F. COLOUNESE & C. BOCCIA.

ALARM DOOR KNOB.

APPLICATION FILED MAY 23, 1911.

1,030,841.

Patented June 25, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

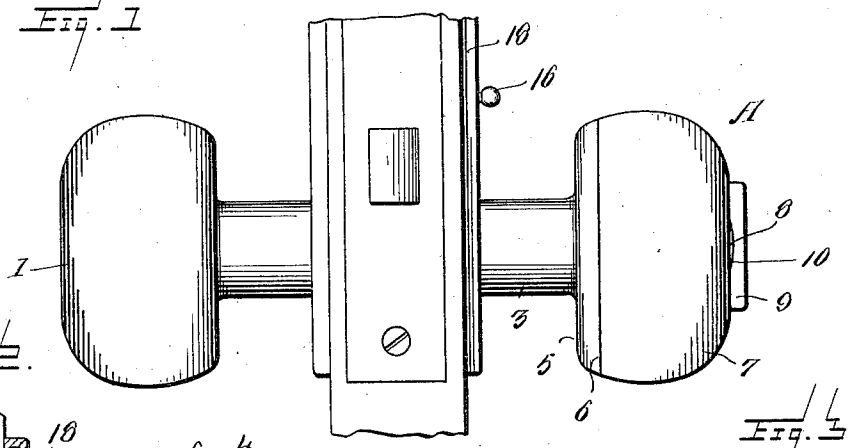


Fig. 2.

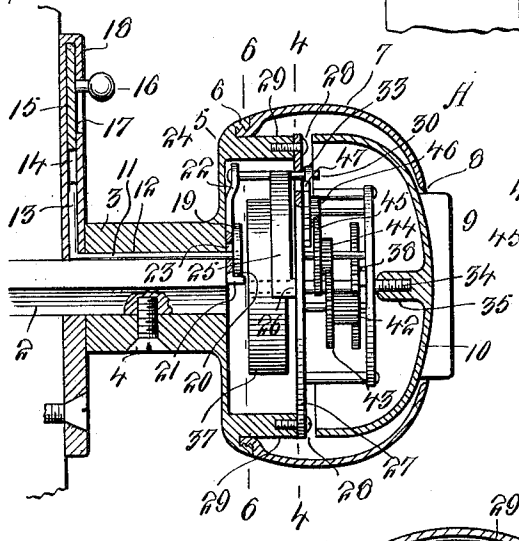


Fig. 3.

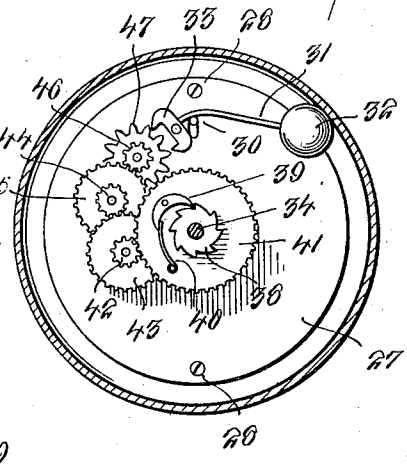
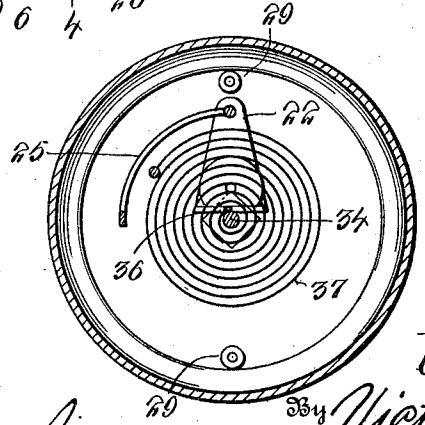


Fig. 4.



Witnesses
E. R. Ruppert.
R. B. Cavanagh.

Inventors
Frank Colounese
Carmine Boccia
By Victor J. Evans
Attorney

F. COLOUNESE & C. BOCCIA.

ALARM DOOR KNOB.

APPLICATION FILED MAY 23, 1911.

1,030,841.

Patented June 25, 1912.

2 SHEETS—SHEET 2.

Fig. 5.

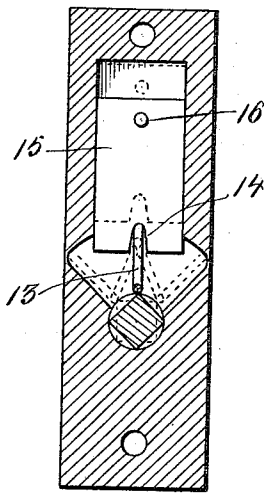


Fig. 6.

