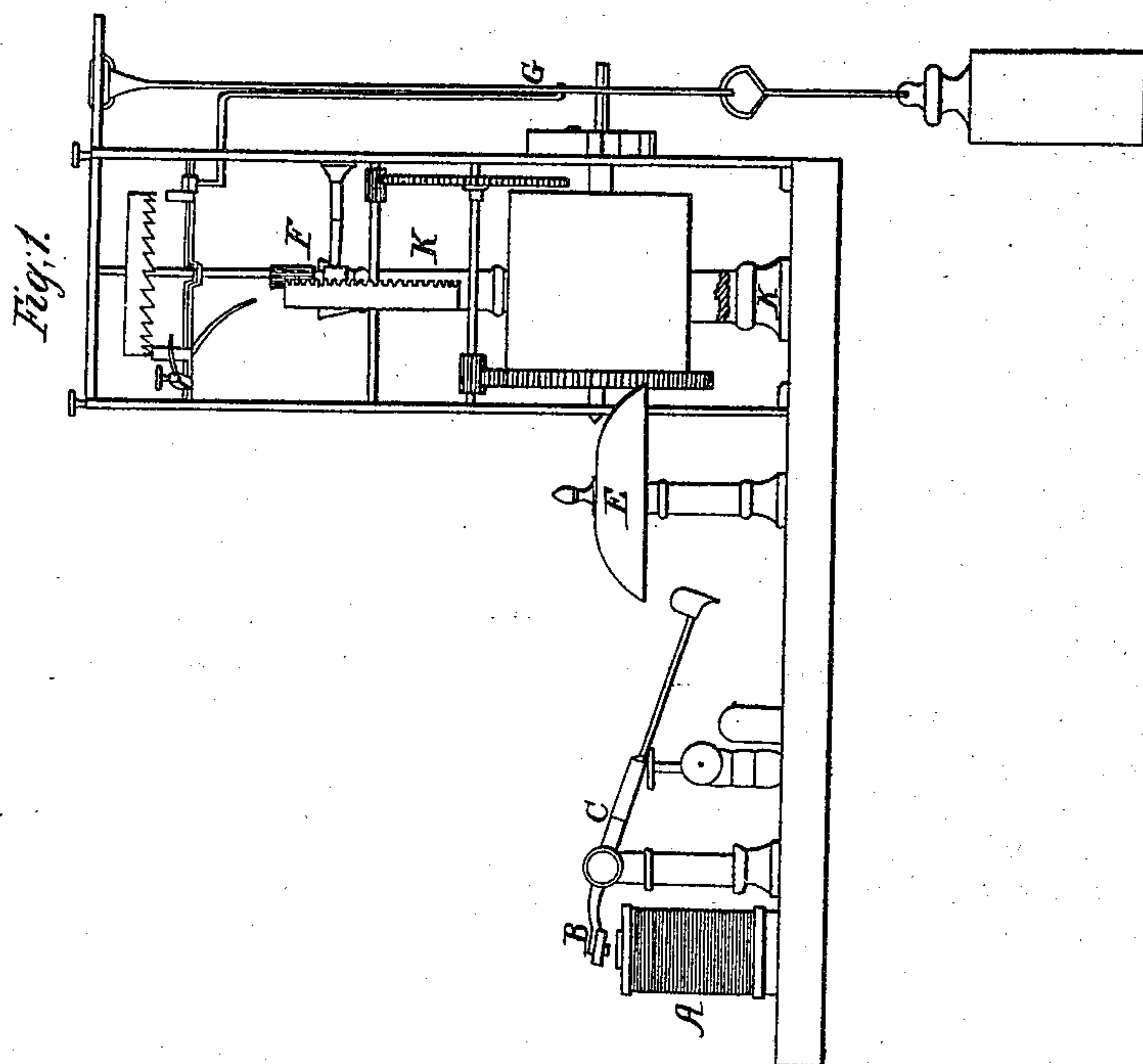
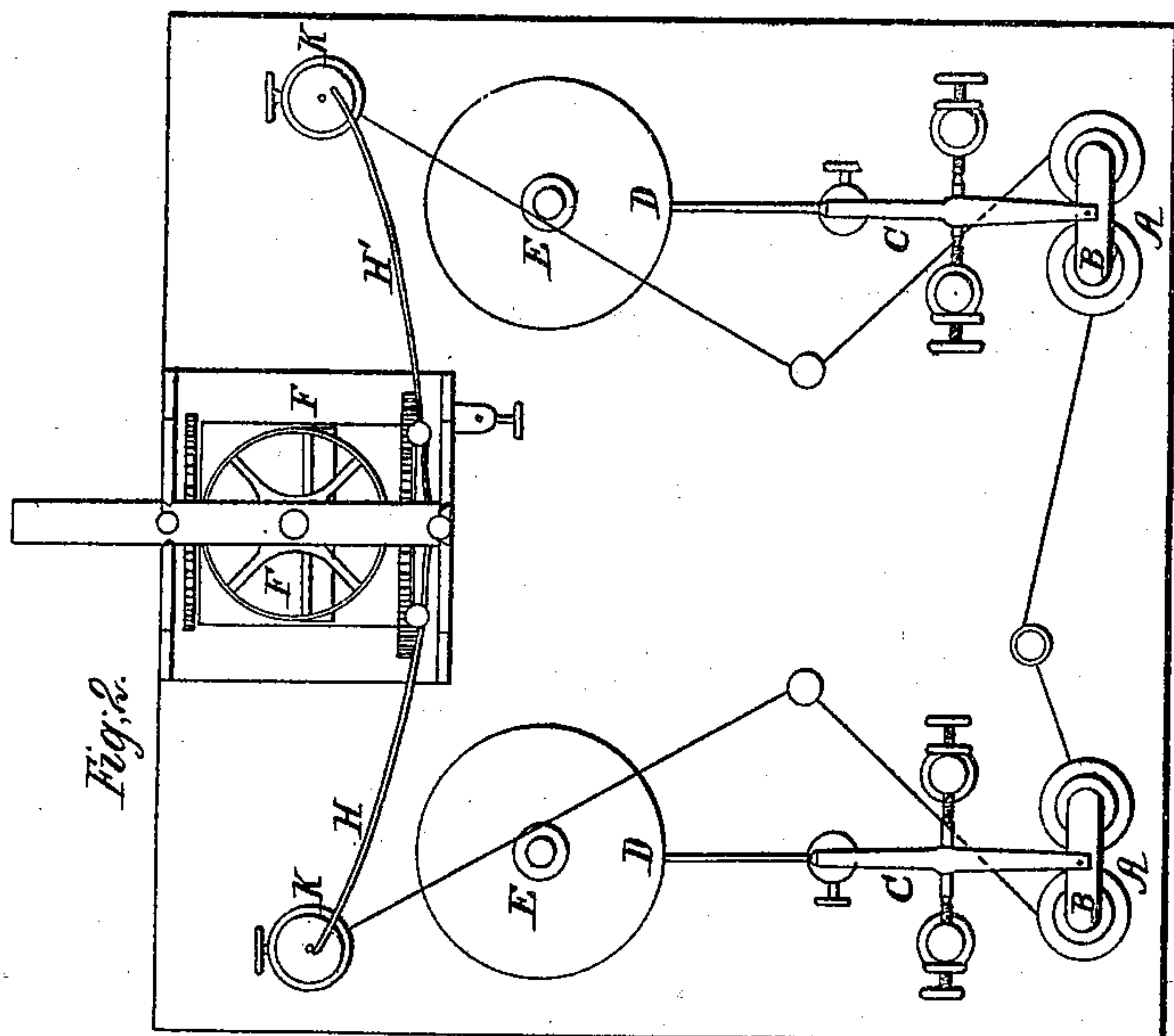


