

No. 737,922.

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G. L. GULLIFORD.
DROP SWITCH FOR TELEPHONES.

APPLICATION FILED DEC. 2, 1902.

NO MODEL.

Fig 1

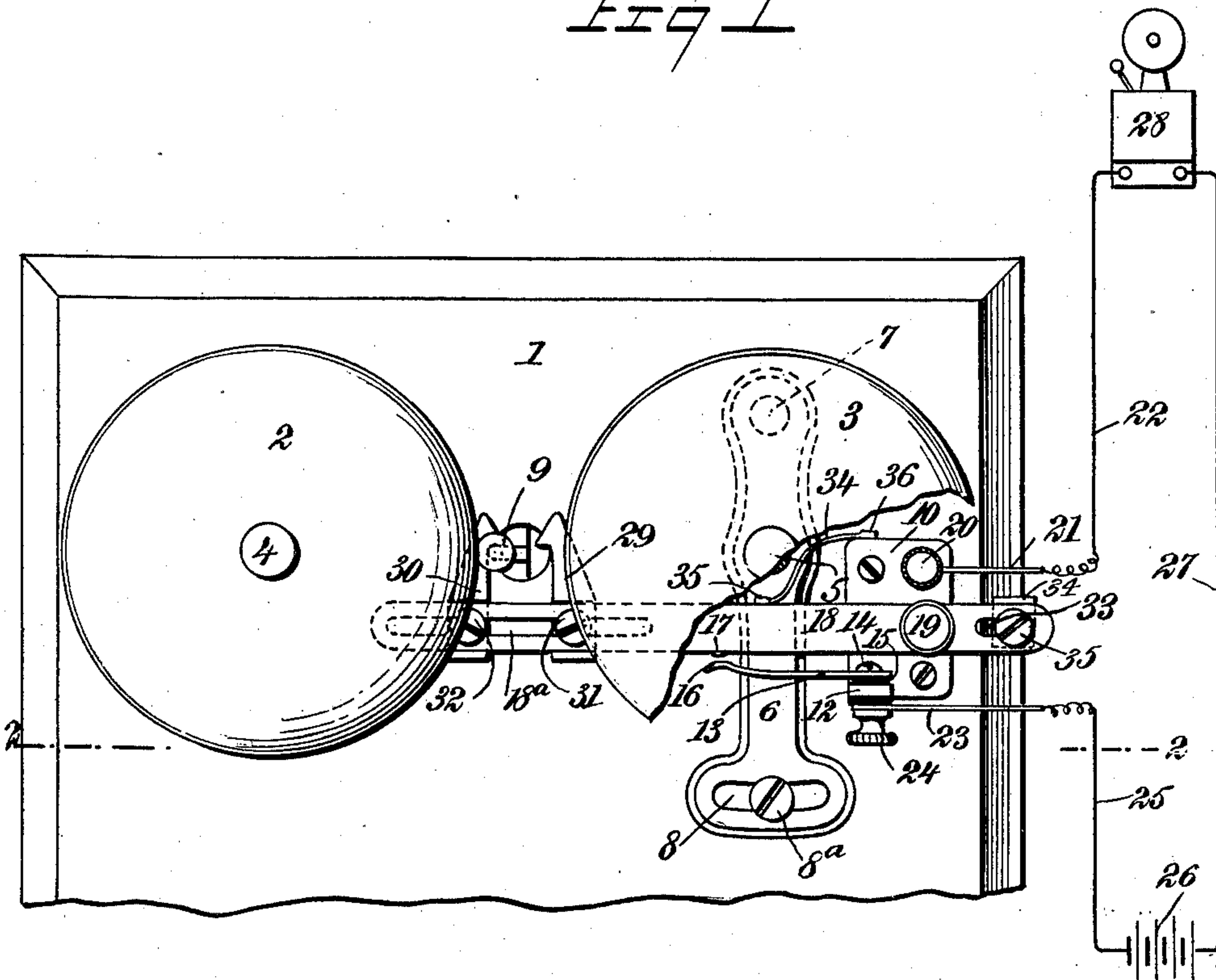
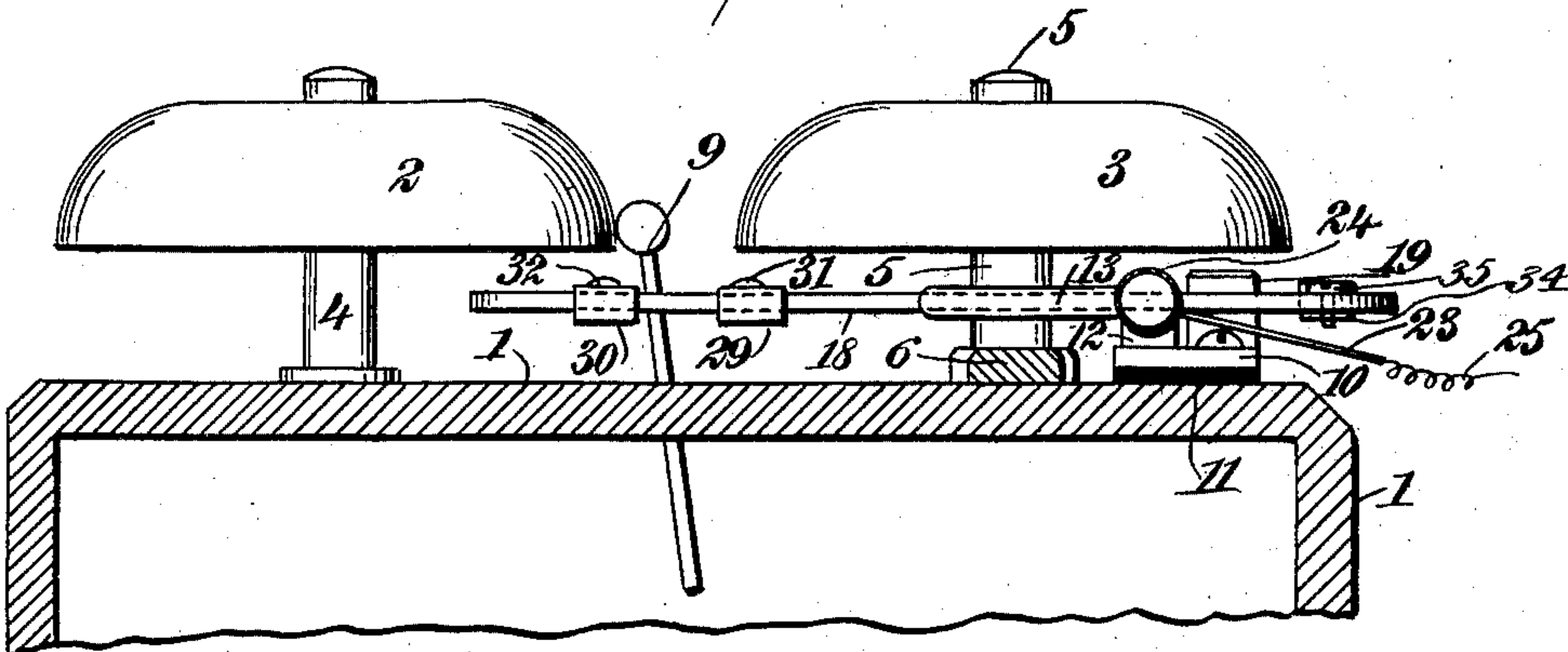


