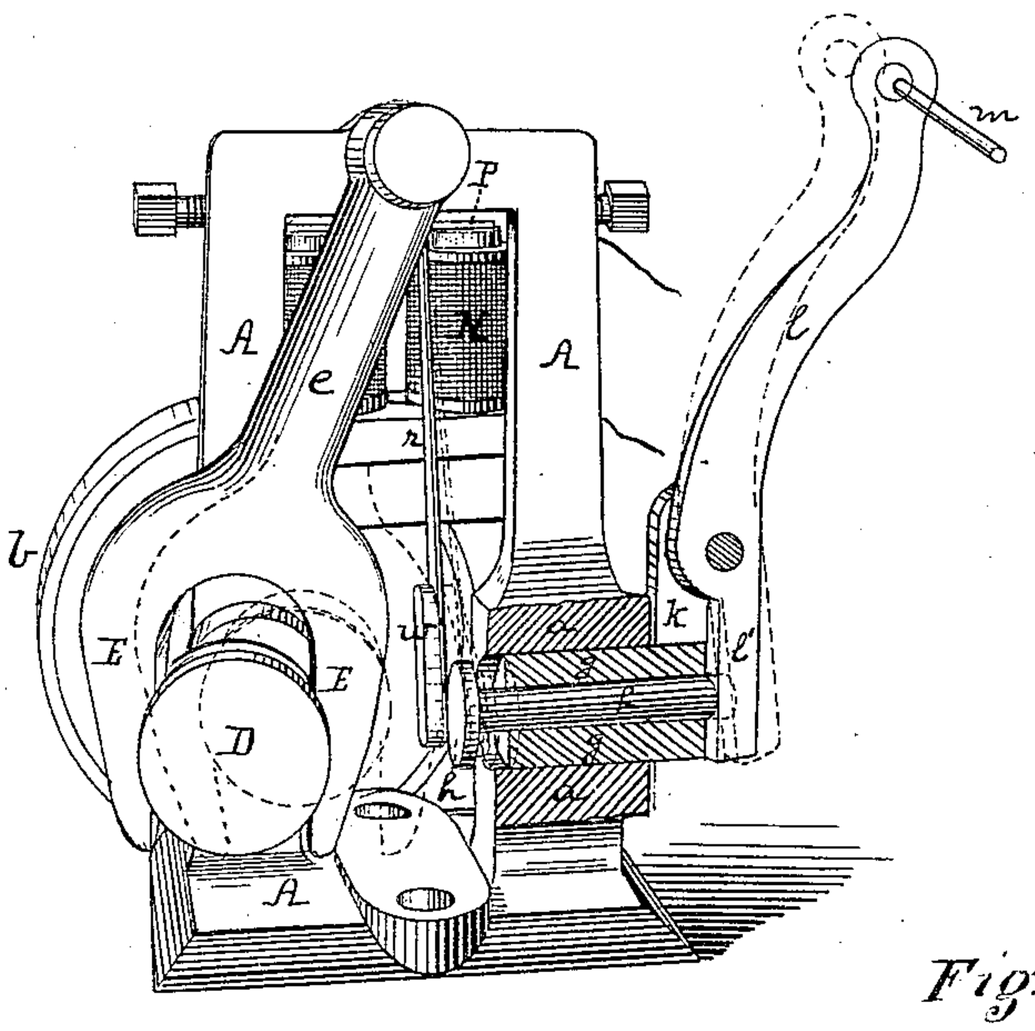
(No Model.)

C. LANZ.

ALARM ATTACHMENT FOR TELEPHONES.

No. 246,792. Patented Sept. 6, 1881.



