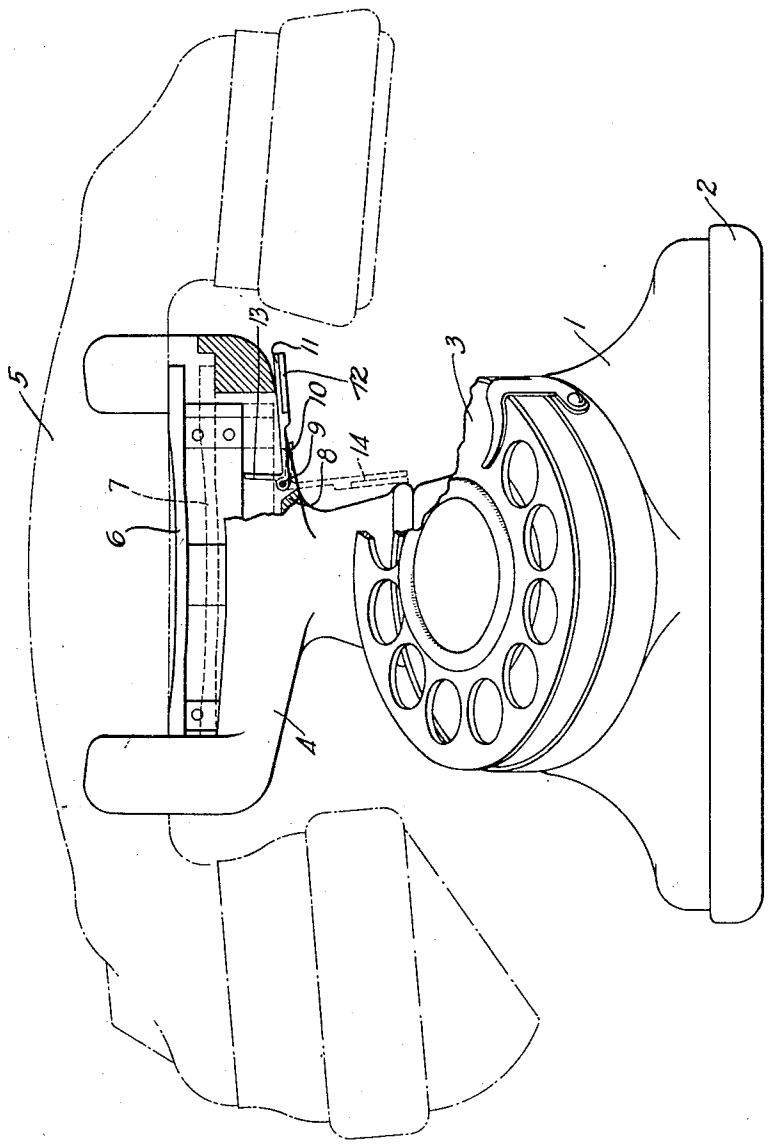
June 10, 1930. O. A. SHANN 1,762,745

SUBSTATION APPARATUS

Filed Feb. 6, 1929



INVENTOR
O. A. SHANN
BY G. M. Campbell
ATTORNEY

Patented June 10, 1930

1,762,745

UNITED STATES PATENT OFFICE

OSCAR A. SHANN, OF BROOKLYN, NEW YORK, ASSIGNOR TO BELL TELEPHONE LABORATORIES, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

SUBSTATION APPARATUS

Application filed February 6, 1929. Serial No. 337,777.

This invention relates to telephone substation instruments of the handset type equipped with an automatic calling dial and its object in general is to provide means by which a subscriber may dial a call without first removing the handset from its supporting member.

In accordance with the general features of this invention manually operable means are provided for raising and retaining in raised position during the dialing of a call, the handset and the movable switch member which it normally keeps depressed. The means for raising and supporting in raised position the handset and movable switch member automatically moves out of holding position as soon as the handset is removed from its supporting member.

In the accompanying drawing has been shown a front view of a handset mounting with certain portions broken away so that various parts of interest in connection with this invention may be seen and a handset in outline resting on the mounting.

With the present type of handset instrument it is necessary in order to establish a signaling connection between the handset instrument and the line to relieve the switch operating plunger, which is normally depressed by the handset, of the weight of the handset. This must be done before any rotation of the calling dial will have any effect on the line. As a result of this condition it has become the regular practice in obtaining a call connection to first remove the handset instrument from the mounting and then rotate the calling dial to get the desired call connection.

While dialing a call it is not always convenient for the subscriber to retain hold of the handset nor is there always a convenient place on which the handset may be rested until the called connection has been obtained. Accordingly manually operated means have been provided in this invention whereby the switch operating plunger, which is normally depressed by the handset, may be raised without first removing the handset therefrom and restrained in raised position with the handset still resting thereon. The manually operated means automatically returns to non-supporting position as soon as the handset is removed from the mounting so that at the end of a call, replacement by the subscriber of the handset upon the mounting will cause signaling and talking connections between the handset and the line to be broken in the usual and well known manner.

