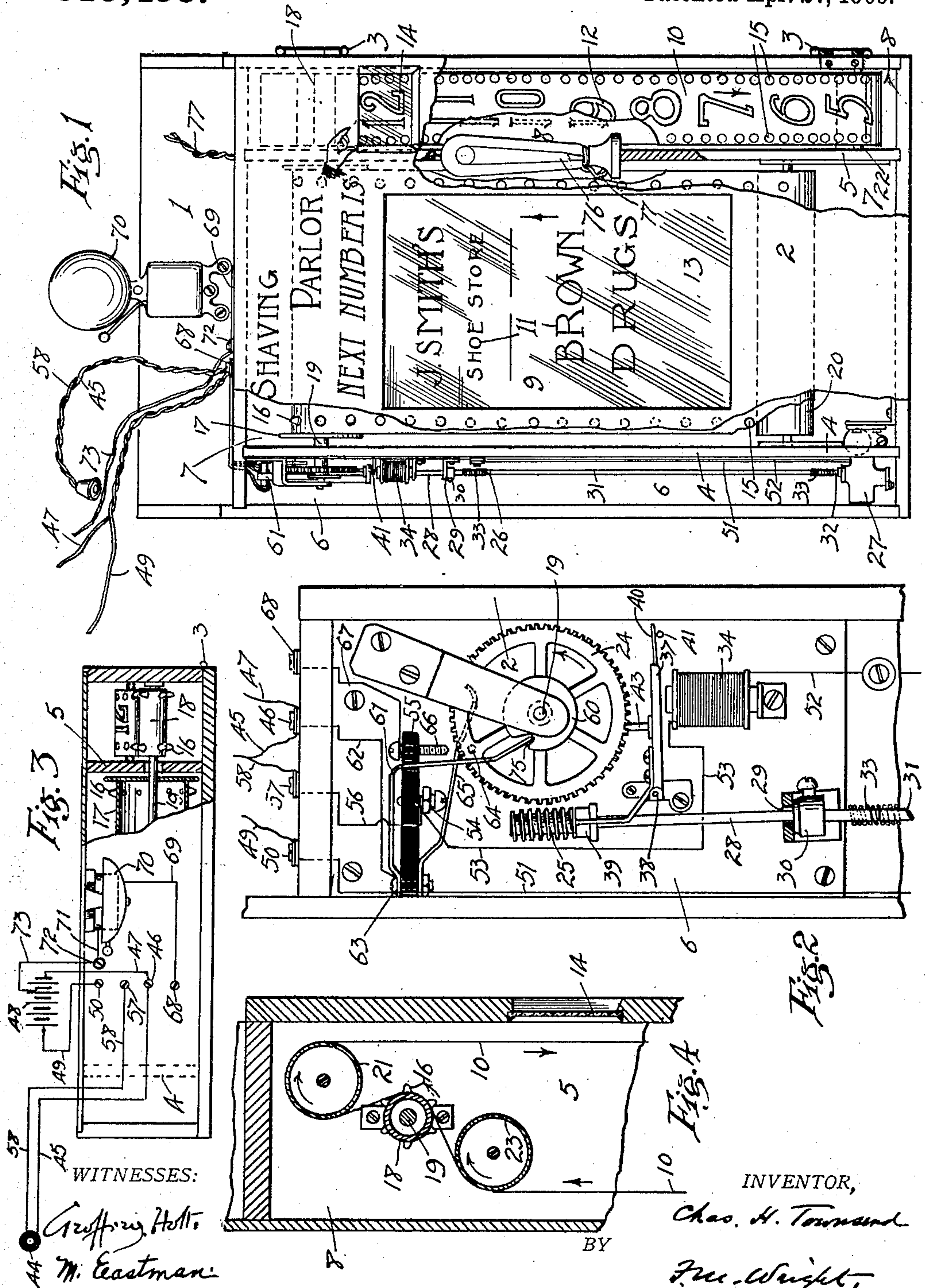


C. H. TOWNSEND.
 INDICATOR AND ADVERTISER.
 APPLICATION FILED DEC. 23, 1907.

919,495.

