

W. H. NICHOLS.

Door-Bells.

No. 153,271.

Patented July 21, 1874.

Fig 2.

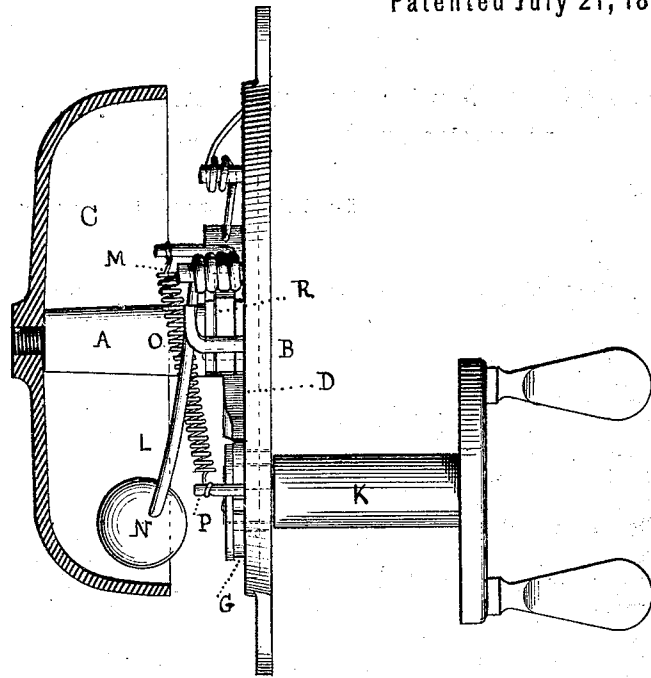
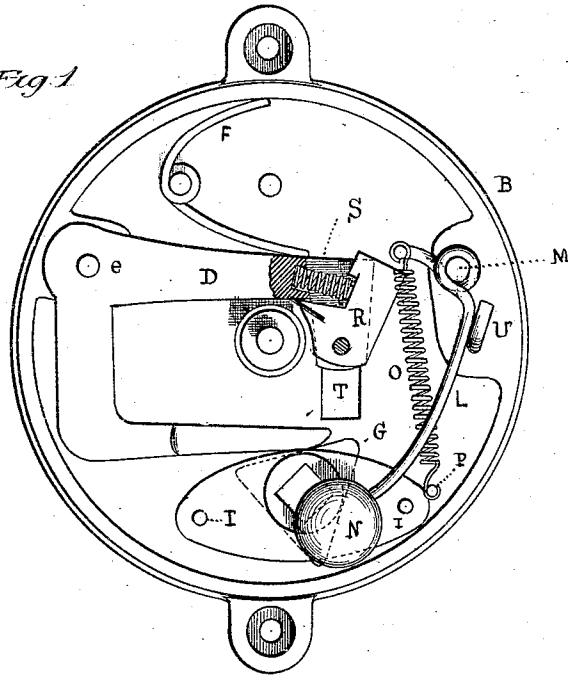


Fig 1.



WITNESSES:

*W. H. Norris*  
George Cushing jr

INVENTOR:

*Wm H. Nichols*  
By *James L. Norris, atty.*

# UNITED STATES PATENT OFFICE.

WILLIAM H. NICHOLS, OF EAST HAMPTON, CONN., ASSIGNOR TO THE BEVIN BROTHERS MANUFACTURING COMPANY, OF SAME PLACE.

## IMPROVEMENT IN DOOR-BELLS.

Specification forming part of Letters Patent No. **153,271**, dated July 21, 1874; application filed June 29, 1874.

