(No Model.) 2 Sheets—Sheet 1.

F. HOFFMAN.

COIN OPERATED TELEPHONE.

No. 589,726. Patented Sept. 7, 1897.

Fig. 1.

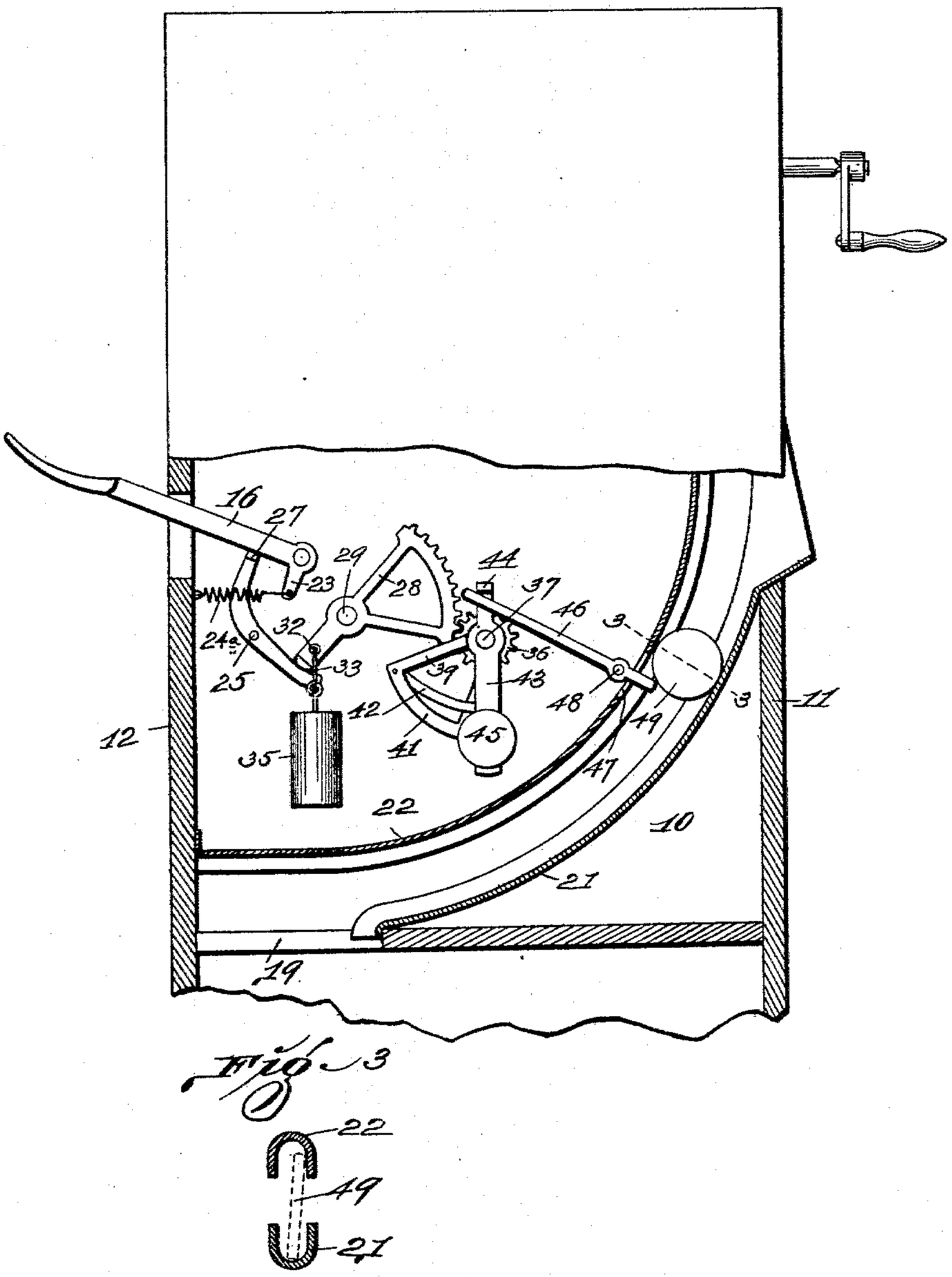

Fig. 3

Attest:
M. P. Smith
S. G. Wells.

