2 Sheets--Sheet 1.

W. E. SIMONDS.
Crank Door-Bells.

No. 156,439. Patented Nov. 3, 1874.

Fig. 1.

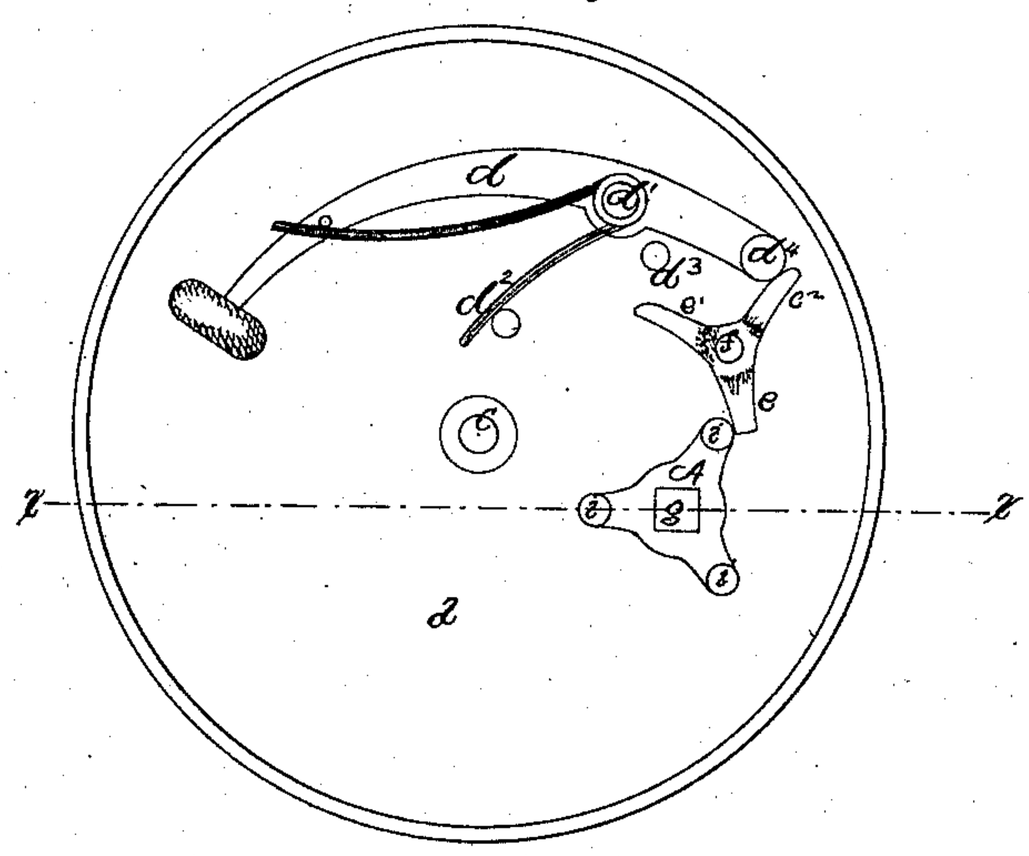
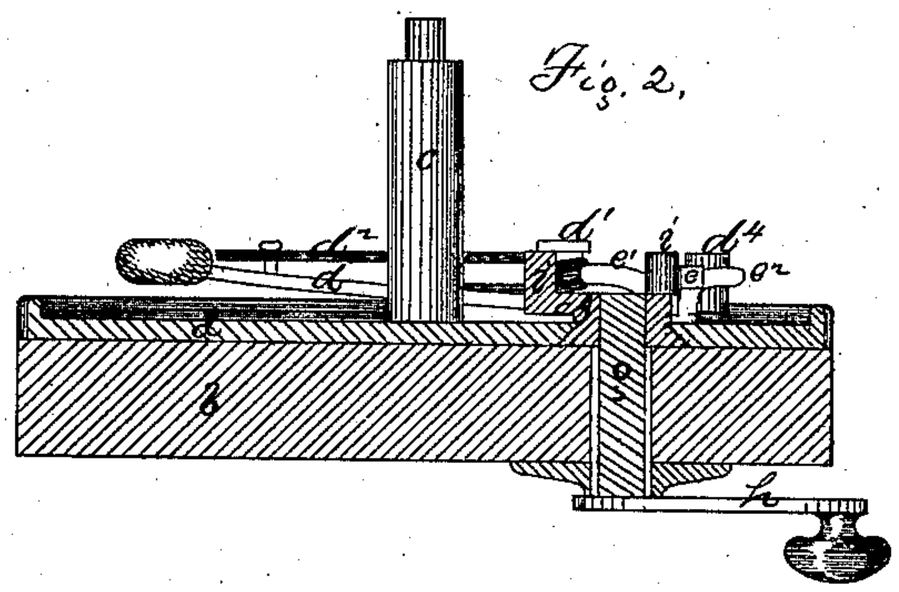


Fig. 2.



