No. 897,119. PATENTED AUG. 25, 1908.

C. MAHLER.

TELEPHONE SIGNAL.

APPLICATION FILED APR. 27, 1907.

Fig. 3.

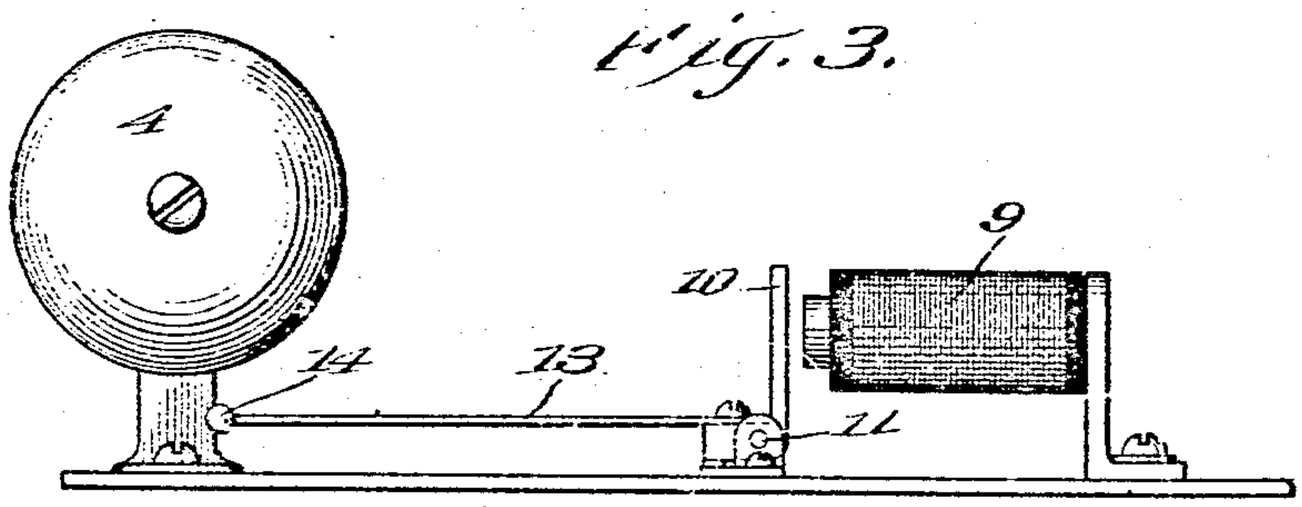


Fig. 1.

