circuit connects by a wire 2^a with the contact strip 23. The next two binding posts 3 and 4 to the first local sounder circuit are connected up to the contact strips 23 and 24 respectively by wires 3^a and 4^a. The binding posts 5 and 6 to the second local circuit connect by wires 5^a and 6^a with contact strips 24 and 25 respectively. Binding posts 7 and 8 to the third local circuit are connected to contact strips 25 and 26 respectively by wires 7^a and 8^a. Binding posts 9 and 10 to the fourth local circuit are connected to contact strips 26 and 27 respectively by wires 9^a and 10^a while the last two binding posts 11 and 12 connect by wires 11^a and 12^a to contact strips 27 and 28 respectively.

When the switch is in the position shown in Figs. 1, 2 and 3 with the indicator arranged above the point of the scale designating the first local circuit, the split disk is in

such position that the division line or space between the semi-circular copper plates lies between the contact strips 23 and 24 while one of said plates 18^a engaging the contact strip 23 and the other 18^b engaging the contact strip 24. The circuit is then from the binding post 1 of the resonator circuit, through the wire 1^a, contact strip 28, plate 18^b, contact strip 24 and wire 4^a to binding post 4 of the first local circuit, back from the other binding post 3 of the first local circuit through wire 3^a, contact piece 2 and wire 2^a to the other binding post 2 of the resonator circuit.

As shown in Fig. 4, the division between the plates 18^a and 18^b of the split disk lies between the contact strips 25 and 26 while the plate 18^a engages contact strips 23, 24 and 25 and contact strips 26, 27 and 28 are engaged by plate 18^b. In this position the circuit as shown by the arrows is from the binding post 1 of the resonator circuit through wire 1^a, contact strip 28, plate 18^b, contact strip 26 and wire 8^a to binding post 8 of the third local circuit and back from the other binding post 7 of said third local circuit through wire 7^a, contact strip 25, plate 18^a, contact strip 23 and wire 2^a to the other binding post 2 of the resonator circuit.

From the foregoing explanations of the circuits in two of the positions of the switch, the circuits in the other positions should be readily understood. When the indicator is placed above "0" on the scale, the plate 18^a will engage all of the contact strips and the plate 18^b none. This will complete the resonator circuit directly through the wire 1^a, contact strip 28, plate 18^a, contact strip 23 and wire 2^a thereby cutting out said resonator from all of the local circuits. I have found that it is best to use a resonator instrument of higher resistance than the local instruments. For instance, if the local instruments are 50 ohms, the resonator instrument should be 100 ohms, etc.

I claim:

1. The combination, with a series of contact strips mounted on a suitable support, of electrical connections from a resonator

sounder circuit and a plurality of local sounder circuits to said contact strips, and a switch comprising two semi-circular plates insulated from each other and arranged so that their edges will contact with said strips as said switch is rotated.

2. The combination, with a series of contact strips housed in a suitable casing, of electrical connections from a resonator sounder circuit and a plurality of local sounder circuits to said contact strips, and a switch comprising two semi-circular plates insulated from each other and arranged so that their edges will contact with said strips as said switch is rotated, an arm on the outside of said casing for rotating said disk, and a scale or dial below said arm for the purpose specified.

3. The combination, with a series of contact strips mounted on a suitable support, of twice as many binding posts secured to said support, electrical connections from each of said contact strips to two of said binding posts, and a switch having two plates insulated from each other and engaging said contact strips.

4. The combination, with a series of contact strips mounted on a suitable support, of twice as many binding posts secured to said support, electrical connections from each of said contact strips to two adjacent binding posts except one end contact piece which is connected with the opposite end binding posts, and a switch having two plates insulated from each other and engaging said contact strips.

5. The combination, with a series of contact strips mounted on a suitable support, of a split disk comprising two semi-circular concavo-convex plates mounted on a block of insulating material, said plates engaging said contact strips and means to rotate said disk for the purpose specified.

In testimony whereof, I affix my signature, in presence of two witnesses.

L. H. PARCELS.

Witnesses:

O. F. W. MEYER,
J. A. JONAS.