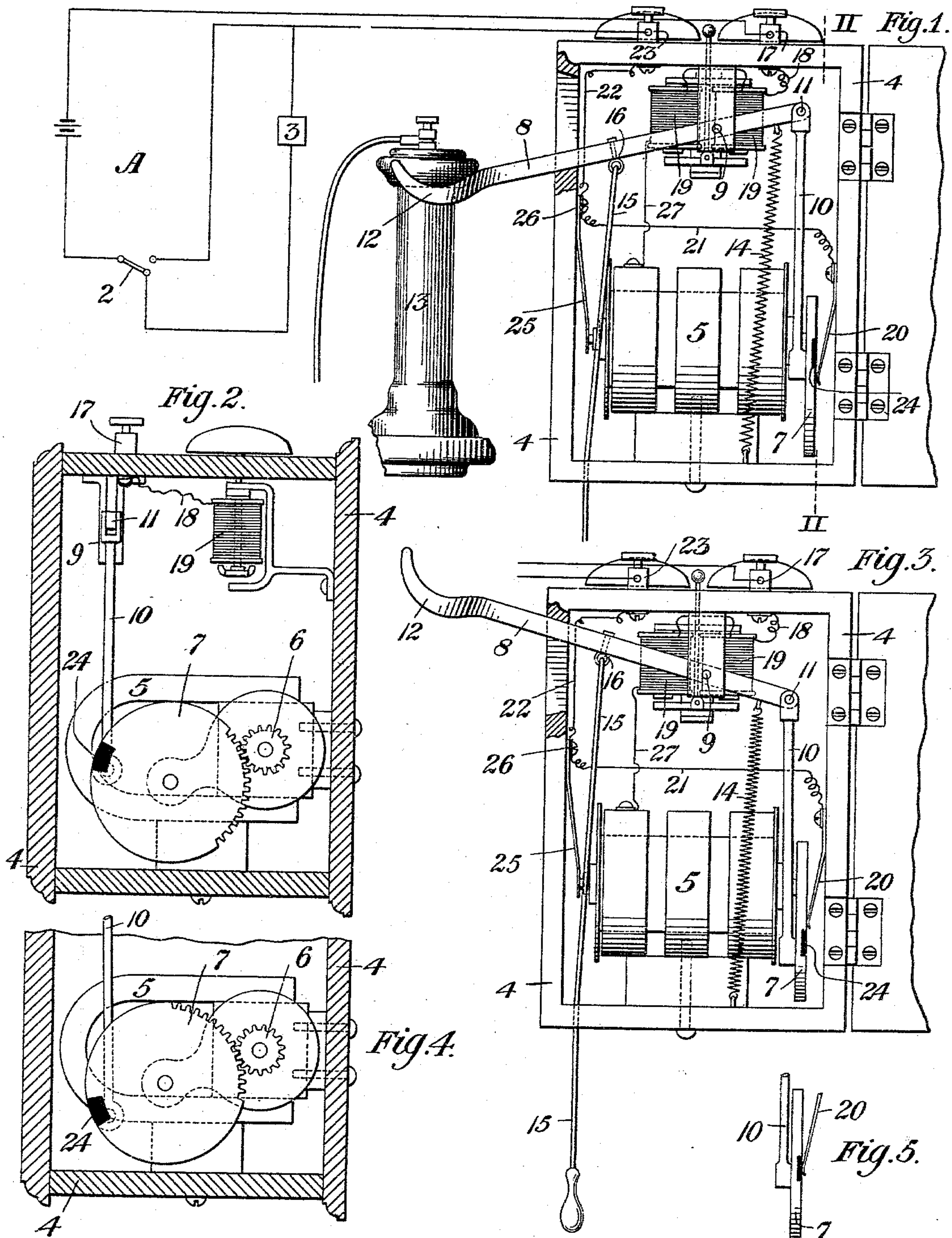


(No Model.)

I. D. SMITH.
TELEPHONE.

No. 546,357.

Patented Sept. 17, 1895.



WITNESSES

S. H. Clarke
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UNITED STATES PATENT OFFICE.

IRA DAVIS SMITH, OF PITTSBURG, PENNSYLVANIA.

TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 546,357, dated September 17, 1895.

Application filed May 3, 1895. Serial No. 548,010. (No model.)

