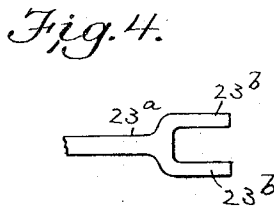
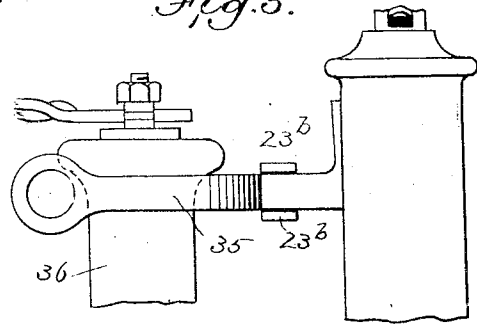
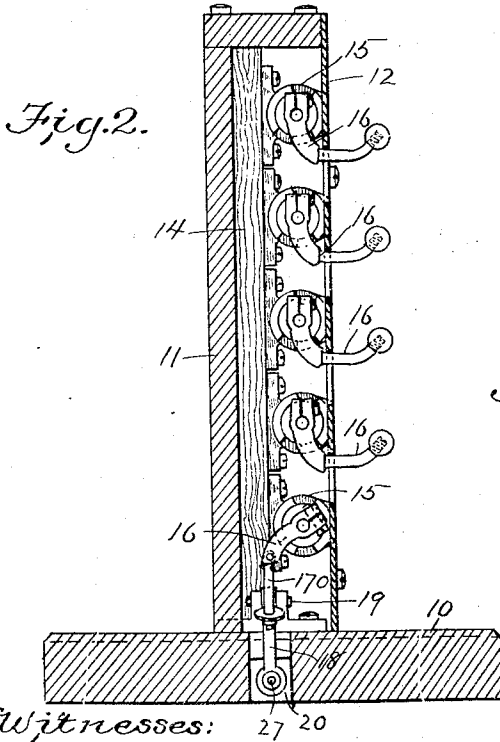
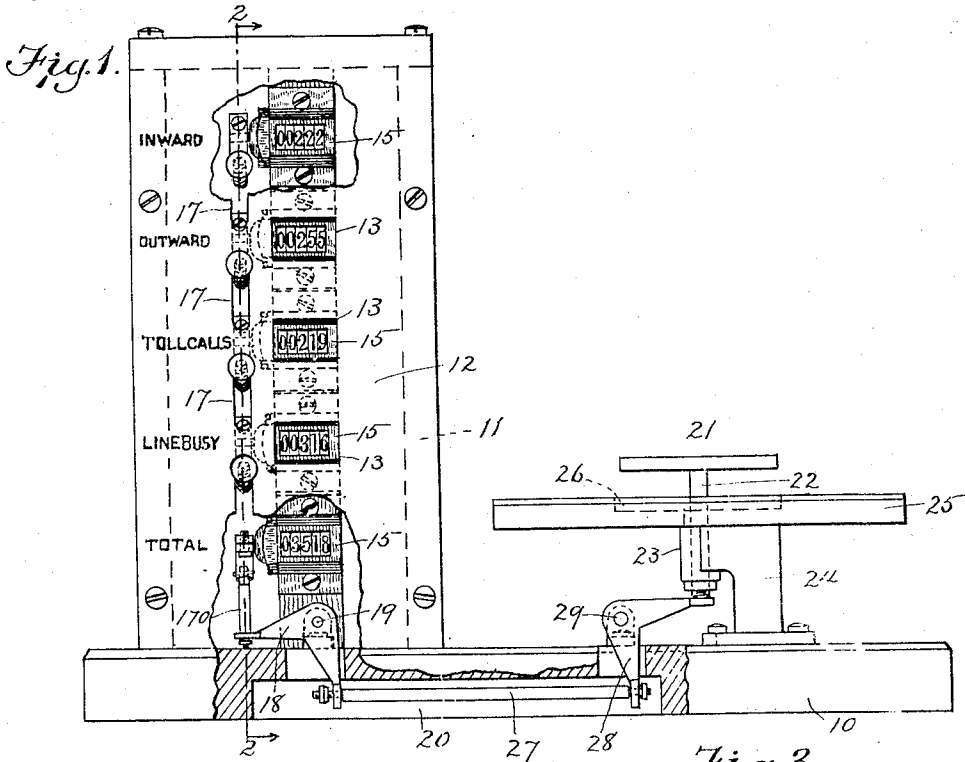


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 TELEPHONE CALL REGISTER.
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1,066,176.

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UNITED STATES PATENT OFFICE.

WILLIAM G. BELL, OF NEWTON, AND WILLIAM H. VINTO, OF BOSTON, MASSACHUSETTS;
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TELEPHONE-CALL REGISTER.