Witnesses.

E. F. Kunkel

George G. Gill

Inventor.

Wm. E. Simonds

2 Sheets--Sheet 2.

W. E. SIMONDS.
Crank Door-Bells.

No. 156,439. Patented Nov. 3, 1874.

Fig. 3.

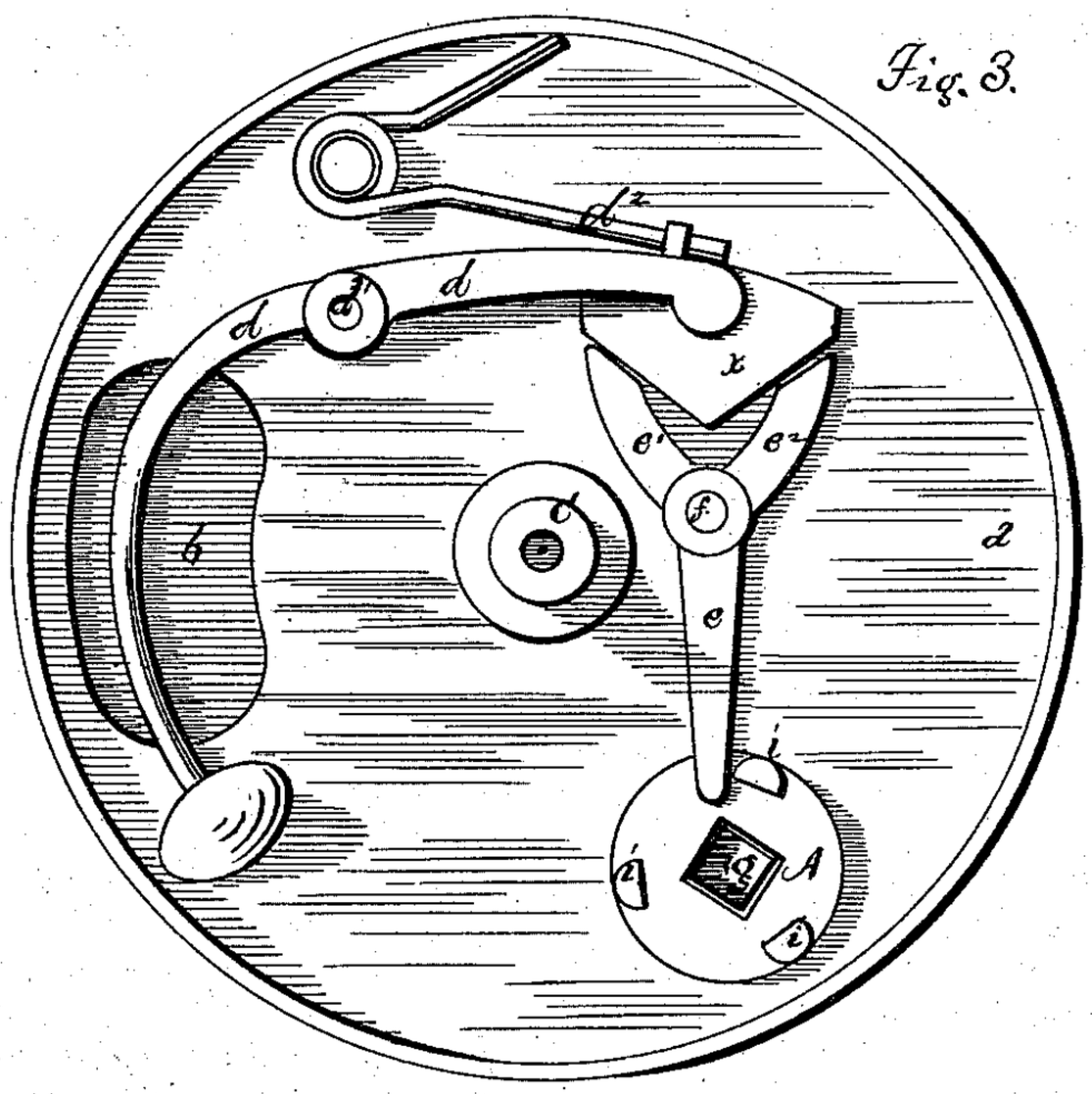
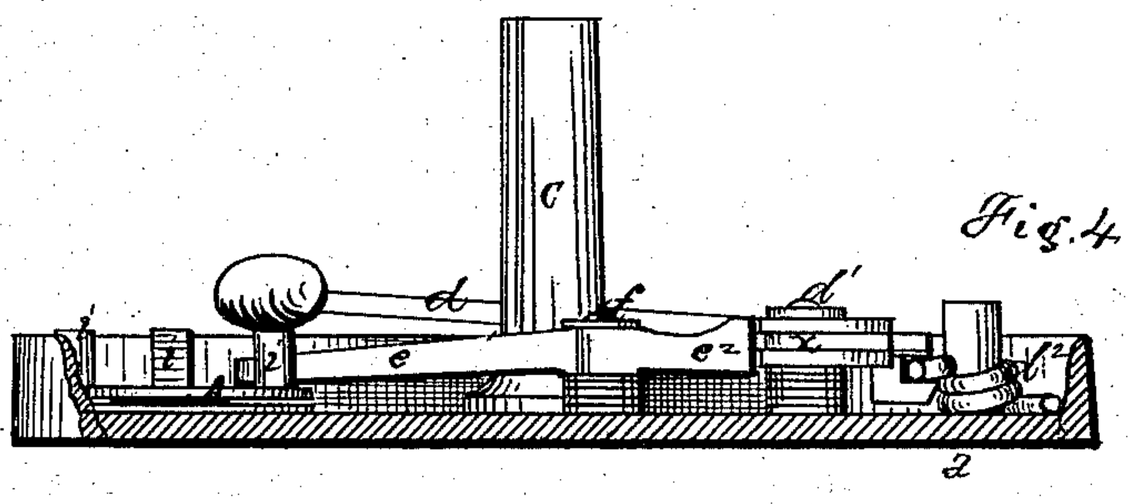