Fig 2



WITNESSES:

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GEORGE L. GULLIFORD, OF BLOOMINGTON, ILLINOIS, ASSIGNOR OF ONE-HALF TO CLINTON J. DAVISSON, OF BLOOMINGTON, ILLINOIS.

DROP-SWITCH FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 737,922, dated September 1, 1903.

Application filed December 2, 1902. Serial No. 133,548. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. GULLIFORD, a citizen of the United States, and a resident of Bloomington, in the county of McLean and State of Illinois, have invented a new and Improved Drop-Switch for Telephones, &c., of which the following is a full, clear, and exact description.

My invention relates to telephony, my more particular object being to provide a neat, efficient, and reliable form of drop-switch constituting a relaying mechanism for actuating an alarm at a distance from the telephone.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a fragmentary elevation showing my device as applied to the ringing apparatus of an ordinary telephone, and Fig. 2 is a horizontal section upon the line 2 2 of Fig. 1 looking toward the top of the figure.

The telephone-casing is shown at 1. Mounted upon the casing are twin alarm-bells 2 3, provided with stems 4 5, the stem 4 being fixed to the casing in the usual manner and the stem 5 being secured upon the movable lever 6. This lever is journaled at one end at 7 and is provided at its other end with a slot 8, this slot being engaged by a screw 8^a. The lower end of the lever may be moved radially within certain limits, thereby adjusting the position of the bell 3 relatively to the bell 2. By means of the screw 8^a the lever 6 may be secured in any desired position. A vibratory clapper 9 of the kind generally employed is mounted intermediate the twin bells in the usual manner. A plate 10 is mounted upon insulation 11 and is provided with an ear 12 for the purpose of supporting a spring contact member 13. This member is secured in place by means of a screw 14 and is insulated from the ear 12 by means of a plate 15, preferably of vulcanite. The free end of the spring 13 is provided with a curved tip 16, preferably of platinum. This tip is free to engage a bead 17, constituting a contact, on a longitudinal member 18. The longitudinal member 18 has, preferably, the form of a lever, is journaled at 19, and is normally free to drop of its own weight. A binding-

screw 20 is connected with a conducting member 21, which is engaged by a wire 22. Another conducting member 23 is connected with a wire 25, which leads to a battery 26. A third wire 27 connects the battery 26 with the electric bell 28, the latter being of ordinary construction and preferably of the continuous-ringing type. A flexible hair-like wire 34, soldered at 35 and 36, is used for the purpose of insuring a continuous metallic connection between the plate 10 and the longitudinal member 18.

