No. 634,012. Patented Oct. 3, 1899.

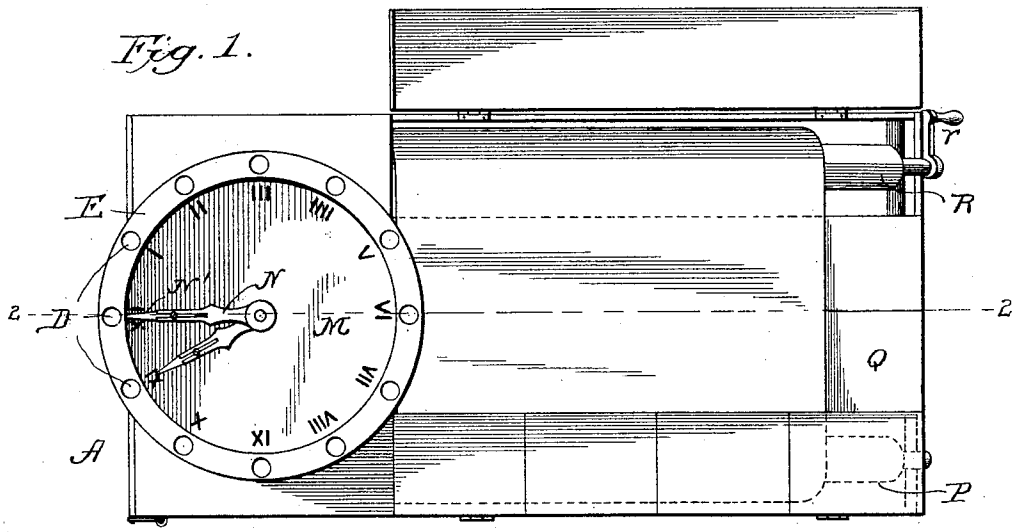
J. MATTES & J. A. NORTON.

TIME ALARM.

(Application filed Apr. 19, 1899.)

(No Model.)

Fig. 1.



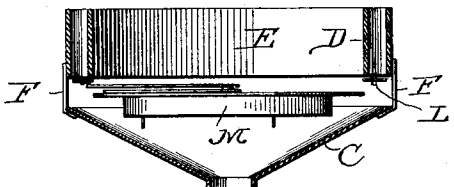


Fig. 4.

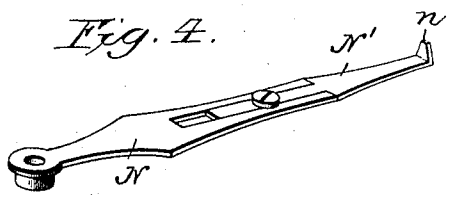


Fig. 2.

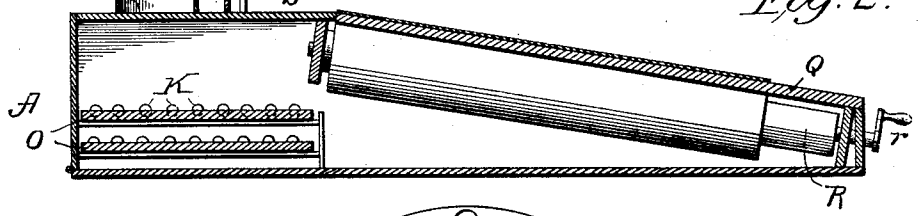
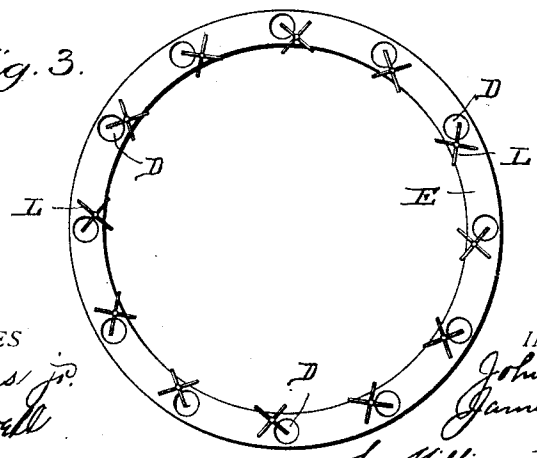


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN MATTES AND JAMES A. NORTON, OF ODEBOLT, IOWA.

TIME-ALARM.

SPECIFICATION forming part of Letters Patent No. 634,012, dated October 3, 1899.

Application filed April 19, 1899. Serial No. 713,630. (No model.)

To all whom it may concern:

Be it known that we, JOHN MATTES and JAMES A. NORTON, citizens of the United States, residing at Odebolt, in the county of Sac and State of Iowa, have invented certain new and useful Improvements in Alarm and Signal Mechanism; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to an improved alarm or signal apparatus adapted for use in various places and for numerous purposes.

The object of the invention is to provide a simple automatically-acting apparatus by which at a predetermined time a signal will be given and in addition certain information conveyed to the party responding to the signal.

The invention consists in the peculiar construction and arrangement of parts that will be hereinafter pointed out and described.