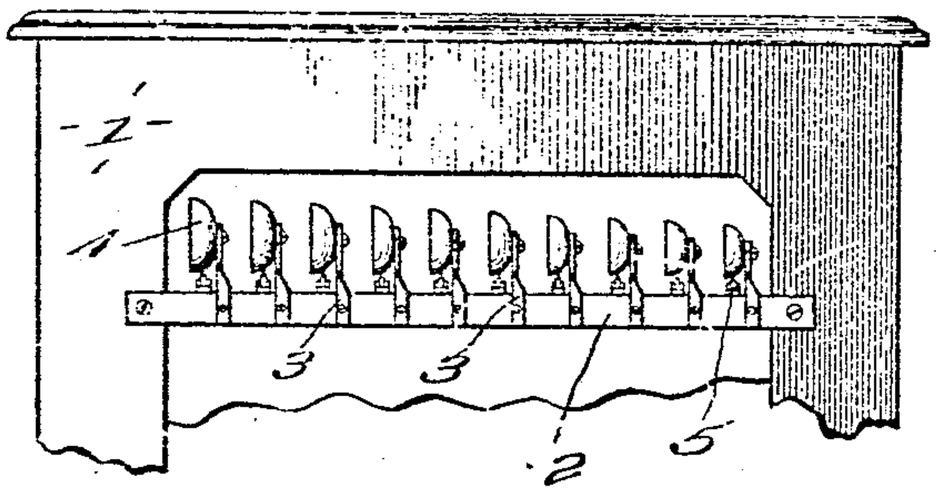
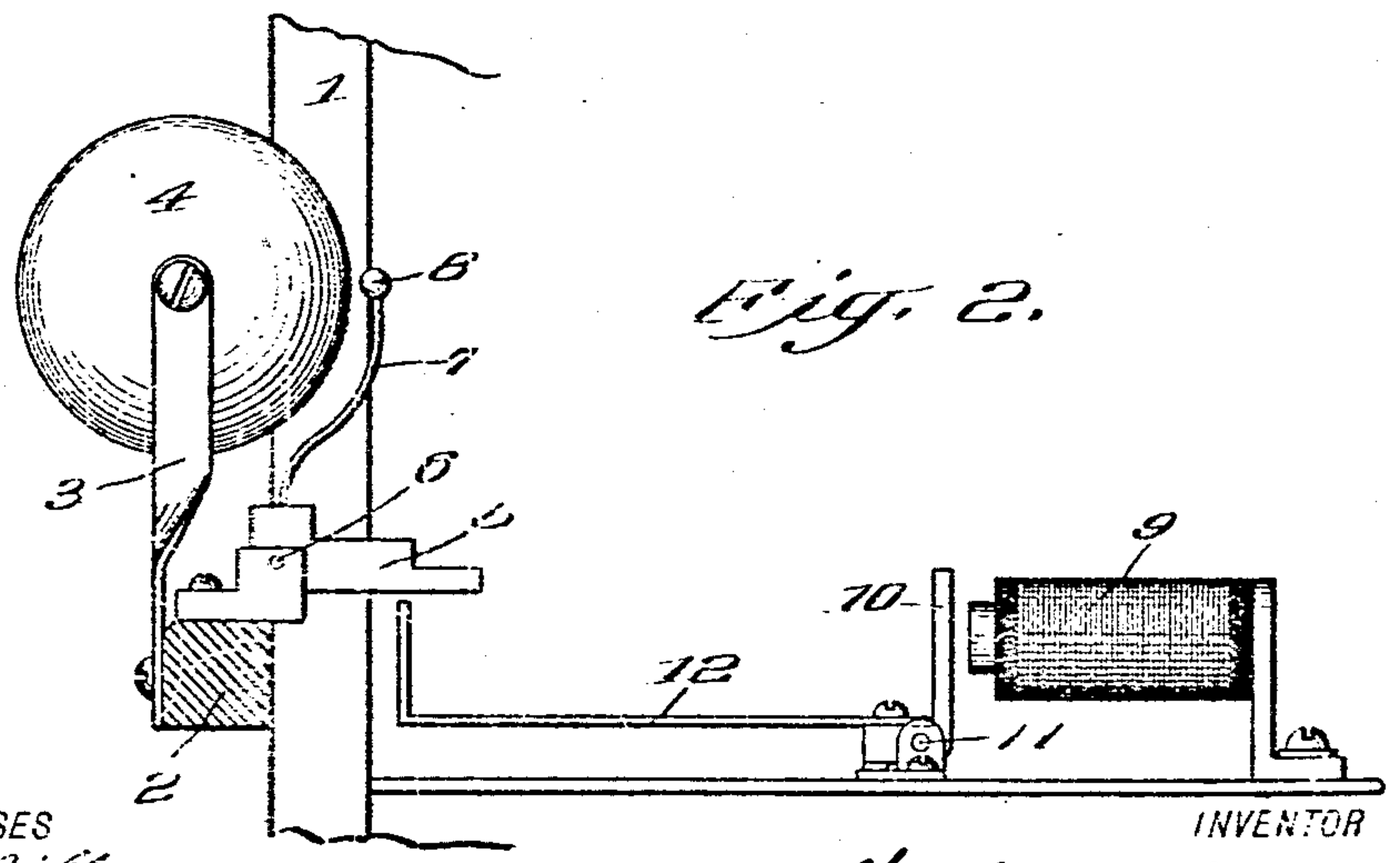


Fig. 2.



WITNESSES

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TELEPHONE-SIGNAL.

No. 897,119. Specification of Letters Patent. Patented Aug. 25, 1908.

Application filed April 27, 1907. Serial No. 370,610.