Inventor:
Fred'k Hoffman:
By Higdon, Longan & Higdon
Atty's.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

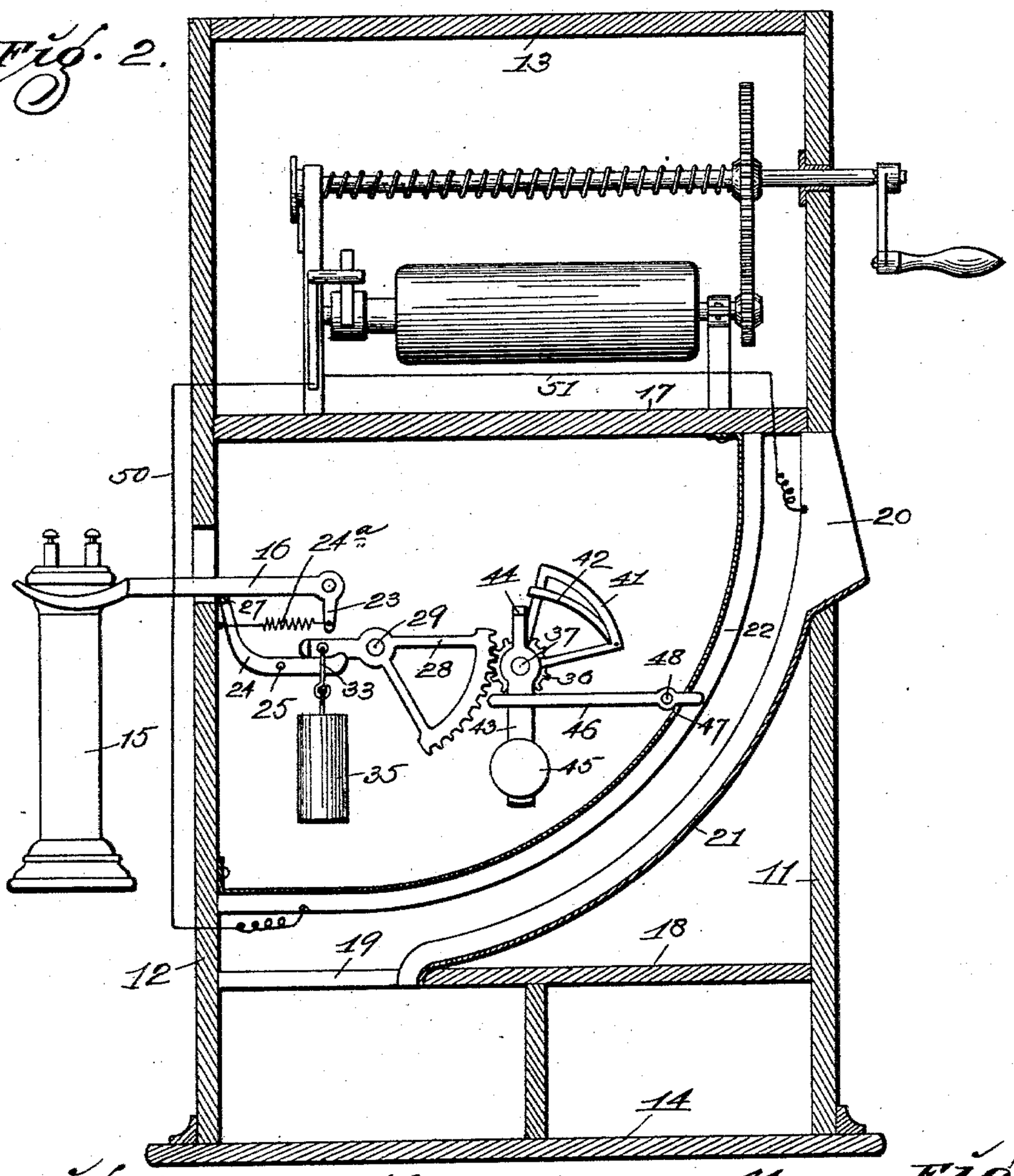


Fig. 4.