To all whom it may concern:

Be it known that I, IRA DAVIS SMITH, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered a new and useful Improvement in Telephones, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this application, in which—

Figure 1 is a face view of the generator-box of a telephone, illustrating my improvement. Fig. 2 is a vertical section taken on the line II II of Fig. 1. Fig. 3 is a view similar to Fig. 1, but showing the receiver removed and the operative parts in an altered position. Fig. 4 is a partial view similar to Fig. 2, showing the parts in a position corresponding to Fig. 3. Fig. 5 is a detail view showing the contact-spring resting on the insulation of the shifting device.

Similar letters and numerals of reference refer to like parts wherever used throughout this specification.

My invention relates to the mechanism of telephones by which the central office is called up by the user of the telephone; and it consists in an improved construction and automatic action of the bar supporting the receiver and a device for shifting the current, by means of which, when the receiver is removed from such supporting-bar, it will rise under the action of a spring, and will, by throwing the current through the generator of the telephone, operate to throw down the annunciator in the central office. By this means I am enabled to dispense with the usual crank-handle for operating the generator, accomplishing such operation simultaneous with the removal of the receiver. The further usual operation of "ringing-off" is also dispensed with, the operation of returning the receiver and depressing the bar serving to operate the drop-off annunciator, thus giving a signal that the instrument is out of use.

Referring now to the drawings, A represents in diagram the arrangement of circuits in a central office, a shifting-switch 2 being employed when it is desired to call up the telephone.

3 is the annunciator of the telephone, which is then thrown out of circuit, but which, as in

the diagram, is ordinarily in circuit, so that it may be operated from the telephone in the usual manner.

4 is the box or case of a telephone containing the usual generator 5, the armature of which is supplied with an operating-wheel 6, into which meshes the partially-toothed disk 7.

The receiver-bar 8 is pivoted at 9 and is connected to the disk 7 by a pitman 10, connected by a pivotal joint 11 at its inner end, being provided with a fork 12 to engage the receiver 13 at its outer end.

A spiral spring 14 is secured to the bar and to the bottom of the box, so that when the receiver is removed the inner end of the bar will be drawn down, as shown in Fig. 3, and upon replacing the receiver its weight will serve to return the bar to its normal position, as shown in Fig. 1.

A cord 15 or other connection may be attached to the bar, as at 16, for operating it independently of the receiver. When the receiver is resting on the forks of the bar, the bell may be rung by "central" upon closing the switch 2, the current passing from binding-post 23, through wire 22, through connection 26, spring 25, through generator 5, wire 27, to bell-coils 19, wire 18, through binding-post 17, and back to central office.

In the action of removing the receiver the bar 8 and pitman 10 will cause the toothed disk 7 to partially rotate, imparting motion through the pinion 6 to the armature, and thus exciting the generator. Inserted in the disk 7, in the path of contact of the spring 20, is a piece of insulation 24, which will momentarily ride under the spring 20, such short-circuit being then cut out, and a circuit will then be established through wire 27, bell-coils 19, wire 18, post 17, through central office, post 23, wire 22, post 26, and spring 25 to generator 5. If by the partial rotation of the disk 7 on removal of the receiver the operator in the central office should not answer the call, the motion of the bar and the signal may be repeated by pulling down on the cord 15, thus causing it to operate without again replacing the receiver, which is a desirable and advantageous feature.

Changes and modifications may be made in the construction and operation of my inven-

tion by the skilled mechanic without departing therefrom, since I do not desire to confine myself to the specific construction or arrangement of parts shown in the drawings, 5 but desire to claim, broadly, the means for actuating the annunciator in the central office and the bell of the telephone by the simple act of removing the receiver from the supporting-bar. Thus the disk 7 may be made 10 in any other convenient shape or form, and the insulation 24 may likewise be located differently.

Having described my invention and in what manner it operates, what I claim, and 15 desire to secure by Letters Patent, is—

1. In a telephone, a spring controlled carrying bar for the receiver pivotally supported between its outer and inner ends, a toothed disk in mesh with a pinion on the shaft of 20 the generator armature, and a pitman at-

tached to the inner end of the carrying bar and to the toothed disk, substantially as set forth.

2. In a telephone, a spring controlled carrying bar for the receiver, pivotally supported 25 between its outer and inner ends, capable of being depressed by the weight of the receiver, a toothed disk in mesh with a pinion on the shaft of the generator armature the disk bearing a piece of insulation located in the path 30 of a contact spring, and a pitman attached to the inner end of the carrying bar and to the toothed disk, substantially as set forth.

In testimony whereof I have hereunto set my hand this 30th day of April, 1895.

IRA DAVIS SMITH.

Witnesses:

J. D. HERN,

C. M. CLARKE.