Referring more specifically to the drawing, 1 is the casing or lower portion of a handset mounting in which is contained, but not shown, the usual switching apparatus through which signaling and talking connections may be established between the handset and the line, 2 is the base member therefor, 3 is the calling dial, 4 is the cradle portion, and 5 is the handset resting in the cradle.

Operating within the cradle portion 4 is a spring pressed T-shaped switch operating plunger 6 shown in full line as being in raised position and in dotted line at 7 as being in lowered position. Secured across an aperture 8 in the cradle 4 by a pivot pin 9 is a lever 10 having a comparatively long handle portion 11 which may be suitably weighted at 12, and a short portion 13 extending substantially at right angles to the handle portion 11.

Normally the lever 10 is in the position shown in dotted line at 14 and the T-shaped switch operating plunger 6 is pressed down to the dotted line position at 7 by the weight of the handset 5 and against the action of the switch operating plunger spring which is not shown but which is contained within the cradle 4.

To obtain a called connection without first removing the handset 5 from the cradle 4 the lever 10 is manually moved on its pivot pin 9 from the dotted line position at 14 to the full line position shown. By so doing the short portion 13 of the lever 10 is brought into engagement with the T-shaped switch operating plunger 6 and raises this plunger to the full line position. The weight of the handset is sufficient to keep the T-shaped switch operating plunger and the short portion 13 in frictional engage-

ment and lever 10 is held in its raised position. A signaling connection between the handset and the line has now been established and rotation of the calling dial 3 to the required station and number positions will result in the connection of the handset through the line to the desired station.

When the dialing operation has been completed the subscriber lifts the handset 5 from the cradle 4. As soon as the handset 5 is lifted from the cradle 4 the switch operating plunger spring slightly raises the switch operating plunger 6 from frictional engagement with the short portion 13 of the lever 10. Lever 10 upon being thus relieved of the frictional engagement of the portion 13 with the switch operating plunger 6 will turn on the pivot pin 9 and drop to the dotted line position shown at 14 with the short portion 13 removed from the path of movement of the switch operating plunger 6.

On completion of the call the handset 5 upon being restored by the subscriber to the cradle 4 will press the switch operating plunger 6 down to the dotted line position shown at 7 and result in breaking the signaling and talking connections of the handset with the line in the usual and well known manner.

It is quite obvious that various changes in the construction and arrangement of the parts shown may be made without departing from the invention as covered by the following claims.

What is claimed is:

1. In a telephone substation instrument of the handset type a handset, a handset supporting member, a movable switch member normally depressed by the handset and a manually operated automatically restored member attached to the handset supporting member for raising and sustaining in raised position the handset and the movable switch member normally depressed thereby.

2. In a telephone substation instrument of the handset type a handset, a handset supporting member, a plunger type movable switch member normally depressed by the handset and a manually operated automatically restored lever attached to the handset supporting member for raising and restraining in raised position the handset and the plunger type movable switch member.

3. In a telephone substation instrument of the handset type a handset, a handset mounting, a plunger type movable switch member normally depressed by the handset and a manually operated, frictionally held, gravity restored member attached to the handset mounting for raising and restraining in raised position the handset and the plunger type movable switch member.

4. In a telephone substation instrument of the handset type a handset, a handset mounting, a switch plunger normally depressed by the handset and an L-shaped lever attached to the handset mounting for raising and restraining in raised position the handset and the switch plunger, said L-shaped lever having at one end sufficient weight to cause it to move out of holding position when the handset is removed from the handset mounting.

5. In an automatic telephone substation instrument of the handset type a handset, a handset mounting, an automatic calling dial on the handset mounting, a cradle-like support on the handset mounting to receive the handset, a switch plunger in the cradle-like support, said switch plunger being normally depressed by the handset, and a manually operated, gravity restored L-shaped lever attached to the handset mounting for raising and restraining in raised position the handset and the switch plunger during the dialing of a call.

6. In an automatic telephone substation instrument of the handset type a handset, a handset mounting, an automatic calling dial attached to the handset mounting, a cradle-like support on the handset mounting to receive the handset, a plunger type switch member in the cradle-like support, said plunger type switch member being normally depressed by the handset, and a manually operated automatically restored L-shaped lever to raise and hold in raised position the handset and the plunger type switch member during the dialing of a call, said L-shaped lever being weighted at one end so that it will move out of engagement with the plunger type switch member when the handset is removed from the handset mounting.

In witness whereof, I hereunto subscribe my name this 31st day of January, 1929.

OSCAR A. SHANN.