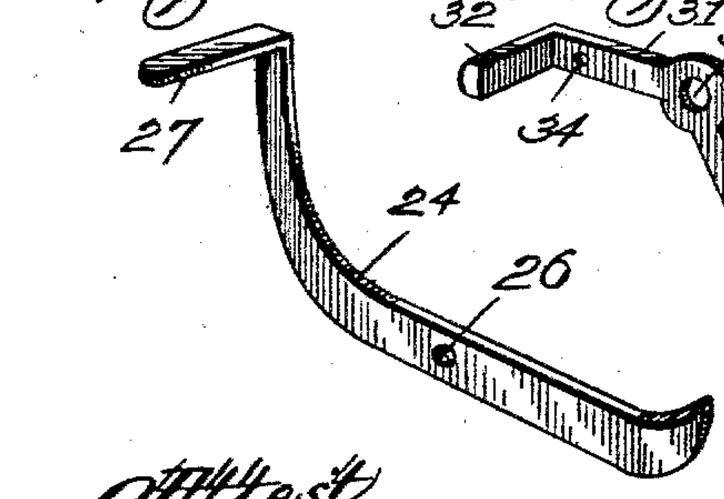


Fig. 5.

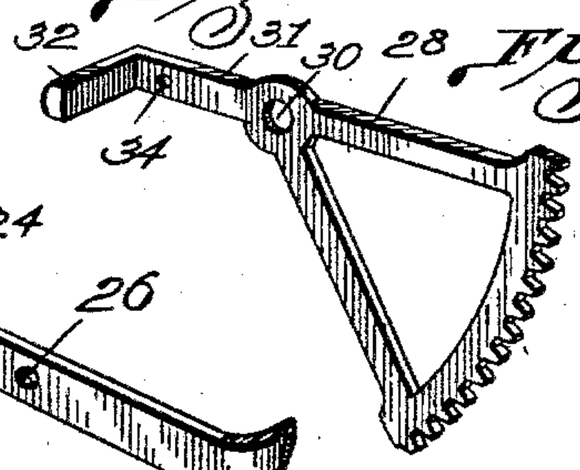
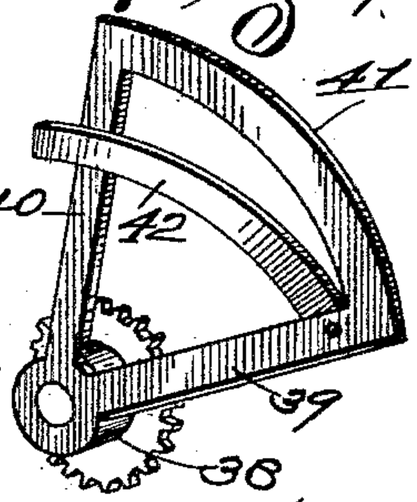


Fig. 6.

Fig. 7.



Witnesses:
M. F. Smith
S. G. Wells.

Inventor:—
Fredk. Hoffman:—
By Higdon, Langan & Higdon
Att'ys.

UNITED STATES PATENT OFFICE.

FREDERICK HOFFMAN, OF PARAGOULD, ARKANSAS, ASSIGNOR TO ROSA HOFFMAN, OF SAME PLACE.

COIN-OPERATED TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 589,726, dated September 7, 1897.

Application filed May 3, 1897. Serial No. 634,930. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK HOFFMAN, of the city of Paragould, State of Arkansas, have invented certain new and useful Improvements in Coin-Operated Telephones, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to coin-operated telephones; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a front elevation of the telephone-box, the lower part of the box being shown in section to illustrate the mechanism and the parts of the mechanism being in position with the receiver off the hook and the circuit closed for talking. Fig. 2 is a vertical sectional view of the telephone-box, taken on the same plane with the view shown in Fig. 1 and showing the receiver on the hook and the telephone-circuit broken. Fig. 3 is a cross-section taken approximately on the line 3 3 of Fig. 1. Fig. 4 is a view in perspective of a lever which engages the receiver-hook of the telephone. Fig. 5 is a view in perspective of a segmental gear which I employ. Fig. 6 is a view in perspective of the weighted lever. Fig. 7 is a view in perspective of the spring-arm and spur-pinion.