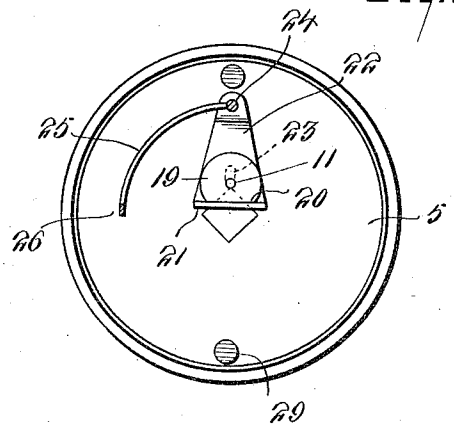


Fig. 7.

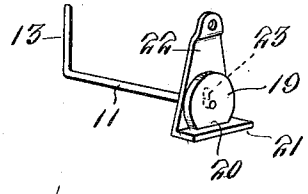


Fig. 8.

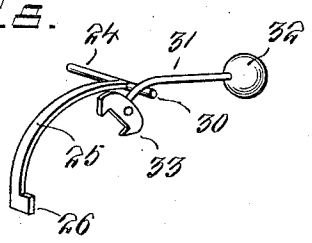
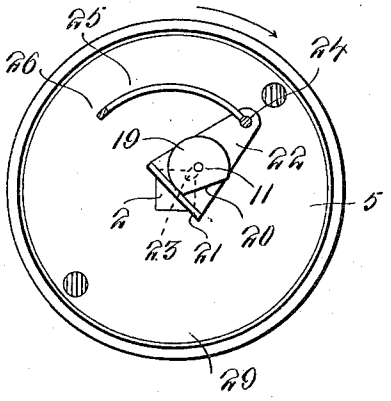


Fig. 9.



Witnesses

E. R. Ruppert

P. B. Cavanagh.

Inventors

Frank Colounese

Carmine Boccia

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

FRANK COLOUNESE AND CARMINE BOCCIA, OF NEW YORK, N. Y.

ALARM DOOR-KNOB.

1,030,841. Specification of Letters Patent. Patented June 25, 1912.

Application filed May 23, 1911. Serial No. 629,087.

To all whom it may concern:

Be it known that we, FRANK COLOUNESE and CARMINE BOCCIA, subjects to His Majesty King of Italy, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Alarm Door-Knobs, of which the following is a specification.

This invention pertains to certain novel and useful improvements in alarm door knobs, and has particular application to an article of the class described wherein a suitable alarm is incased in the knob on the inside of the door, proper provision being made for connecting and disconnecting the alarm.

In carrying out our invention, it is our purpose to provide an alarm which may be placed in a door knob, preferably the inside and which, when connected, will sound when the outside of the knob is turned.

A further object of the invention is to provide an alarm door knob which will embody in its construction the desired features of simplicity, durability and effectiveness and positiveness of operation, and which may be applied to doors of dwelling houses, stores or elsewhere where its use will be found applicable and convenient.

With the above-recited objects and others of a similar nature in view, the invention consists in the construction, combination and arrangement of parts, set forth in and falling within the scope of the appended claims.

In the accompanying drawings:—Figure 1 is a fragmentary view of a door provided with our invention, the knobs being shown in side elevation. Fig. 2 is a vertical longitudinal sectional view through the alarm knob. Fig. 3 is a detail plan view, showing the train of gears forming part of the operating mechanism. Fig. 4 is a transverse vertical sectional view taken through the knob on the line 4—4 of Fig. 2. Fig. 5 is a detail plan view, showing the alarm connecting plate. Fig. 6 is a transverse vertical sectional view on the line 6—6 of Fig. 2. Fig. 7 is a detail perspective view of the alarm connecting rod and its eccentric. Fig. 8 is a similar view of the spring arm and the bell hammer. Fig. 9 is a view similar to Fig. 6 showing the parts in operated position.

Referring now to the accompanying drawings in detail, the numeral 1 indicates the ordinary outer door knob connected to one end of the spindle 2. The inner door knob is indicated as an entirety by the letter A and comprises the tubular sleeve 3 secured to the spindle by the screw 4, said spindle carrying an approximately circular back plate 5 on which is threaded as at 6 the cap 7 of the knob, said cap being open at its front portion as at 8, for the projection of the flange 9 carried by the bell 10 within the casing for the purpose hereinafter described.