To all whom it may concern:

Be it known that I, CHARLES MAHLER, a citizen of the United States, residing at the borough of Brooklyn, New York city, in the county of Kings and State of New York, have invented certain new and useful Improvements in Telephone-Signals, of which the following is a specification.

My invention relates to signals for telephone switchboards.

The object of my invention is to equip a telephone switchboard with a series of audible signals, each operated separately and each connected with its respective branch line or telephone. Each audible signal has its own distinct and peculiar tone, differing from the tones of the other signals in the series.

By the use of my invention the operator at the switchboard is enabled to know what branch line or telephone requires the immediate attention of the operator without looking at any visible signal.

By the use of my device the operator is enabled to give more rapid attention to demands for connections through the switchboard, inasmuch as the source of each demand is communicated by sound directly and immediately.

An audible click or signal has usually been employed to call the operator's attention to a demand from a branch line. The operator has then glanced at the series of visible signals before him to ascertain the source of the call. My invention, by combining with the audible signal means for indicating thereby the source of the call dispenses with this additional or secondary observation of the operator.

By the use of my invention, blind operators or those having defective eye-sight may be employed at telephone switchboards, thus providing such unfortunate persons with a new field for earning a livelihood.

In the drawings, Figure 1 is a front view of a portion of a switchboard showing the manner in which my device is secured thereto. Fig. 2 is a side view of the operative parts of one of the audible signals. Fig. 3 is a view similar to Fig. 2, showing a modification.

In the drawings, 1 is the front of the switchboard, across which extends the cross-bar 2. Extending from the cross-bar 2 and secured thereon is a series of uprights 3, each carrying an audible signal or bell 4. Mounted upon the cross bar 2 behind each bell 4 is an L shaped lever 5, pivoted upon the pin 6, having a rearwardly extending arm and an upwardly extending spring arm 7, terminating in a ball 8. At the rear of each bell is mounted a magnet 9, which when energized attracts an armature 10, pivoted at 11 and having the forwardly extending arm 12 adapted to be thrown upward against the L shaped lever 5 and to sound the bell 4, when the armature 10 is drawn rearwardly by the magnet 9. In the modification illustrated by Fig. 3, the L shaped lever 5 is dispensed with. Projecting rearwardly from the pivoted armature 10 and connected thereto is the spring arm 13 terminating in the ball 14 which is adapted to strike against the bell 4 when the armature 10 is drawn towards its magnet 9.

The operation of the device is as follows: Each of the series of electro-magnets 9 is adapted to be energized by the removal of the receiver of a branch telephone from its normal support in the usual way. When an electro magnet 9 is energized it will attract its armature 10 and throw upward the forwardly projecting arm 12 which will strike against the L shaped lever 5 throwing the ball 8 against the bell 4. Each branch telephone is connected with its individual electro magnet 9 adapted to ring its corresponding bell 5 of the series. As indicated in Fig. 1, the bells 4 are of different sizes and tones so that the sounding of one bell will indicate to the operator who has learned the series of tones what branch telephone desires communication. The tones of the bells may be arranged in musical scale or otherwise so differentiated that the operator may readily recognize the distinctions in sound. Each spring arm 7 should be so adjusted that it will spring out of contact with its bell 4 immediately after its blow has been delivered.

In the modification illustrated by Fig. 3 the upward movement of the spring arm 13 carries the ball 14 against the bell 4 and the adjustment of the spring 13 throws the ball 14 away from the bell 4 after the blow has been struck.

My device may, of course, be employed in connection with the usual visible signals in which case the sounding of the audible signal and the appearance of the visible signal will be simultaneous.

My device may be conveniently installed on switchboards of the usual type having visible signals by positioning the cross bar 12 and parts carried thereby so that the

audible signals may be operated by the usual visible signals already on the switchboard.

What I claim as new and desire to secure by Letters Patent is:

In a telephone switch board, a series of electro-magnets individual to each branch telephone, a corresponding series of bells of different individual tones, and a corresponding series of levers each adapted to be actuated by its individual electro-magnet to ring one of the bells in said series.

Signed at New York city in the county of New York and State of New York this 26th day of April A. D. 1907.

CHARLES MAHLER.

Witnesses:

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