Referring by numerals to the drawings, 10 is the back wall of the telephone-box; 11 and 12, the side walls; 13, the top, and 14 the bottom. 15 is the telephone-receiver, and 16 the receiver-hook. About one-third of the distance from the top 13 to the bottom 14 is an upper floor 17 and about one-fifth of the distance from the bottom 14 to the top 13 is a lower floor 18, having an opening 19. An opening 20 is formed through the side wall 11, immediately below the upper floor 17, and the U-shaped strip of sheet metal 21 connects the opening 20 with the opening 19. The strip of sheet metal 22 connects the upper floor 17 with the side wall 12, and said strip 22 is bent into the form of a U in cross-section and curved into the form of a segment longitudinally, and is mounted in alinement with the strip 21, thus producing the coin-chute, as shown in cross-section in Fig. 3.

An arm 23 projects downwardly from the inner end of the receiver-hook 16, thus making a bell-crank lever, and a retractile coil-spring 24^a connects the lower end of the arm 23 with the inner face of the wall 12, the tension of said spring being exerted to elevate the outer end of the receiver-hook, as shown in Fig. 1. The lever (24 shown in perspective in Fig. 4) is pivotally mounted by means of the pin 25, inserted through the opening 26 in said lever and fixed in the front and back walls of the box. The end 27 of the lever 24 is bent laterally into a horizontal position and engages under the lever of the receiver-hook 16 at a point immediately inside of the wall 12. A segmental gear 28 (shown in perspective in Fig. 5) is pivotally mounted by means of the pin 29, inserted through the openings 30 in said segmental gear and fixed in the front and back walls of the box.

The arm 31 projects from the opening 30 in the opposite direction from the teeth of the gear 28, and the free end 32 of said arm is bent laterally and engages the upper side of the lower end of the lever 24. The hook 33 is inserted through the opening 34, formed in the arm 31, and the weight 35 is attached to and depends from said hook.

A spur-gear 36 is rotatably mounted upon the shaft 37, said shaft being fixed in the front and back walls of the box, and the collar 38 projects forwardly from the hub of the gear 36. The arms 39 and 40 project radially from said collar, the outer ends of said arms being connected by the segment 41. The spring-arm 42 is attached to the outer end of the arm 39, immediately inside the segment 41, said arm 42 being inclined forwardly relative to the segment 41.

The bar 43 is pivotally mounted upon the shaft 37, the upper end 44 of said bar being bent forwardly into a horizontal plane and a weight 45 being attached to the lower end of said bar, thus producing a weighted lever.

The coin-lever 46 extends through the opening 47 in the sheet-metal strip 22, and said lever is pivotally mounted upon the pin 48, said pin being inserted through said lever at a point immediately outside of the coin-chute and fixed in the front and back walls of the box. The short end of the lever 46 operates within the coin-chute in position to be en-

gaged by the coin 49, (shown in dotted lines in Fig. 3 and in full lines in Fig. 1,) and the long end of said lever 46 is in position to engage the end 44 of the weighted lever when said coin-lever is operated by the coin to swing upwardly and said weighted lever is in its normal vertical position.

Assuming that the parts are in the position shown in Fig. 2, when the receiver 15 is removed from the hook 16 the force of the weight 35 will overbalance the segmental gear 28, causing said gear to swing upwardly, thus rotating the spur-gear 36 and carrying the spring-arm 42 downwardly to the position shown in Fig. 1, engaging the rear edge of the weighted lever.