Patented Apr. 27, 1909.



WITNESSES:

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CHARLES H. TOWNSEND, OF BERKELEY, CALIFORNIA.

INDICATOR AND ADVERTISER.

No. 919,495.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed December 23, 1907. Serial No. 407,683.

To all whom it may concern:

Be it known that I, CHARLES H. TOWNSEND, a citizen of the United States, residing at Berkeley, in the county of Alameda and State of California, have invented new and useful Improvements in Indicators and Advertisers, of which the following is a specification.

This invention relates to improvements on the indicating and advertising apparatus for which U. S. Letters Patent No. 824,890 was granted to me July 3, 1906. In that patent there was disclosed an apparatus containing a movable indicator provided with numerals successively presented for inspection, and also, moving in conjunction with said indicator, an advertising belt adapted to successively display advertisements, changing each time that the indicator is advanced. The object of the present invention is to simplify the construction, and to render the apparatus more certain in its operation.

In the accompanying drawing, Figure 1 is a front elevation of the apparatus, certain parts being broken away to show the interior; Fig. 2 is an enlarged end view of the upper portion of the apparatus, the end of the casing being removed; Fig. 3 is a broken top plan view of the apparatus, certain electrical connections being shown diagrammatically; Fig. 4 is an enlarged broken vertical section through the indicating band.

Referring to the drawing, 1 indicates a suitable casing having a door 2, hinged on one side, as shown at 3. The interior of said casing is divided by vertical partitions 4, 5, into three chambers 6, 7, and 8, of which the chamber 7 contains the advertising band 9, the chamber 8 the indicating band 10, and the chamber 6 the mechanism for advancing said bands. The advertising band 9 has advertisements 11 marked thereon, and the indicating band 10 has marked thereon the ordinary numerals 12 from "1" upward, according to the capacity of said band. The advertisements are adapted to be displayed through a large window 13 formed in the door, and the numerals are displayed, one only at a time, through a small window 14 formed in said door so as to indicate to the customers waiting their turns the number of the waiting ticket which has the next turn. Each of said bands is formed near its edges with holes 15, into which enter spurs 16 formed on drums 17, 18, both on the same shaft 19; but the drum 17 for the adver-

tising band is larger than that for the indicating band, so that the advertising band travels faster than the indicating band, this being necessary by reason of the fact that the window 13 for the advertising band is considerably larger than that 14 for the indicating band. Both of these bands are endless, the advertising band traveling in the direction of the arrow around the upper drum 17, and a lower idle drum 20, while, as indicated in Figs. 1, 4, the indicating band, after leaving the drum 18 passes over an idle drum 21, then downward to a lower idle drum 22, then over an upper idle drum 23 and thence to the drum 18. The idle drums are so arranged that the front side of the indicating band is spaced from the drum 18 a considerable distance, and in substantially the same plane as the advertising band, much nearer to the front of the machine than to said operating drum 18. This arrangement permits both the advertising band and the indicating band to move close to their respective windows in the frame of the machine, so as to be readily visible from the outside, while at the same time permitting both of said bands to be advanced by means of drums on the same shaft, although said drums necessarily differ greatly in diameter, the drum for the advertising band being of much greater diameter than that for the indicating band, in order to permit a much greater length of the advertising band than of the indicating band to be moved at each actuation of the operating shaft.

The shaft 19 is intermittently rotated by means of a worm wheel 24 on said shaft driven by a worm 25 on the upper end of a flexible shaft 26 rotated by an electric motor 27. The shaft 26 consists of an upper portion 28 which passes through a bearing 29, and has secured thereon a collar 30, a middle portion 31, and a lower portion 32 directly driven by the motor. The middle portion 31 is connected with the terminal portions 28, 32, by springs 33. Said shaft is made flexible to allow of the engagement of the worm 25 with, or its disengagement from, the worm wheel 24. Said engagement is effected by the energization of an electro-magnet 34, which then attracts an armature 37, pivoted at 38 and carrying a collar 39 which surrounds said flexible shaft. The armature is normally retracted from the electro-magnet by a spring 40 bearing against a pin 41. When the armature is drawn to