In the accompanying drawings, Figure 1 is a plan view of an apparatus constructed in accordance with our invention. Fig. 2 is a sectional view on the line 2 2 of Fig. 1. Fig. 3 is a bottom view of a portion of the receivers provided for the striking devices. Fig. 4 is a detail view of one of the clock-hands.

Referring to the drawings, in which like letters of reference denote corresponding parts in the several figures, A designates the base or stand upon which our improved signal device is supported.

A tubular upright or standard B has its lower end suitably secured to the base A, and its upper end is flared outwardly to form an enlarged downwardly-tapering receptacle or guide C.

Above the upper end of the receptacle C are supported in any suitable manner a series of tubular receptacles or receivers D. Preferably, as shown, these consist of a series of vertical passages formed in an annulus or ring-like body E, which is secured, by means of arms F, to the aforesaid guide C.

G designates a gong or other suitable sounding device which is supported at one side of the tubular upright or standard B and has a portion of its perimeter extending through an opening *b*, formed in said standard. Below the opening *b* another lateral opening *b'* is formed in the standard B, and a cup-like receptacle H is arranged adjacent thereto, for a purpose to be hereinafter described.

The striking devices K, by which the gong G is caused to sound a signal, are preferably of spherical form, and each bears some mark or indication suitable for the purpose for which it is designed to employ the apparatus.

The embodiment of our invention herein illustrated is adapted for use in hotels for the purpose of notifying the clerk, for example, of the fact that the occupant of a particular room wishes to be called at the time the gong is sounded by one of the striking devices. Therefore each of the balls K bears the number of an apartment in the hotel, there being as many of such balls as there are rooms.

The balls are of such diameter that they can be placed in the receivers D above the gong and pass therethrough. On escaping from the lower end of the receiver D it will be seen that the ball will fall into the upper flared end of the standard B and be guided by the inclined surface thereof into the vertical portion of said upright. The diameter of this vertical section is such that while the striking devices K will by gravity pass freely therethrough the gong is so arranged that at every such passage of a striking device it will be sounded. The striking devices escape from the upright or standard B through the lateral opening *b'* near the lower end thereof and are received and retained in the receptacle H adjacent thereto.

Means are provided whereby normally the escape of the striking devices from the receptacles or receivers D is prevented. These in the embodiment of the invention selected for illustration in this application consist of a series of pivotally-mounted stops L, arranged to be projected across the lower ends of the said receivers. As a means for withdrawing the stop from each of said receivers D we prefer at this time to employ a clock M. This is supported within the annulus or ring-like body in which the receivers D are formed in such manner that its dial and hands are slightly below the lower surface of said body.

The clock differs from an ordinary timepiece only in the construction and form of its hands. One or both of these consists of two sections N N', adjustably connected together by any suitable means whereby the length of the hand can be varied. The free end of the outer section N' is bent upwardly, or a lug *n* is formed thereon, which as the hand travels about the dial of the clock successively contacts with and actuates the stop devices L below each receiver D. Preferably each of said stop devices consists of four arms which radiate from a common axis or pivotal support, as shown particularly in Fig. 3. The arrangement of the said stops with relation to their respective receivers D is such that when one of the arms thereof is extending across the lower end of the receiver one of the next adjacent arms is projected inwardly into the path of the lug *n* on the hand of the clock, and the position of said stops with relation to said path of movement of the stud or lug *n* is such that while engaged by said lug the stop will be rotated sufficiently to not only remove the arm thereof initially extending across the receiver D from its operative position and permit the ball K to escape, but also will move the next following arm of the stop into operative position across said receiver—that is, except when a stop is engaged by the actuating-hand of the clock one member or arm thereof is always in operative position with relation to its respective receiver D.

Any suitable number of receivers D may be formed in the annulus E, and they may be arranged in any suitable manner with relation to the divisions of time marked on the dial and correspondingly marked, if desired.

For purposes of illustration we have shown but twelve receivers, one being arranged in line with each of the hour divisions of the clock-dial, and we have shown the hour-hand as adapted for actuating the stops L. It will be seen, however, that the number of such receivers or the hand of the clock to be employed for actuating the stops L are matters which can be varied according to the purpose for which it is intended to use the apparatus, and any such change will be included in our invention.

With an apparatus such as that which we have illustrated herein it will be seen that the stop L of any particular receiver will only be withdrawn once in every twelve hours and that the sounding device will only be struck every hour; but the receivers may be arranged so that a signal can be given at intervals of half an hour or a quarter of an hour, &c., as desired. Each receiver is of such height as to be capable of holding two or more balls. Within the base A are arranged slides O, adapted to contain the striking devices K, a separate and properly-identified holder being provided for each ball. The base A may also be employed for various other purposes. In the present case it is shown as containing a register whereon the names and places of residence of guests may be inscribed. The register is formed by a sheet or strip of paper which is normally wound upon a roll P, journaled in suitable bearings formed in opposite end walls of a chamber in the base A. The paper passes from said roll P over a solid plate Q and thence around another roll R, similar to that at P. A crank *r* is provided for turning this last roll, so that the paper may be unwound from the roll P and wound upon the roll R, or it may be applied to the shaft of roll P. The top of the base A is made in sections, those above the rolls P R being hinged to the base, so that they can be raised to permit of said rolls being withdrawn and replaced when desired, and the journals of the ends of the said rolls preferably extend into vertical slots in the base to permit of this movement.

