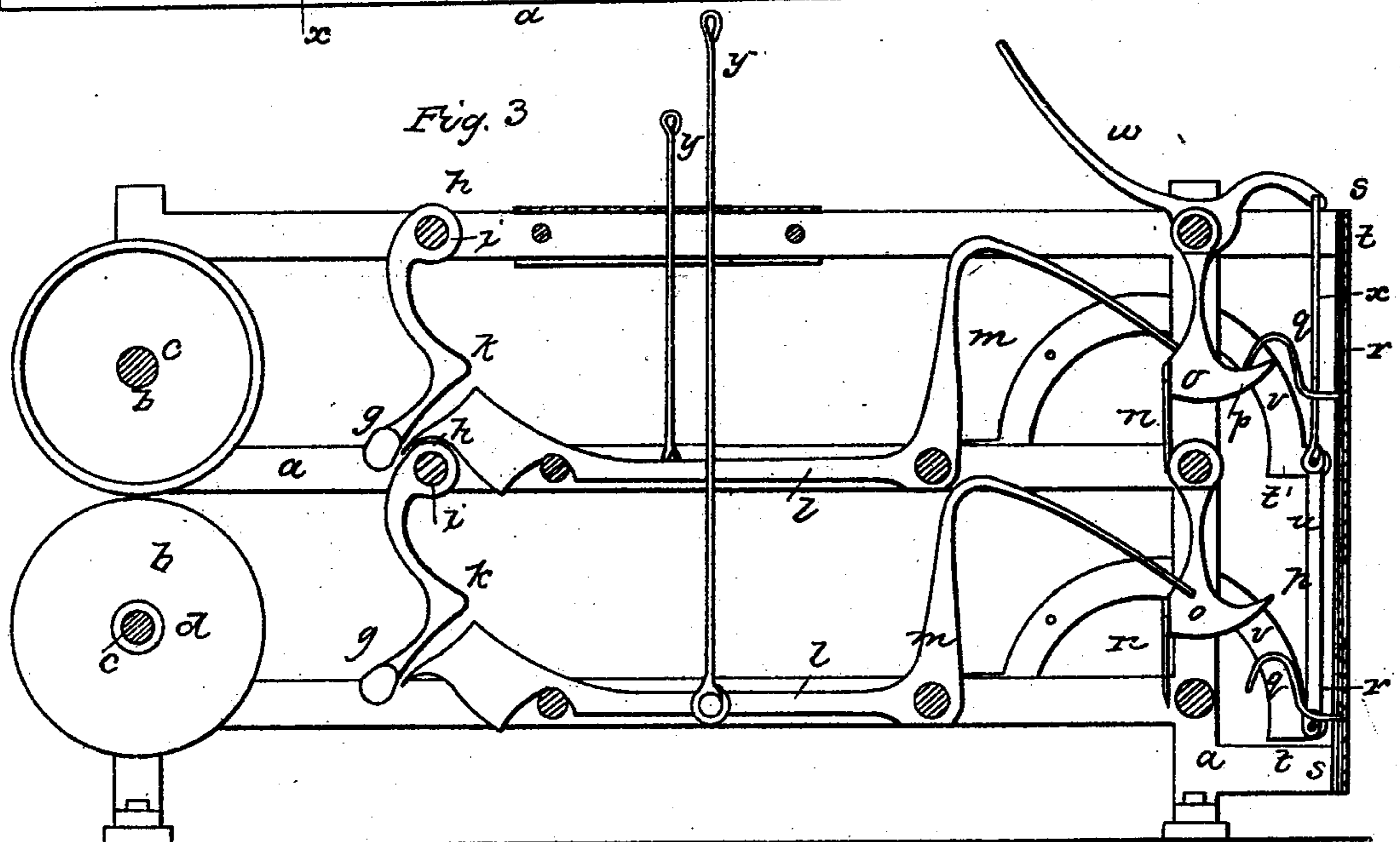


Annunciator.