### *To all whom it may concern:*

Be it known that I, WILLIAM H. NICHOLS, of East Hampton, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Door-Bells, of which the following is a specification:

My invention relates to certain new and improved devices for operating the hammer of an alarm or call bell; and it consists in a pawl, in combination with an **E**-shaped or other suitably bent lever, pivoted to the upper arm of said lever at its end, and so constructed and arranged as to catch and lift one end of the lever to which the hammer is attached, and carry it a sufficient distance to allow the hammer to make its stroke and then release it, said pawl, on the return of the lever-arm, yielding and falling back as it passes the end of the hammer-lever, so as to resume its original position when the bent lever has returned, substantially as hereinafter described.

The **E**-shaped or bent lever is pivoted to the base of the standard, which supports the bell at its upper angle, and is raised by means of a star-shaped cam-wheel, operating against its lower arm, which may be rotated in either direction by means of a key extending through the base of the standard, or otherwise, and is returned to its original position by means of a spring bearing against its upper arm. The desired stroke is given to the hammer, when its lever is released from the pawl, by means of a spiral spring, or otherwise, as may be desired.

In the drawings, Figure 1 represents a view of my apparatus with the bell removed, showing the working parts thereof. Fig. 2 represents a section through the center of my apparatus.

**A** represents the standard which supports the bell, attached to a circular or other shaped base, **B**, to which the various working parts of my apparatus are also attached. **C** represents an ordinary dome-shaped bell, secured to the standard **A** by means of a screw upon its end. **D** represents the **E**-shaped or bent lever, pivoted at its upper angle *e* to the base-plate **B**, and **F** is a spring attached to said

plate, and bearing against the upper arm of the lever **D**, to keep it in position ready for action, and return it thereto after having been raised. **G** is a star-shaped cam-wheel, having bearings for its journal in the base-plate **B**, and a small auxiliary plate secured over said cam-wheel to the base-plate **B** upon studs **I I**.

A square aperture is made through the journal of said wheel for the reception of the key **K**, by which it is rotated. **L** represents the hammer-lever, pivoted upon a stud or pin, **M**, attached to the base-plate **B**, carrying the hammer **N** upon its long arm. The short arm of said lever extends inward at an angle to said long arm, and is bent upward, as shown, so that the pawl on the end of the bent or **E**-shaped lever may readily engage it. To this short arm is attached one end of a spiral spring, **O**, the other end being secured to a stud, **P**, screwed to the base-plate **B**. This spring gives the stroke to the hammer, when the hammer-lever is released by the pawl. **R** represents the pawl, which consists of a **V**-shaped lever, pivoted at its angle in a slot in the end of the bent lever **D**, as shown, and pushed outward by means of a spiral spring, **S**, bearing against its right arm at one end, and against the end of the slot in the bent lever **D** at the other. The left arm of said pawl catches under the lower edge of the rear end of the slot in the arm of the bent lever, and limits the outward motion of the right arm of the **V**-shaped lever or pawl. **T** is a slot through the base-plate, directly opposite the end of the bent lever **D**, through which a thumb-stud attached to said lever may pass, to furnish an additional means of operating the lever. **U** is a stud or stop attached to the base-plate, which limits the stroke of the hammer, and causes the hammer-lever to spring back away from the bell, after the stroke has been made, so that the bell can vibrate freely.

The operation of my device is as follows: Upon raising the upper arm of the lever **D**, the pawl lifts the end of the hammer-lever **L**, and carries it upward until it passes clear of it. Being thus released, the lever is pulled violently back to its original position by means

of the spiral spring O throwing the hammer forcibly against the bell. On the return of the bent lever, the spring S, which bears against the right arm of the pawl V, yields, allowing the pawl to recede as it passes the end of the hammer-lever. When it has passed said end, the spring returns it to its original position.

The lever D may be operated either by means of the cam-wheel or the stud, as before mentioned.

What I claim is—

The combination, with the bell C, of the cam-wheel G, bent lever D, pawl R, and hammer-lever L, carrying the hammer N, substantially as herein set forth and described.

In testimony that I claim the foregoing I have hereunto set my hand.

WILLIAM H. NICHOLS.

Witnesses:

NATH. C. SMITH,  
CLARK BEVIN.