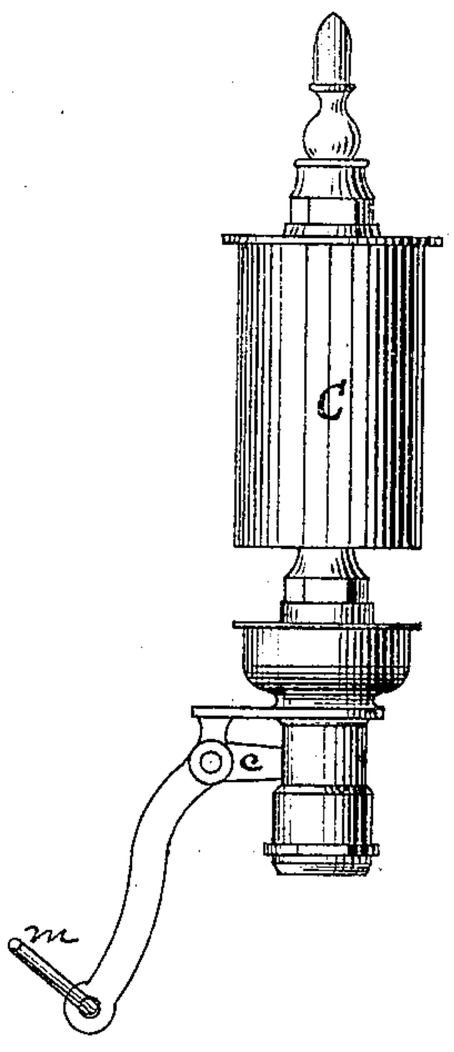


Fig. 1.

