

No. 646,870.

Patented Apr. 3, 1900.

G. W. PETERSON.
COMBINED DOOR KNOB AND BELL.

(No Model.)

(Application filed Jan. 26, 1900.)

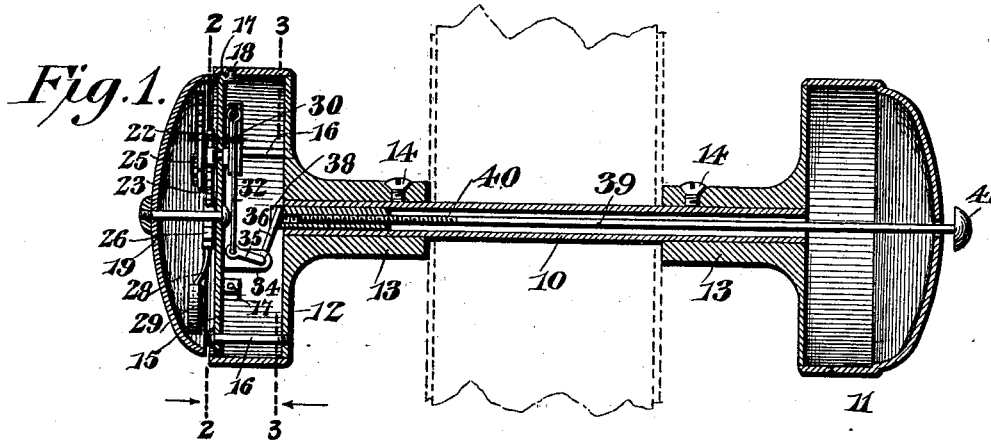


Fig. 2.

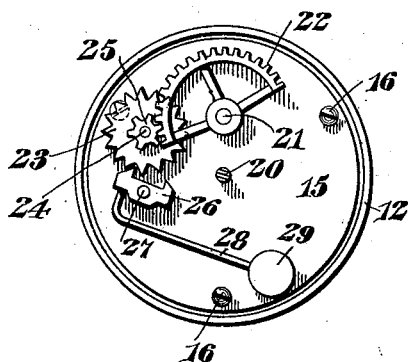


Fig. 3.

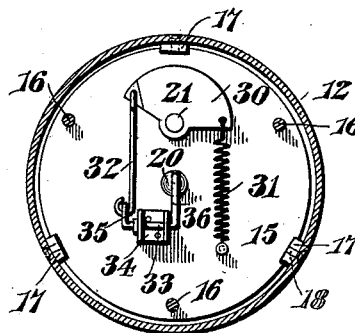


Fig. 4.

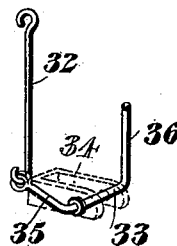
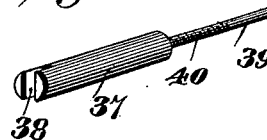


Fig. 5.



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GEORGE WILLIAM PETERSON, OF LEONARDVILLE, KANSAS.

COMBINED DOOR KNOB AND BELL.

SPECIFICATION forming part of Letters Patent No. 646,870, dated April 3, 1900.

Application filed January 26, 1900. Serial No. 2,891. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WILLIAM PETERSON, a citizen of the United States, residing at Leonardville, in the county of Riley and State of Kansas, have invented a new and useful Combined Door Knob and Bell, of which the following is a specification.

My invention relates to improvements in a combined door knob and bell in which certain devices are brought into harmonious relation, so as to enable a person to notify a householder or occupant of a room of his or her presence at a door and to dispense with the cost of installation of a separate bell mechanism.

One object of this invention is to provide a simple construction adapted to utilize the spindle and knobs of a door-knob as a means for supporting the parts of a bell mechanism, so that a pressure-button will be exposed for easy access and enable a caller to set into action certain positive devices by which an audible alarm may be given.

A further object is to provide a bell-operating means adapted for extensible adjustment to accommodate itself to a corresponding adjustment of the knob-spindle, which is necessary to fit the latter to doors of different thicknesses.