Patented Oct. 3, 1848.

Fig. 2



UNITED STATES PATENT OFFICE.

E. J. MALLETT, OF NEW YORK, N. Y.

BELL-TELEGRAPH.

Specification of Letters Patent No. 5,823, dated October 3, 1848.

To all whom it may concern:

Be it known that I, E. J. MALLETT, of the city, county, and State of New York, have invented new and useful Improvements in the Method of Arranging, Hanging, and Striking Bells for Hotels and other Purposes, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front elevation of the apparatus; Fig. 2, a rear elevation; and Fig. 3, a vertical section taken at the line (X X) of Fig. 1.

The same letters indicate like parts in all the figures.

Various attempts have been made to improve the method of hanging bells in dwelling houses, hotels, &c. with the view to have all the wires act upon one and the same bell, and each wire provided with a separate slide or hinged number which is either thrown up or let down to indicate the number of the room; but so far all these plans have been attended with two serious objections, viz: all the wires being in connection with the lever that strikes the one bell used for all the wires, it follows that if any one wire is held back intentionally or by accident, no other wire can cause the bell to be struck, and hence so long as the obstruction continues no alarm is given when any other wire is pulled; and the objection referred to is the use of springs within the apparatus to return the slides that operate the lever of the hammer, which springs are subject to derangement requiring frequent repairs. The leading, and in reality the only object of using one bell for all the apartments is to save the room occupied by the bells when one is used for each apartment, for by the old mode of hanging bells, each bell is hung to a spring with levers, &c., which requires much room, particularly for large hotels.

The object of my improvements is to remedy the evils of the old plan, and the improvements heretofore made thereon, and to this end my invention consists first in arranging the bells in series of rows, and each series arranged and secured onto a rod with the convexity of one let into the concavity of the preceding, and arranging the series in

reversed order, that is, the open ends of one series to the right and those of the next to the left, and so on to any extent desired, whereby a greater number of bells can be arranged within a given space than by any other plan known to me. And the second part of my invention consists in substituting gravity in the apparatus for springs to restore the parts after the wires have been pulled, by having each wire connected with a separate lever which as the wire is pulled has one arm to act on an inclined or curved face of the hammer lever to strike the bell and the other arm to act on an inclined or curved face of another lever that liberates a slide on which the number of the room or any other desired sign is painted or engraved—all these levers being so formed and hung as to return to their original position by their weight the moment that the wire is liberated.

In the accompanying drawings (a) represents the frame of the apparatus that can be made in any other form or manner adapted to the purpose and to the location. To the rear face of this frame are secured the bells (b) which are arranged in the following manner: The bells are in the semispherical form well known as clocks' bells; they are arranged in series on parallel rods (c) secured to the frame by nuts or keys or in any other desired manner. The bells have each a hole in the center—they are slipped onto the rods with the mouths all in the same direction and secured by nuts (d) at each end and tubular metallic and leather washers (e, f) interposed so as to keep them at the required distances apart and yet not deaden the vibration. The upper row is put in place with the mouths of the bells in one direction, the next row with the mouths in the other direction, and so on to the last of the series. By this means not only can the rows be arranged nearer to one another by reason of the greatest diameter of the bells of one row lying into the space between those of the next row, but at the same time it admits of arranging the levers more advantageously than if they were arranged immediately one over another.

Just back of the bells are arranged the series of hammers (g) one series for each series of bells. The upper ends of the hammer levers are each fitted onto a short metal tube (h) that turns freely on a rod (i) secured at each end to the frame, a tubular

washer (*j*) being interposed between the tubes (*h*) so that the motion of one hammer may not be communicated to the others. The front part of the hammer levers, as at 5 (*k*), are made angular each presenting two opposite inclined planes, one running up and the other down, and these inclined faces are acted upon by the end of the horizontal arm of a series of levers (*l*) hung in the 10 same manner as the hammer levers so that when the levers (*l*) are drawn up they act on the lower inclined face of the hammer levers and force the hammer toward the bell, and so soon as the levers (*l*) have 15 passed by the angle formed by the junction of the two inclined faces the weight of the hammer causes them to fall back, and when the levers (*l*) fall back by their weight the ends act on the upper inclined face of the 20 hammer levers and again force the hammers toward the bells to give the second alarm.