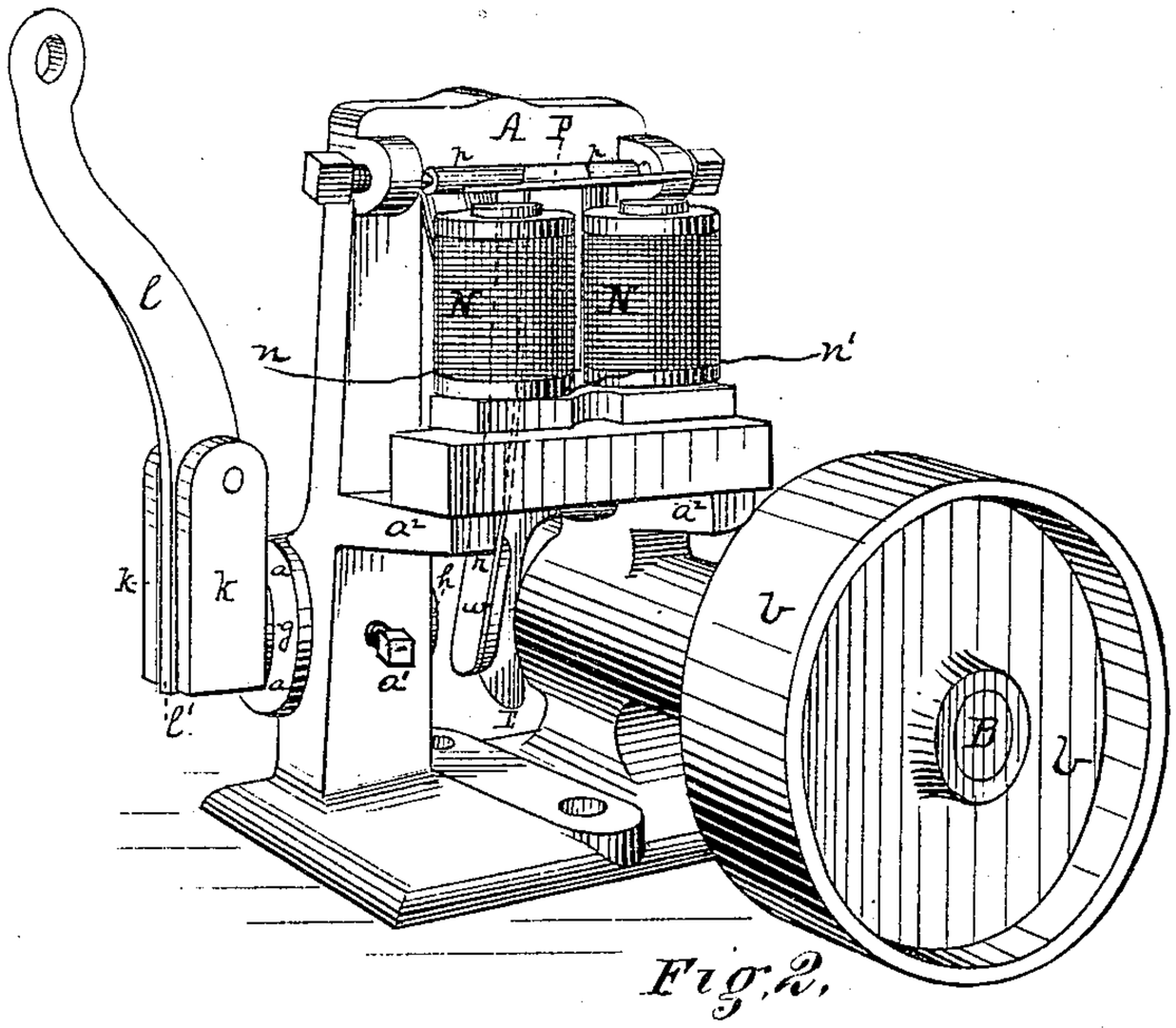


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES LANZ, OF PITTSBURG, PENNSYLVANIA.

ALARM ATTACHMENT FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 246,792, dated September 6, 1881.

Application filed January 17, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LANZ, of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Alarm Attachments for Telephones; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view, partly broken away, of my improved telephone attachment, and Fig. 2 is a like view of the apparatus from another position.

Like letters of reference indicate like parts in each.

My invention relates to certain improvements in telephone attachments to be used in works where it is desired to give the alarm in the works to call a person into the office to answer the telephone. Where the telephone is placed in the office of works, and where the clerk is sometimes employed out of the office, it frequently happens that no person is in the office to answer the call, and as the bell is not sufficiently loud to be heard all over the works the call is not answered. By my improvement the alarm is also sounded by the steam-whistle, which can be heard in any part of the works, thus summoning the person to the office to answer the call.

My invention consists, first, in mechanism provided with whistle-signaling apparatus, apparatus having a reciprocating motion, approaching but not coming in contact with the signaling apparatus, a magnet, and a pivoted armature adapted, when attracted by the magnet, to connect the signaling apparatus and reciprocating apparatus to give the alarm; and, second, in certain improvements in the construction and arrangement of the mechanism.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

In the drawings, A is the frame of the machine, in the lower part of which the shaft B is mounted in suitable bearings, the shaft being rotated by a pulley, *b*, around which a traveling belt passes, or by clock-work or other suitable power. Rigidly attached at one end of the shaft is the eccentric D, around which the yoke E fits, the yoke being provided with an arm, *e*, pivoted to the frame A above the eccentric. The eccentric by its revolution imparts a reciprocating motion to the yoke, so that it swings back and forth toward the whistle-signaling apparatus, as hereinafter described.

Mounted in a suitable journal, *g*, secured in the frame in line with the movement of the yoke E is the longitudinally-moving shaft F, carrying the head *h*, which extends out so that the yoke in its movement approaches close to the head, but does not come in contact with it. At the opposite end of the journal *g* are the brackets *k*, which extend up above the journal, and between which is pivoted the lever *l*, at the end of which lever a wire, *m*, is attached, this wire connecting with a valve, *c*, on the steam-whistle C at the boiler. The short arm *l'* of the lever extends below the arms *k* and rests against the end of the shaft *f* in the journal *g*, so that when a longitudinal movement is imparted to the shaft it presses against the lower end of the lever and causes it to draw back the wire, thus opening the valve on the steam-whistle and giving the alarm.

The journal *g* and brackets *k* are formed together, the outer surface of the journal being cylindrical and larger than the head *h* of the shaft *f*, and the journal carrying the shaft is passed through a cylinder, *a*, on the frame and secured therein by a set-screw, *a'*, the throw of the lever being regulated by the position of the journal in the cylinder.