Other objects and advantages of the invention will appear in the course of the subjoined description, and the novel features will be pointed out in the claims.

In the drawings, Figure 1 is a sectional elevation taken longitudinally through a combined knob and bell embodying my invention and showing a fragment of a door by dotted lines. Fig. 2 is a vertical sectional elevation through a part of the bell mechanism in the plane of the dotted line 2 2 on Fig. 1. Fig. 3 is a vertical cross-section through the inside knob in the plane of the dotted line 3 3 on Fig. 1 looking in the direction of the arrow. Fig. 4 is a detail perspective view of the bell-crank and a link, showing by dotted lines the bracket for supporting said crank. Fig. 5 is a detail perspective view of a part of the push-rod, illustrating the adjustable sleeve thereon.

The same numerals of reference are used to indicate like and corresponding parts in each of the several figures of the drawings.

The general appearance of the door-knob

is similar to devices ordinary in the art, and said knob comprises the hollow spindle 10, the outside knob 11, and the inside knob 12. These two knobs are provided with the sleeves 13, which are fitted on the opposite end portions of the spindle and are clamped adjustably thereon by the binding-screws 14. It is my practice to make the spindle 10 square or polygonal in cross-section, so that it may be fitted in correspondingly-shaped openings in the sleeves of the knobs, whereby the knobs may turn at all times with the spindle, and either or both of the knobs may be adjusted lengthwise of the spindle, so that the door-knob as an entirety may be fitted to doors which vary in thickness.

The inside knob 12 is of hollow construction and is open at its inner side. In this hollow open-sided knob is arranged the supporting-plate 15 of the bell mechanism. This plate may be secured firmly to the inside knob by any approved means—such, for example, as by the screws 16, which pass through the plate and take into threaded openings of the knob 12—or the plate may have lugs 17 at its peripheral edge, which lugs bear against the inside of the knob and are fastened thereto by short transverse screws 18. The bell 19 is supported on this plate 15 by a central post 20, which is secured at its respective ends to the bell and the plate in a manner to support the bell free from engagement with the inside knob in order that the bell may give a clear ringing sound under the blows of the striker. Said bell is fashioned and proportioned to close the open inner side of the inside knob, and it is arranged close thereto for the purpose of giving a neat finish to said knob 12 and make it resemble an ordinary door-knob.

21 designates a short rock-shaft which passes through and is journaled in the plate 15, at one side of its center, and secured firmly to one end of this shaft is a gear-segment 22. A toothed pallet-wheel 23 is supported on an arbor or shaft 24 close to one face of the plate 15 and within the bell 19, said arbor 24 being also journaled in the plate 15. A gear-pinion 25 is made fast with the arbor 24 or the pallet-wheel 23, and it is arranged to have intermeshing engagement with the gear-segment 22, whereby a rocking motion of the gear-

segment will be communicated to the gear-pinion and thence to the pallet-wheel. A pallet 26 is pivoted centrally, as at 27, to the supporting-plate in a manner for one tooth 5 or the other to engage with the pallet-wheel for the purpose of making said pallet-wheel to vibrate the pallet rapidly on its pivot. A hammer-arm 28 is made fast with the pallet at one side of its pivot, and this arm carries 10 a striker-head 29, adapted to impinge the bell on the inside thereof.