The numeral 11 indicates a small rod extending through the longitudinal slot 12 in the sleeve 3, one end of said rod being bent upward at an angle as at 13, designed to be engaged by the notch 14 in the sliding connecting plate 15, when said plate is moved downward by the small button 16 connected thereto, the shank of the button traveling in a slot 17 in the plate, while 18 designates the door plate, which extends over the sliding plate 15. The opposite end of the rod 11, or that end extending into the casing of the knob is provided with a disk 19 flattened at one side as at 20, said disk being adapted to bear at predetermined times against the flange 21 of the arm 22, the rod 12 extending through an elongated slot 23 in said arm. The upper end of said arm 22 is connected to the short extension 24 which is a part of and forms a T-arm in conjunction with the leaf spring 25, the latter being secured at its opposite end as at 26 to the circular plate 27 within the casing, said plate being secured by screws 28 to the studs 29 extending inward from the back wall of the casing. The end 30 of the cross rod 24 is adapted to lie beneath the shank 31 of the hammer or bell ringing device 32, said shank carrying at the end opposite the hammer, the double-pivoted pawl 33, the numeral 34 designating the power shaft or axle of the bell which is connected to the latter at 35, the opposite end of said shaft being connected at 36 to the similar coiled spring 37 which furnishes the power for the bell. Carried by the shaft 34 is a latch wheel 38 adapted to be engaged by the pivoted crescent-shaped dog 39, tensioned by the small leaf spring 40 carried by the large gear wheel 41 also mounted on the shaft 34. The gear wheel 41 meshes with the pinion 42 of the gear wheel 43, the said latter gear in turn meshing with the pinion 44 of the gear 45, said latter gear meshing with the

pinion 46 to the gear 47 with which the double toothed pawl 33 engages. The power spring 37 is as stated, connected at one end to the power shaft 34, while the opposite end of the spring is suitably secured in the casing. When it is desired to wind up the alarm, the shaft is rotated by means of the flange 9 projecting through the casing and connected to the bell, the latter being as stated, secured at the end of the shaft. By rotating the shaft, the spring is wound or tightened to the desired extent.

The above is a description of the mechanical construction of our invention, and the operation is as follows:—When it is desired to set the alarm so that the bell will ring upon the turning of the spindle, the plate 15 is pulled downward by its button into engagement with the head or extension 13 of the rod 11. Upon the turning of the spindle, the eccentric disk 19 will be brought to position to permit the short arm or rod 30 carried by the spring arm 25 to move and permit the engagement of the double pawl 33 with the gear 47, so that at the rotation of the spindle the hammer will be actuated to ring the bell, the power necessarily therefor being transmitted from the coiled spring through the power shaft and train of gearing to the hammer. When it is desired to disconnect the alarm, the sliding plate is elevated so that the end of the arm 11 is out of engagement therewith, thus restoring the arm 25 to its inoperative position thereby preventing the engagement of the train of gearing with the hammer mechanism.

It will be seen that we have provided an exceedingly simple yet efficient alarm, which may be used in connection with door knobs or similar appliances, and while we have shown and described one particular embodiment of the invention, we wish it to be understood that we do not limit ourselves to all the precise details herein set forth, as modification and variation may be made without departing from the spirit of the invention or exceeding the scope of the claims.

We claim:—

1. In a door alarm, the combination with a knob comprising a casing portion and a sleeve portion, of a spindle extending through the door and connected to the sleeve, a bell within the casing, a hammer for said bell, a rotatable power shaft, a spring for actuating said power shaft, a train of power transmitting mechanism between the shaft and the hammer, for transmitting the motion of the spring to the hammer, an escapement device connected to the shank of the hammer, a member located between the sleeve and spindle and carrying an eccentric within the casing, connections between the escapement and the eccentric, and means engaging with the opposite end of the eccentric carrying member for setting the alarm.

2. In a door alarm, a knob formed of a sleeve portion and a casing portion, a spindle extending through the door and the sleeve and connected to the latter, a bell located within the knob, a power shaft, a spring for actuating the power shaft, a hammer for said bell, a train of gearing for transmitting the motion of the shaft to the hammer, an escapement for said hammer, an angular rod having a portion extending between the sleeve and spindle, an eccentric disk carried by the portion of the rod within the knob, an arm movable by said disk, a spring arm connected to the first mentioned arm and adapted to lie beneath the shank of the hammer carrying the escapement, and means engaging with the opposite end of the rod at the door for setting the alarm.

3. In a door alarm, the combination with a knob, comprising a casing portion and a sleeve portion connected thereto, a spindle extending through the door and connected to said sleeve, a bell located within the casing portion of the knob, a hammer for said bell, an escapement for the hammer, a power shaft, a train of gearing between the power shaft and escapement and actuated from the latter, a spring for actuating the power shaft, means for winding said spring, and means for permitting the actuation of the bell when the knob is turned, said means comprising a rod extending between the spindle and the sleeve, an eccentric disk carried by said rod, an arm actuated by said disk, a spring arm connected to the first-mentioned arm, an extension on said spring arm for actuating the escapement, and means for connecting and disconnecting the alarm, said means comprising a slotted plate having a notch therein adapted to engage with an adjacent extension of the rod.

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

FRANK COLOUNESE.
CARMINE BOCCIA.

Witnesses:
CARLOS M. BRYSEN,
GERARD GARRAMONE.