By making the journal cylindrical and fitting it within a cylinder on the frame I am also enabled to throw the lever *l* on an angle when necessary, so that it may have a more direct draw or pull on the whistle-valve.

Supported on the rigid arms a^2, extending out on the other side of the frame A, is the magnet N, and pivoted to the frame A by the horizontal bar *p* is the armature P. The armature P is provided with a swinging arm, *r*, carrying a flat weight or block, *w*, the weight serving to raise the armature from the magnet and hold it in that position when the circuit is broken. When, however, the line or circuit is connected the magnet draws the armature down, thus throwing the block *w* between the yoke E and head *h* of the shaft *f*, so that upon the revolution of the eccentric the yoke presses

the weight *w* against the head *h* to operate the whistle-signaling apparatus. The magnet N is connected by the wires *n n'* with the alarm or bell circuit of the telephone either between the alarm-bell and main line or between the alarm and ground wire, the circuit being carried through the magnet, so that it is only operated when the alarm is given, and when the current is thrown on the direct circuit the magnet is cut off with the bell-circuit.

The operation of my improved signaling apparatus is as follows: The shaft B is rotated by any suitable power mechanism, and by means of the eccentric D imparts a reciprocating motion to the pivoted yoke E, this motion of the yoke being continuous. When the bell-circuit is disconnected, or the electric current is not passing over it to give an alarm, the armature, not being attracted by the magnet, is held away from it by the weight, and, as the yoke cannot come in contact with the signaling apparatus, no alarm on the whistle is given. When a call is given at the telephone the electric current passing along the bell-circuit attracts the armature, drawing it down to the magnet, and consequently throws the block *w* on the swinging arm between the yoke E and head *h*, when upon each revolution of the eccentric the yoke presses the block against the shaft *f*, which in turn presses out the short arm of the lever *l*, thus causing the lever to draw back the wire *m* and open the whistle-valve *c* to give the alarm. As the yoke is drawn back by the eccentric the pressure on the lever is relieved and the whistle-valve closed until, on the rotation of the eccentric, the wire is drawn back by the same means, the mechanism thus giving the alarm by a series of short whistles at the boiler in the works whenever a call is made on the telephone and summoning any person to the office to answer. As soon as the electric current ceases or the bell-circuit is disconnected and the direct circuit made, the weight or block raises the armature of the magnet, at the same time dropping from between the yoke and shaft-head, and thus breaking the connection between them and preventing the whistle-alarm from being given.

If two or more telephones are connected on the same wire the apparatus serves to give the same whistle-alarm as is sounded on the bell—as, for instance, where two or three calls indicate a certain office, the armature being attracted to the magnet whenever the current passes through the magnet, thus connecting the signaling apparatus, and being raised from the magnet when the current ceases, thus disconnecting the signaling apparatus.

It is evident that different means may be employed for operating the reciprocating apparatus—such as by a crank-rod—and the operation of the mechanism be practically the same.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In telephone attachments, the combination of signaling apparatus, reciprocating apparatus, and an armature provided with a block, said armature being adapted, when attracted by the magnet, to draw the block between the signaling apparatus and reciprocating apparatus and connect them to give the alarm, substantially as set forth.

2. In combination with the signaling apparatus, the rotating eccentric and reciprocating yoke, the magnet, and the pivoted armature P, carrying the block *w*, substantially as and for the purposes set forth.

3. In combination with the reciprocating apparatus, the magnet, the pivoted armature P, carrying the block *w*, the longitudinally-moving shaft *f*, and lever *l*, substantially as and for the purposes set forth.

4. The combination of the cylindrical journal *g*, carrying the shaft *f* and lever *l*, with the cylinder on the frame and the set-screw *a'*, substantially as and for the purposes set forth.

In testimony whereof I, the said CHARLES LANZ, have hereunto set my hand.

CHARLES LANZ.

Witnesses:
F. G. KAY,
JAMES I. KAY.