It is to be observed that the rock-shaft 21 extends through the plate 15, and to the end of the shaft that projects into the hollow inside knob 12 is firmly secured a rocker 30. 15 This rocker is shown by Fig. 3 of the drawings in the form of a plate; but the particular style of the rocker is not material. A coiled spring 31 has one end fastened to an angle or 20 corner of the rocker, while its other end is attached to the plate 15. A link 32 is connected loosely to the other corner or angle of the plate to serve as an operative connection between the bell-crank 33 and the rocker. Said 25 bell-crank is journaled in a bracket or other support 34, which is fastened to the supporting-plate 15, and the bell-crank is provided at its opposite ends with a short arm 35 and a long arm 36, respectively, said arms extending 30 in planes at right angles to each other from the pivotal portion of the bell-crank. The link 32 is loosely connected in any approved way to the short arm 35 of the bell-crank; (see Figs. 3 and 4;) but the long arm 35 36 of said bell-crank is disposed in the path of a sleeve 37. This sleeve is provided in its free extremity with a notch 38, which constitutes a seat for the arm 36 of the bell-crank, whereby said arm is loosely engaged with the 40 sleeve and disconnection or displacement of the parts under normal conditions is prevented. A push-rod 39 extends loosely through the spindle 10 and the outside knob 11, and the inner end of this rod is screw-threaded, as at 45 40, while the sleeve 37 is provided with an interior thread adapted to engage with the threaded length 40, whereby the sleeve may be adjusted on the rod to increase or shorten the length thereof. The outer extremity of 50 the push-rod passes through and is adapted to play in a central opening of the knob 11, and a push-button 41 is made fast in any suitable way to said protruding end of the rod 39. It will be seen that the sleeve 37 forms a part of 55 the extensible push-rod for the purpose of making the rod adjustable to correspond to the adjustment of the knobs on the spindle in fitting the complete door-knob to doors which may vary in thickness. All of the operating 60 parts of the bell-striker mechanism are housed or contained within the inside knob and the bell. The spring 31 serves a twofold function in that it positions the elements of the bell-striker mechanism in condition for operation 65 by an inward movement of the push-rod and at the same time the long arm of the

bell-crank presses this rod 39 to its normal projected position, so that the button 41 will be free from engagement with the outside knob, as shown by Fig. 1.

The button 41 may be pushed inward by 70 applying pressure thereto, so as to move the rod 39 endwise in a direction to force the arm 36 of the bell-crank toward the plate 15. This turns the bell-crank for its short arm 35 and 75 the link 32 to pull on the rocker 30 against the tension of the spring, and the shaft 21 is thereby turned in a direction to make the segment 22 rotate the gear-pinion 25 and the pallet-wheel 23, whereby the pallet is rapidly 80 vibrated for the bell-hammer to strike a number of blows upon the bell, thus giving the alarm. When pressure is removed from the button 41, the spring 31 becomes active to restore the parts to their normal positions. 85

Changes within the scope of the appended claims may be made in the form and proportion of some of the parts while their essential features are retained and the spirit of the invention is embodied. Hence I do not desire 90 to be limited to the precise form of all the parts as shown, reserving the right to vary therefrom.

Having thus described the invention, what I claim is-- 95

1. In a combined door knob and bell, the combination of a push-rod and a bell-striker mechanism having an element normally held by a spring in engagement with said rod to 100 force the rod into an operative position, said element also holding the operative parts of the bell-striking mechanism in position for service.

2. In a combined door knob and bell, the combination with a spindle and knobs thereon, of a bell, a bell-striker mechanism including a rocker, a bell-crank connected with said 105 rocker, a spring, and a push-rod operatively related to the bell-crank and normally held by the latter and the spring to a projected position, substantially as set forth. 110

3. In a combined door knob and bell, the combination with a spindle and knobs thereon, of the supporting-plate fixed to the inside knob, a bell, a bell-striker mechanism mounted 115 on the plate and including a rocker, a push-rod, a bell-crank linked at one end to the rocker and connected at its other end with the rod, and a spring in active relation to the rocker, substantially as described. 120

4. In a combined door knob and bell, the combination with a hollow spindle having suitable knobs, of a bell mechanism having a yieldable actuating member, and a sectional push-rod supported by the spindle and having 125 an extensible member which is operatively related to the yieldable actuating member of the bell mechanism, whereby the extensible member may be adjusted without variation of the tension of the spring or springs, 130 as set forth.

5. In a combined door knob and bell, the

combination with a spindle and knobs there-
on, of a bell, a striker mechanism therefor, a
push-rod having a button, a threaded sleeve
adjustable on the inner end of said push-rod,
5 and a bell-crank in operative relation to the
bell-striking mechanism and engaging with
said sleeve, substantially as described.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

GEORGE WILLIAM PETERSON.

Witnesses:

S. F. HOLMES,
P. F. JOHNSON.