1,066,176.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, WILLIAM G. BELL and WILLIAM H. VINTO, residents, respectively, of Newton, in the county of Middlesex and State of Massachusetts, and of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Telephone-Call Registers, of which the following is a specification.

In the use of telephone instruments, it is frequently desirable that the number of uses of the instrument shall be known, not only as to the total number of outward and inward calls, but also to distinguish between the outward, inward, local, and long distance or "toll" calls.

The object of our present invention is to provide an improved mechanical device for registering telephone calls, said device having means for independently showing the number of inward calls, the number of toll or long distance calls, and the number of times when the line is reported as busy, all in addition to registering the total number of uses.

To these ends our invention consists in the construction and combination of parts substantially as hereinafter described and claimed.

Of the accompanying drawings which form a part of this specification: Figure 1 is a front elevation of one form or embodiment of our invention, parts being broken out to illustrate interior features of construction; Fig. 2 represents a vertical section on line 2—2 of Fig. 1; Fig. 3 represents a side elevation of a modification; Fig. 4 represents a fragmentary view of one of the parts of the modified form of our invention shown by Fig. 3.

Similar reference characters indicate the same or similar parts in all the figures.

In the particular embodiment of the invention illustrated, a suitable base 10 is provided, said base supporting a casing 11, having a front plate 12 which is preferably removably connected to the casing. The front plate is provided with openings 13 to enable the counters presently described to be seen. Within the casing is a suitably held upright 14, said upright being secured to the back of the casing. Secured to said upright are counters 15. These counters may be of the well-known "Veeder" type and

do not need to be illustrated in detail. Each counter has an actuating arm 16. In the drawings we have illustrated five of such counters, the lower one only being connected to be actuated every time the telephone is used either for an in-coming or out-going call. We do not limit ourselves to the number of counters employed, but for ordinary purposes five counters in all, as illustrated, are desirable. The four upper counters are operated independently of the lower one, by the person who takes down the receiver of the telephone, the connections being such that handling of the telephone receiver will actuate the lower counter. The arms 16 of the upper four counters project through slots 17 in the front plate 12 and are adapted to be moved independently by the operator to operate said counters. The arm 16 of the lower counter is connected by a link 170 with one arm of a bell crank lever 18 pivoted at 19 in the casing, the other arm of said lever extending into a recess 20 in the base 10.

21 represents a movable platform having a stem 22 which fits slidably in a socket 23 attached to a fixed standard 24 on the base 10. A fixed platform 25 on said base surrounds the stem 22 and has a recess 26 adapted to receive the movable platform 21.

The lever 18, connected as described with the lower counter, is connected with the platform 21 by suitable means which cause a depression of said platform to move the lever 18 in the direction required to operate the lower counter. In the preferred embodiment of the invention here shown the lever 18 is connected with the platform 21 by a rod 27, engaged with the lower arm of the lever 18 and located in the recess 20, and a bell crank lever 28 pivoted at 29, and having one arm engaged with the rod 27, the other arm bearing yieldingly on the lower end of the stem 22.

The usual mechanism of each counter includes a spring (not shown) adapted to return the shaft of the counter to its normal position after the arm 16 has been moved to actuate the counter, the arms of the several counters being thus normally held in the positions shown by Fig. 2, and adapted to be moved from said positions to operate the counters. The spring of the lower counter normally holds the lever 18, rod 20 and lever 28 in the positions shown

by Fig. 1, the movable platform 21 being thus normally held raised above the fixed platform 25.

The platform 21 may be employed to support the ordinary telephone instrument, including both the transmitter and the receiver hung thereon, or the type of such instruments known as desk telephones. The platform 21, however, may be of course so delicately balanced that it will be depressed to actuate the lower counter, by the weight of the receiver only. In the case of a telephone instrument of the kind known as a wall instrument, having the transmitter fixed, the device illustrated may be connected to the wall in such position that the receiver, when hung on its usual hook, will depress the platform 21. Practically, therefore, the platform becomes a support for a telephone, in the sense that it will at least support a portion of the weight thereof, and so that whenever the telephone instrument is used, the platform 21 or its equivalent will be raised, thereby permitting the lower counter to be actuated.

The front of the plate 12 is preferably provided with words to correspond to the uses to which the respective counters are put, such as "Inward," "Outward," "Toll calls," "Line busy," and "Total." The word "Inward" means that the adjacent arm 16 is to be operated whenever the subscriber is called; the arm 16 adjacent to the word "Outward" will be used whenever the subscriber puts in an ordinary call. The arm adjacent to the words "Toll calls" is used when the subscriber puts in a toll call. The arm adjacent to the words "Line busy" is to be operated whenever the user, after putting in a call, is told that the line is busy. Of course, since each use of the telephone instrument for either an outward or inward call operates the lower counter, it is desirable to have means of knowing how many should be deducted from the total shown by the lower counter in order to obtain the correct number when the telephone was really used, this being desirable because when the line is busy the subscriber is not to be charged with the use of the instrument, neither is he to be charged with inward calls.