the electro-magnet, the worm 25 is moved into engagement with the worm wheel 24. At the same time a stop 43, carried on said armature, is withdrawn from between the
 5 teeth of said worm wheel, so that the latter is free to rotate. Said electro-magnet and electric-motor are in the same circuit, so that the electric-motor is set in motion, and the electro-magnet energized, at the same time.
 10 Initially this is done by the operator pressing a starting button 44, which then closes a circuit as follows:—from said starting button 44 by a wire 45 to a binding screw 46, then
 15 by a wire 47 to a battery 48 of, say, five cells, then from the other pole of said battery by a wire 49 to a binding screw 50, then from said binding screw by a wire 51 to the electric-motor 27, then from the other pole of said electric-motor by a wire 52 to the electro-
 20 magnet 34, then from the other pole of said electro-magnet by a wire 53, to a binding screw 54 on insulating material 55, then by a wire 56 to the binding screw 57, then by a wire 58 to the starting button 44. Thus it
 25 results that when the operator presses said starting button, said electric-motor is started and the shaft 26 revolves, and at the same time, the electro-magnet 34 is energized, withdrawing the stop 43 from the wheel 24,
 30 and causes the worm 25 to engage said worm wheel 24 so that said wheel 24 rotates in the direction of the arrow. It is necessary for the operator to press the starting button only a short time, for, as the wheel 24 rotates, a
 35 disk 60, carried by said wheel, soon depresses a spring arm 61 into contact with the upper end of the contact screw 54 extending through the insulating material 55, and from a screw 63 in contact with said arm 61 a wire
 40 62 leads to the binding screw 46. Therefore as soon as the wheel has advanced a short distance, and the operator no longer presses the starting button, the circuit between the screws 46, 57 is closed by wire 56,
 45 screw 54, arm 61, wire 62, instead of by wire 45, button 44, and wire 58. When the wheel has nearly completed its revolution, a pin 64, carried on the back of said wheel 24, engages a bent spring arm 65 and raises it so
 50 that, for a short time, it is in contact with a screw 66, and thereby closes the following bell circuit. From said screw 66 by a wire 67 to the binding screw 68, then by a wire 69 to the bell 70, then by a wire 71 to a binding

screw 72, then by a wire 73 to the farther 55 pole of the second cell of the battery, then from said battery by the wire 47 to the binding screw 46, then by the wire 62 to the contact screw 63, which is in contact with the spring arm 65. The two cells of the battery 60 thereby actuate the bell, which calls attention to the fact that a new number is displayed on the indicating band. When the wheel 24 has made a complete revolution the arm 61 drops into a notch 75 in the disk 60, 65 and the circuit is broken, and the wheel 24 arrested.

In order that the indicating and advertising bands may be visible at night or when the apparatus is placed in a dark corner of 70 the room, I provide an electric lamp 76 fed by wires 77, and located in a socket in the partition 5, and the bands are preferably made of translucent material, so that the light from said lamp shines therethrough and 75 well displays the numerals and advertisements.

I claim:—

In an apparatus of the character described, the combination of a suitable casing, an ad- 80 vertising band and an indicating band in said casing, said casing having windows for the respective bands, through which only portions thereof are displayed, drums for advancing said bands, the drum for the 85 advertising band being of greater diameter than that for the indicating band, a shaft upon which said drums are both mounted, a worm wheel on said shaft, an electric motor, a worm on the shaft of the electric 90 motor, and arranged to engage said worm wheel, an electro-magnet, an armature therefor, operatively connected with said shaft, whereby, when said magnet is energized and the armature attracted, the shaft is moved 95 to cause the worm to engage the worm wheel, a source of supply of electricity, and means, controlled from a distant point, for closing a circuit from said source through said electro-magnet and electric motor, substan- 100 tially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES H. TOWNSEND.

Witnesses:

F. M. WRIGHT,
D. B. RICHARDS.