A. BARBARIN & B. F. SIMMS.
ELECTROMAGNETIC FOG BELL.

No. 15,323.

Patented July 15, 1856.



UNITED STATES PATENT OFFICE.

ARTHUR BARBARIN AND B. F. SIMMS, OF NEW ORLEANS, LOUISIANA.

ELECTRO-MAGNETIC FOG-BELL.

Specification forming part of Letters Patent No. 15,323, dated July 15, 1856.

To all whom it may concern:

Be it known that we, ARTHUR BARBARIN and B. F. SIMMS, of New Orleans, in the State of Louisiana, have invented an Improved Fog-Bell; and we do hereby declare that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known, and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawings, of which—

Figure 1 is a side elevation of our construction with the parts all in one frame; Fig. 2, a plan of the fog-bell and clock-work.

The nature of our invention consists in the employment of electro-magnetic power for ringing fog-bells under an arrangement and operation of parts substantially as herein set forth.

Numerous devices have been hitherto essayed and failed for the ringing of fog-bells, all of them depending upon the mechanical action of the rise and fall of tides, the motion of waves, or the direct action of some person to ring them. The constant ringing required day and night for these bells causes too great an expenditure of power to admit of clock-work as the source of motion; but by our arrangement a slight clock-movement is all sufficient to cause and regulate the ringing of the largest bells, the mechanical force required to strike the bell being derived directly from the electro-magnetic power. This is brought about by the following means: A is an electro-magnet, the armature B of which is attached to the short arm of a lever, C. Upon the end of the long arm of this lever is a hammer, D, so situated that when this arm of the lever is raised the hammer strikes the bell E.

The system of clock-work F F is of common construction and to be driven by a weight or spring at pleasure.

To the verge G of the escapement are fixed two wires, H H', the free ends of which (as the verge vibrates to and fro) dip alternately into mercury-cups K K and establish and break the electrical circuit in which the electro-magnets A A are included.

The battery is not here shown, the wire connections with it and with the magnets and the cups K K being arranged after the usual and well-known mode of connecting magnets and batteries with a device for breaking the electrical circuit. Thus whenever the wires dip into the mercury-cups the battery-connection is established, the electro-magnets are charged, and the armatures being attracted to them cause the hammers to strike the bells, and while the clock runs the bells ring.

Thus far we have described the apparatus and its operation as if it were all associated together in one frame-work.

To illustrate our invention we must suppose that the electro-magnets and bells are secured to a suitable buoy, raft, or float, or to a tower or reef, or to any suitable basis in the vicinity of a dangerous shoal or reef, and that the galvanic battery and clock-work are in any desirable situation on shore, and that the wire connections of the apparatus are arranged and operate as shown in the drawings, with the exception that the wires reach from the tower or buoy to the clock-work and battery on the shore. In this case the wires must be carefully insulated, as they are for submarine wires for telegraphs, and they may be submerged or not, according to the circumstances of the location.

The clock is to be carefully attended to keep it wound up and going, and a spare clock may be necessary in case of repairs, as the clock must be always going and the alarm or fog bells ringing constantly day and night.

We do not claim as our invention the electro-magnetic alarm or signal bell, nor any of the parts separately of the fog-bell apparatus; but

We claim—

The application of electricity and magnetism to the ringing of fog-bells, substantially in the manner set forth.

ARTHUR BARBARIN,
B. F. SIMMS.

Witnesses:

HENRY A. GLIDDEN,
I. W. GURLEY.