The generator and bell-operating mechanism are located in the space above the upper floor 17. The conductor 50 leads from the generator to the strip 22 and the conductor 51 leads from the strip 21 to the opposite pole of the armature of the generator. When the coin 49 is inserted in the chute, it falls downwardly and strikes the short end of the lever 46 and the weight of said coin overbalances said lever and the long end of the lever rises until it engages the end 44 of the weighted lever. The telephone-circuit passes from the strip 21 to the strip 22 through the coin 49, thus closing the circuit. When the receiver 15 is again hung upon the hook 16, the weight of said receiver overbalances the tension of the spring 24^a and the force of the weight 35, and as the outer end of said hook is depressed the weight 35 is elevated, the segmental gear 28 is depressed, and the spur-gear 36 is rotated. The free end of the spring 42 engages the lower end of the weighted lever 45, and as the pinion 36 rotates the weight 45 is carried around and upwardly until it passes over the shaft 37 and then is carried downwardly to its normal position by the force of gravity. Thus it will be seen that the weight 45 and the end 44 make complete circles. In passing through the first quarter of a circle the end 44 passes out of engagement with the long end of the lever 46, thus allowing said lever to swing upwardly to a vertical position and releasing the coin 49 and allowing said coin to run downwardly in the chute through the opening 19, thus breaking the telephone-circuit. Thus it will be seen that the telephone-circuit is opened and closed by the coin in the chute and that without the coin the telephone cannot be operated.

I claim—

1. The combination with a telephone, of a lever pivotally mounted in position to have one of its ends engage under the receiver-hook, a second lever pivotally mounted in position to have one of its ends engage the opposite end of the first-mentioned lever from the receiver-hook, a weight attached to said second lever to elevate the receiver-hook, a toothed segment upon the opposite end of the second-mentioned lever from the end which engages the first-mentioned lever, a spur-pinion rotatably mounted in position to be engaged by said toothed segment, a weighted lever mounted upon the spindle carrying said spur-pinion, a frame attached to said spur-pinion and carrying a spring, which spring performs the function of a ratchet and engages said weighted lever, a coin-chute, a lever pivotally mounted with one of its ends extending into said coin-chute and the opposite one of its ends in position to be engaged by said weighted lever, said coin-chute being constructed in two parts, said parts being insulated from each other and used as terminals for the telephone-circuit, the insertion of a coin serving to close the circuit, substantially as specified.

2. In a device of the class described, a telephone-box consisting of the back wall 10, the side walls 11 and 12, the top 13, the bottom 14 and having the receiver-hook 16 pivotally attached to the back wall 10 and extending through the side wall 12, the upper floor 17 and the lower floor 18 having the opening 19, the side wall 11 having the opening 20 immediately below the upper floor 17, the U-shaped strip of sheet metal 21 connecting the opening 20 with the opening 19, the U-shaped strip of sheet metal 22 connecting the upper floor 17 with the side wall 12 and running parallel with the strip 21, said strips 21 and 22 forming a coin-chute and serving as terminals for the telephone-circuit, substantially as specified.

3. In a device of the class described, the lever 24 pivotally mounted in position to have its end 27 engage under the lever of the receiver-hook, the segmental gear 28 pivotally mounted adjacent to the lever 24, the arm 31 projecting from the segment 28 and engaging the lower end of the lever 24, a weight attached to said arm 31 to overbalance the segment, the spur-gear 36 rotatably mounted in position to be engaged by the teeth of the segment 28, the arm 39 attached to said spur-gear, the spring-arm 42 attached to the outer end of the arm 39, the weighted lever 43 pivotally mounted upon the shaft carrying the spur-gear and having its upper end 44 bent forwardly into a horizontal plane, said weighted lever being in position to be engaged by the free end of the spring-arm 42, a coin-chute, a lever pivotally mounted with one of its ends projecting into said coin-chute and its opposite end in position to be engaged by the end 44 of the weighted lever, said coin-chute being constructed in two parts and serving as terminals for the telephone-circuit and said circuit being closed by the insertion of a coin, substantially as specified.

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

FREDERICK HOFFMAN.

Witnesses:

BOB MERIWETHER,

T. B. KITCHENS.