The horizontal arm of the levers (*l*) should be made sufficiently heavy to insure their return the moment the wires are liberated. There is of course a series of levers 25 (*l*) for each series of bells.

There is another arm (*m*) on each of the levers (*l*) which is nearly vertical and then bears forward and slightly downward to 30 act on a projecting lip (*n*) of a pendent lever (*o*) which has a hook (*p*) in front on which is hung a corresponding hook (*q*) that projects from the back face of a plate (*r*) that is adapted to slide freely and ver- 35 tically in ways (*s, s*) on the back face of the front plate (*t*) of the apparatus in which there is a hole through which any number or figure on the slide can be seen when dropped down but not otherwise.

40 The upper face of the hook (*p*) on the lever (*o*) should be a curve of which the axis of motion of the said lever is the center that the sliding plate may not be moved by the working of the lever (*o*) until the 45 hook escapes and permits it to drop. There must of course be a series of hook levers (*o*) for each series of levers (*l*) and hung in the same manner and so weighted as to insure their return to the required position when 50 liberated. And in like manner there must be a series of sliding plates (*r*) for each series of hook levers and corresponding holes through the face plate or dial.

When the sliding plates are liberated 55 those of each series fall onto a rod (*t'*) which regulates the distance to which they are to fall that the number or other sign thereon may be opposite the appropriate hole in the face plate or dial; and there is 60 a rod (*t'*) for each series of sliding plates which rods are connected at each end by a connecting plate (*u*) and jointed to two

parallel levers (*v, v*), so that all the rods (*t'*) can be moved up and down together by a hand lever (*w*) and connecting rod 65 or wire (*x*), for the purposes of restoring the sliding plates after any of them have been dropped.

The wires (*y*) from all the rooms of a building or any other structure are carried 70 down vertically through holes in the top and attached one to each of the levers (*l*) so that when any one of the wires is pulled the lever (*l*) is drawn up which forces the corresponding hammer against its appro- 75 priate bell, and at the same time the curved arm (*m*) of the lever (*l*) acts upon the lip of the corresponding pendent lever (*o*) which disengages its hook from the hook of the sliding plate (*r*) which permits it to 80 drop that the number or other sign on the face thereof may be read through the appropriate hole in the face plate or dial, and so soon as the wire is liberated the lever (*l*) falls back by gravity which causes the ham- 85 mer again to strike the bell and at the same time permits the pendulous lever (*o*) to fall back in a position to catch and hook the sliding plate whenever the call has been answered and the servant by the hand lever 90 (*w*) lifts it back to its original place.

The number in each series and the number of series of bells and corresponding parts can be regulated according to the 95 wants of any establishment.

The form of the levers and the various parts can be varied at pleasure so long as the principle of action or mode of operation described is retained. It will be obvious from the foregoing that my invention 100 is applicable to various purposes analogous to indicating the numbers of rooms, such for instance as taking the yeas and nays, giving directions in any part of an establishment from an office, by substituting for 105 numbers signs and expressions; giving directions to the engineer on board steam vessels and other similar or analogous purposes too numerous to name.

What I claim as my invention and desire to secure by Letters Patent, is— 110

The arrangement and combination of levers operated by wires with the hammers and sliding plates by means of angular or curved faces, substantially as described, 115 whereby I am enabled to substitute gravity for the tension of springs in apparatus for ringing bells and indicating what is wanted or required to be done, as fully set forth.

E. J. MALLETT.

Witnesses:

A. P. BROWNE,
E. PETERS.