It will now be seen that we have provided an instrument for keeping account of all calls of the telephone instrument, our device providing means whereby the number of outward calls, chargeable to the subscriber, as well as the number of inward calls answered by the subscriber, are automatically registered, and all other calls and uses of the instrument may be manually registered, so that the subscriber can at any time distinguish between outward calls and other calls not chargeable to him, such as inward calls and toll calls, and can deduct the "Line busy" uses. The subscriber can therefore

obtain the total number of times that his own instrument is to be charged for, by deducting the sum of the numerals shown by the "Inward calls," "Toll calls," and "Line busy" counters from the numerals shown by the "Total calls" counter.

The support which is moved by the weight of the telephone may be the ordinary pivoted hook 35 (Fig. 3) which supports and is depressed by the receiver 36. In this case, a lever 23^a is substituted for the lever 28, and has branches 23^b which engage the hook 35 so that when the receiver is removed, one end of the lever 23^a will be raised by the hook, and when the receiver is replaced the same end of the lever will be depressed by the weight of the receiver. These movements of the lever 23^a operate the outward call counter and the inward call counter in the manner above described, the lever being pivoted and connected with the lever 18.

The fixed platform 25 is adapted to sustain the movable platform 21 and its load, so that the movable platform 21 and the connections between it and the lower counter are not subjected to injurious strain when used with a desk telephone.

In practice, the levers 18 and 28 counterbalance each other, when connected by the rod 27, so that each lever is delicately poised, each lever having a substantially horizontal arm and a substantially vertical arm. The link 170 bears on the horizontal arm of the lever 18, and the stem 22 bears on the horizontal arm of the lever 28. The rod 27 connects the vertical arms of the two levers. The link 170 substantially counterbalances the platform 21 and its stem 22, so that the spring mechanism of the counter easily maintains the platform in a raised position when there is no load on the platform.

We claim:

1. A telephone call register comprising a casing provided with an opening, a counter behind said opening for registering calls made, said casing having additional openings, counters behind the last mentioned openings for registering unanswered calls, and the like, a lever fulcrumed in said casing and operatively connected with the first mentioned counter, and a support for a telephone element connected with said lever.

2. A telephone call register comprising a casing provided with an opening, a counter behind said opening for registering calls made, said casing having additional openings, counters behind the last mentioned openings for registering unanswered calls, and the like, a lever fulcrumed in said casing and operatively connected with the first mentioned counter, a yielding support for a telephone element connected with said lever, and a fixed support adjacent to said yielding support and adapted to sustain the latter and its load.

3. An instrument of the character described comprising a base, an upright casing supported thereby, a counter supported by said casing, an operating arm for said counter, means for yieldingly maintaining said arm in a predetermined position, a pivoted operating lever having one end connected with said arm, a counterbalanced platform provided with a stem connected with the other end of said lever, and a guide for said stem carried by said base.

4. An instrument of the character described comprising a base, a casing supported thereby, a counter supported by said casing, an operating arm for said counter, means for yieldingly maintaining said arm in a predetermined normal position, a yielding platform movable in a guide on the base, and counterbalanced connecting mechanism between the said arm and platform, whereby the arm is caused to normally maintain the platform in a raised position.

5. An instrument of the character described, comprising a base, an upright casing supported thereby, a counter supported by said casing and having an arm yieldingly maintained in a predetermined normal position, a yielding platform, and counterbalanced connecting mechanism between the said arm and platform comprising two bell-crank levers, one fulcrumed in the casing and the other on the base, each

lever having a substantially horizontal arm and a substantially vertical arm, a link connecting the horizontal arm of one lever with the counter arm, the yielding platform being provided with a stem bearing on the horizontal arm of the other lever and movable in a fixed guide, and a rod connecting the vertical arms of the two levers.

6. An instrument of the character described, comprising a base, an upright casing supported thereby, a counter supported by said casing and having an arm yieldingly maintained in a predetermined normal position, two bell-crank levers, one fulcrumed in the casing and the other on the base, each lever having a substantially horizontal arm and a substantially vertical arm, a link connecting the horizontal arm of one lever with the counter arm, a yielding platform provided with a stem bearing on the horizontal arm of the other lever, a fixed guide for said stem, a rod connecting the vertical arms of the two levers and a fixed platform above the base adapted to support the yielding platform and its load.

In testimony whereof we have affixed our signatures, in presence of two witnesses.

WILLIAM G. BELL.
WILLIAM H. VINTO.

Witnesses:

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G. L. JOHNSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."