The operation of our improvements may be briefly described as follows: Assume that the guest in room No. 5 in the hotel wishes to be called at six o'clock in the morning. He so notifies the clerk before retiring, and the latter thereupon takes the striking device or ball bearing the number "5" from the slide O and places it in the receiver D adjacent to the division "VI" on the clock-dial. At that hour the lug *n* will withdraw the stop L of the receiver D, in which said ball was placed, and the sounding device will be struck thereby. On hearing the sound the attendant has merely to pick the ball up from the receptacle H and by observing the number thereon is advised which guest is to be called at that time.

It will be seen that our improvements are applicable for use in various places other than that herein referred to. We have selected and referred to it as a hotel alarm or signal apparatus for purposes of ready and easy explanation. It can, however, be used in hospitals, livery-stables, and offices of many kinds.

The sounding devices may be of any suitable material. They can be made solid or similar to the carriers commonly employed in store-service apparatus—that is, of two sections detachably connected together and providing a covered receptacle. Into the cavity or receptacle thus formed within the sounding device can be placed written instructions for the guidance of the person responding to the signal given by said device striking the gong.

What is claimed is—

1. In an alarm or signal mechanism, the combination of a sounding device, a striking device separate from the sounding device, a stationary tubular receiver for the striking device arranged above the sounding device, a stop pivotally mounted at one side of and adapted to extend into said receiver, and clock-controlled devices for withdrawing said stop, and allow the striking device to fall against the sounding device, substantially as set forth.

2. In an alarm or signal mechanism, the

combination of a sounding device, a striking device separate from the sounding device, a tubular receiver for the striking device above the sounding device, a stop extending into said receiver to prevent the escape of the striking device therefrom, and a clock having one of its hands provided with means for positively withdrawing said stop, substantially as set forth.

3. In an alarm or signal mechanism, the combination of a sounding device, a clock supported above said sounding device, a series of stationary tubular receivers arranged concentric with the clock, a striking device adapted to be inserted in either of the receivers, a stop supplemental to and independent of the support for the receivers for preventing escape of the striking device from the receiver in which it is placed, and means controlled by the clock for withdrawing said stop and permitting the striking device to contact with the sounding device, substantially as set forth.

4. In an alarm or signal mechanism, the combination of a sounding device, a striking device separate from the sounding device, a clock arranged above the sounding device, a series of receivers, each adapted to receive the striking device, arranged concentric with the clock-dial, and a stop device pivotally mounted adjacent to each of said receivers and having one member extending into the path of one of the clock-hands and another member extending into the receiver, substantially as set forth.

5. In an alarm or signal mechanism, the combination of a sounding device, a series of striking devices separate from the sounding device and each bearing an indicating-mark different from every other one in the series, a series of receivers arranged above the sounding device and each adapted to contain one or more of the striking devices, a stop extending into each receiver to retain the striking device therein, and clock-controlled means for successively withdrawing the stops from said receivers, substantially as set forth.

6. In an alarm or signal mechanism, the combination of a sounding device, a striking device separate from the sounding device, a series of elevated receivers each adapted to hold the striking device, a stop extending into each receiver to retain the striking device therein, means for withdrawing the stop from each receiver at predetermined times, and a guide arranged to receive the striking device discharged by either of the receivers and conduct it to the sounding device, substantially as set forth.

7. In an alarm and signal mechanism, the combination of a sounding device, a striking device separate from the sounding device, a holder arranged above the sounding device and adapted to support the striking device, means for releasing the striking device from said holder, and a receptacle adapted to receive the striking device after it has been disengaged from the holder and struck the sounding device, substantially as set forth.

8. In an alarm and signal mechanism, the combination of a tubular standard, a gong having a portion of its body extending into said standard, a striking device separate from the gong, a holder for supporting the striking device above the upper end of the standard, means for automatically releasing the striking device from said holder and allowing it to enter said standard, and a receptacle communicating with the interior of the standard below the gong and adapted to receive the striking device after it has struck the gong, substantially as set forth.

9. In an alarm and signal mechanism, the combination of a sounding device, a striking device separate from the sounding device, a series of receivers for the striking device arranged above the sounding device, a stop arranged to extend into each of the receivers, and a clock arranged within the series of receivers and having an extensible hand adapted to successively withdraw the stops from said receivers, substantially as set forth.

10. The herein-described signal apparatus consisting of a base, a sounding device mounted on the base, a series of striking devices separate from the sounding device, a support for the striking devices within the base, a series of receivers arranged above the sounding device, a stop arranged to extend into each receiver, and means for automatically withdrawing the stops from the receivers successively, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN MATTES.
JAMES A. NORTON.

Witnesses:
JOHN C. FOGERTY,
J. H. KETTERER.