A pair of hook members 29 30 are mounted upon the lever 18 and are provided with screws 31 32, engaging a slot 18^a in the lever 18, being thereby rendered adjustable relatively to each other and also relatively to the twin bells. The lever 18 is likewise provided with a slot 33. The hook members 29 30 are preferably made of sheet metal and are bent into the shape indicated, so as to secure a firm grip upon the lever 18.

The general operation of my device is as follows: The hook members 29 30 are adjusted relatively to each other by means of the screws 31 32 and the bell 3 adjusted relatively to the bell 2 by means of the screw 8^a, the slot 8 being provided for this purpose. The free end of the lever 18 is now raised, so that one of the hook members—say 30—is caused to engage the clapper 9 of the bell, and the device is ready for action. A ring now being made by the central or some other station, thus causing the clapper 9 to vibrate, the hook member—say 30—is disengaged, the lever 18 drops by its own weight, and the contact between the members 17 and 16 is closed, thereby completing a circuit from the battery 26 through the bell 28 and causing the latter to ring. The bell 28 may of course be located at any point desired, but is preferably disposed at a distance from the telephone. By this means an attendant may leave the telephone and if within the sound of the bell 28 can still hear the alarm.

It will be noted that when the bell 3 is adjusted to a considerable distance from the bell 2 the hook 29 may be adjusted accordingly. So, also, the hooks 29 and 30 may be adjusted to suit different degrees of sensitiveness of the clapper 9 independently of any adjustment

of the bell 3. The bell 3 may of course be adjusted independently of any other mechanism. It will be further noted, therefore, that the hook members 29 or 30, as the case
5 may be, serve as a trigger device for actuating certain other parts which virtually constitute a relay.

The slot 33 in the lever 18 may be used for supporting a counterweight 34, provided with
10 a screw 35, whereby the same may be mounted adjustably upon the lever.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

15 1. A drop-switch for telephones, comprising a bell provided with a movable clapper, a conducting member provided with a contact and normally free to drop by its own weight, a hook mounted upon said member
20 and free to engage said clapper, open-circuit alarm mechanism connected with said contact, and a source of electricity for energizing said alarm mechanism.

2. A drop-switch for telephones, comprising
25 twin bells, one of which is adjustable relatively to the other, a vibratory clapper disposed intermediate of said bells, a movable member of conducting material, a hook mounted thereon and free to engage said clapper,
30 means for adjusting said hook relatively to said member, a contact for said member, open-circuit wiring connected with said contact, alarm mechanism connected with said wiring, and a source of electricity for energizing said
35 wiring.

3. A drop-switch for telephones, comprising twin bells, one of which is adjustable relatively to the other, a vibratory clapper for striking said bells, a drop-lever pivotally
40 mounted adjacent to said bells, members mounted upon said lever and adjustable relatively thereto for engaging said clapper in

different positions thereof, a contact controlled by said switch, alarm mechanism connected with said contact, and a source of electricity for energizing said alarm mechanism. 45

4. A drop-switch for telephones, comprising twin bells, one of which is adjustable relatively to the other, a vibratory clapper disposed intermediate of said bells for striking
50 the same, a lever journaled adjacent to said bells, twin hook members mounted upon said lever for engaging said clapper, means for adjusting said hook members relatively to each other, a contact controllable by said lever, and electric alarm mechanism controllable by said contact. 55

5. A drop-switch for telephones, comprising bells, a clapper for striking the bells, a drop-lever normally engaging said clapper
60 and supported thereby, but free to drop when said clapper is moved, a flexible wire connected with said drop-lever, for energizing the same, a contact for said lever, and an alarm mechanism connected with said contact, and
65 energized thereby.

6. A drop-switch for telephones, comprising twin bells, a vibratory clapper for striking the same, a longitudinal drop member journaled adjacent to said bells and provided
70 with a slot, a hook slidably mounted upon said longitudinal member and provided with a fastening engaging said slot for the purpose of adjusting said hook, a contact controllable by said lever, and electric alarm
75 mechanism connected with said contact.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE L. GULLIFORD.

Witnesses:

GEORGE F. JORDAN,
E. H. HEMMELE.