Fig. 4.



WITNESSES.

F. G. Fuller

J. Pollitt

Inventor

William E. Simonds

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UNITED STATES PATENT OFFICE.

WILLIAM E. SIMONDS, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN CRANK DOOR-BELLS.

Specification forming part of Letters Patent No. **156,439**, dated November 3, 1874; application filed September 11, 1872.

To all whom it may concern:

Be it known that I, WILLIAM E. SIMONDS, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Crank Door-Bells, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of the bell with the sounding-shell removed. Fig. 2 is a sectional view of the same through the line *x x*. Fig. 3 is a plan view of a modification of the bell, as shown in Figs. 1 and 2, with the sounding-shell removed. Fig. 4 is a side view of the bell. (Shown in Fig. 3.)

I will first describe the modification of the bell. (Shown in Figs. 1 and 2.)

The letter *a* indicates the base-plate of the bell, and *b* the door upon which such bells are commonly fastened. *c* is the central post, on the top of which screws the common concave sounding-shell. The letter *d* indicates the hammer, pivoted on the pin d^1, and having its throw given by the spring d^2. d^3 is the stop-pin, which defines the throw of the hammer. The letters *e* e^1 e^2 indicate the three horns of a forked tumbler pivoted on the pin *f*, the upper two of which, e^1 e^2, play upon the pin d^4, which is on the end of the hammer, and the other of which is played upon by the spurs *i i i* of the star-wheel A, which has a base projecting through the plate *a*, and turning therein, being actuated by the spindle *g* running through the door, and having upon its farther end the crank *h*, whereby the bell is operated.

When the crank is turned in either direction the star-wheel is revolved, and one or the other of its spurs will come in contact with the fork *e*, and carry it along, causing one of the forks e^1 e^2 to raise the butt of the hammer, so as to draw back the hammer-head for a stroke. When the hammer-head is drawn back sufficiently, and before the pin d^4 can escape from the fork e^1 or e^2, which is raising it, the spur *i* slips by the fork *e*, and allows the hammer to strike and sound the bell. This action obviously takes place when the crank is turned in either direction.

All of the forks of the tumbler are raised somewhat from the base-plate, only the center thereof resting on the base-plate, so that these forks may only come in contact, respectively, with the pins d^4 and *i i i*, and not with the body of the hammer or of the star-wheel.

The form of bell (shown in Figs. 3 and 4) is substantially the same as shown in Figs. 1 and 2, the similar parts being lettered the same in both cases. The only difference is, that the three forked tumbler operates upon a V-shaped piece, *x*, on the end of the hammer-arm instead of upon a round pin, as d^4; and this V-shaped piece striking down into the forks of the tumbler no stop-pin is needed.

I claim as my invention—

The combination and arrangement of the star-wheel, the forked tumbler pivoted outside of the star-wheel, and a single hammer, the tumbler operating to trip the single hammer by the rotation of the star-wheel in either direction, substantially as described, and for the purpose set forth.

WILLIAM E. SIMONDS.

Witnesses:

GEORGE G. SILL,

E. A. KUNKEL.