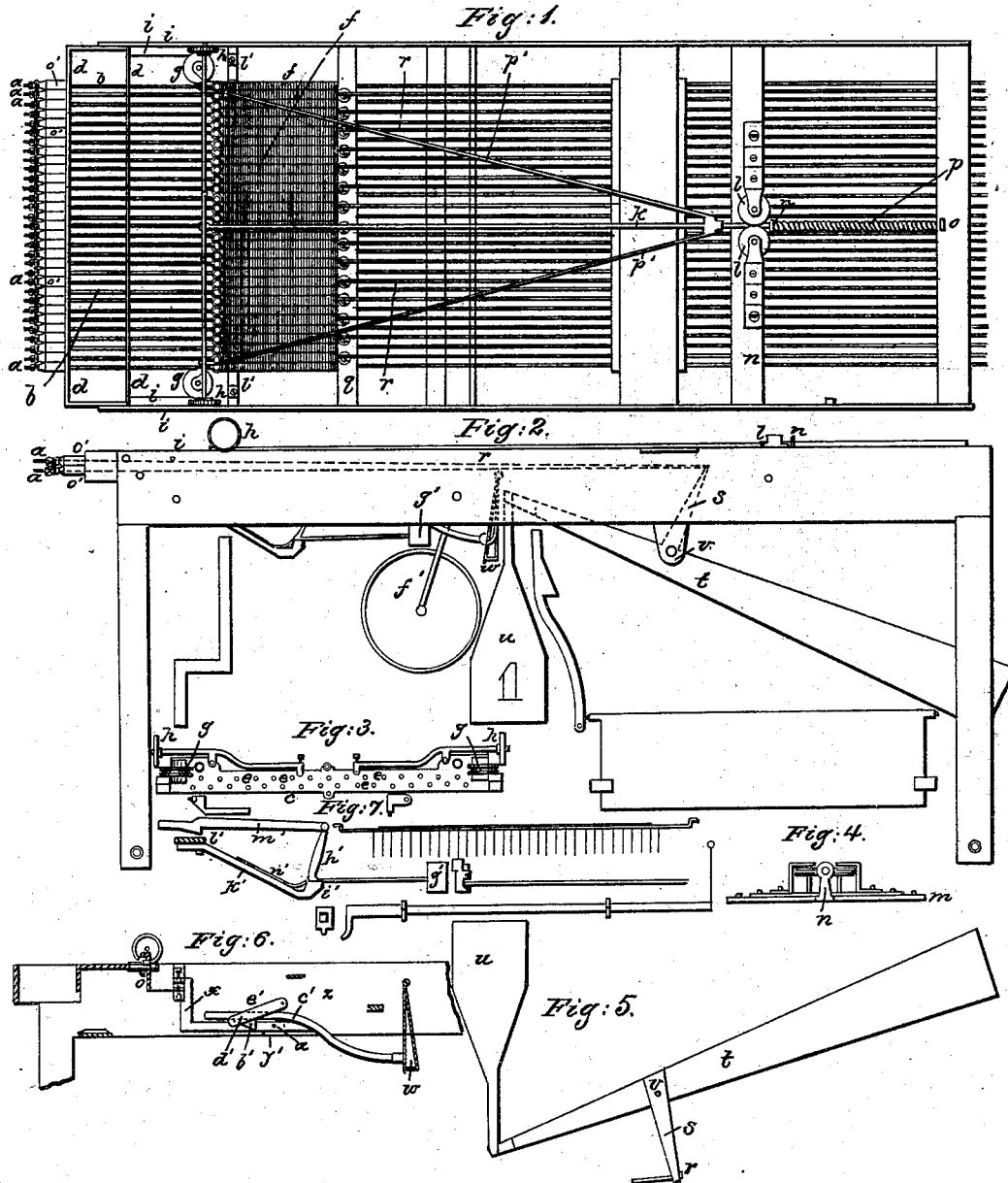


E. STETSON.
Hanging Bells.

No. 3,226.

Patented Aug. 17, 1843.



UNITED STATES PATENT OFFICE.

EDWARD STETSON, OF NEW BEDFORD, MASSACHUSETTS.

HANGING HOUSE-BELLS.

Specification of Letters Patent No. 3,226, dated August 17, 1843.

To all whom it may concern:

Be it known that I, EDWARD STETSON, of New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful improvements in hanging or arranging and operating bells for hotels or for such other purposes as the same may be applicable, and that the following description, taken in connection with the accompanying drawings, constitutes a full and exact specification of the same.

Figure 1, of the drawings above mentioned represents a top view of my apparatus. Fig. 2 is a side view thereof. Such other figures as may be necessary to correctly delineate the several operative parts will be hereinafter referred to and described.

The wires *a, a*, &c., leading from the several apartments of a building are to be attached to the ends of horizontal wires *b, b*, &c., supported at the said ends by two vertical plates *d, d*, Fig. 1, and at the opposite or inner ends by another vertical plate or carriage *c*, Figs. 1 and 3, the latter figure being a side elevation of the carriage. Each of these plates is perforated with a series of holes *e, e*, &c., through which the wires *a, a*, are passed and sustained in position, and through which the wires slide freely (or the carriage plate over the wires) whenever any one of the bell wires is pulled. The inner end of each of the wires *b, b*, terminates in an eye or hook by which it is connected to one end of one of a series of wound helical springs *f, f*, &c., the said eye at the same time forming a shoulder, which rests against the adjacent side of the carriage, so that whenever its wire is drawn back, in order to ring the bell, the carriage *c* will be carried back with or by it, and will slide over the remaining wires *b, b*. The carriage *c* is suitably sustained in position and during its movements by friction wheels *g', g', h, h*, which travel upon or against guide rails *i, i*, &c., and the said carriage has one end of a long horizontal rod *k* secured to its center, the said rod extending at right angles to the carriage being stayed to it by rods *p', p'*, and passing, in the vicinity of its (the rods) opposite end between two horizontal guide rollers *l, l*, see Figs. 1 and 4, (the latter of which figures denotes a side elevation of the guide rollers and their supporting cross plate or bar *m*) and thence through a short vertical and stationary standard *n*, and has a button

or shoulder *o* formed upon its extremity between which and the standard *n*, a helical spring *p* is wound around the rod and operates to retract the rod or carriage when drawn by one of the bell wires *a, a*. The opposite ends of the springs *f, f* are secured to a cross plate or bar *q*. One of a series of wires *r, r*, &c., passes through each of the springs *f, f* and is attached to the end thereof which is secured to the wire *b*. The other end of each of the wires *r*, is suitably jointed to the upper part of a vertical arm *s* (seen in Fig. 5 and in Fig. 2, by dotted lines) extending from the balance lever *t* of the number plate *u*. Each wire *r* has its balance lever and number plate *u*, the said balance lever being hung or supported on a fulcrum or transverse horizontal shaft or rod *v*, Fig. 2, and is so arranged that the long arm of it shall be heavier than the short one and the number plate combined. The tendency of the long arm then is to raise the short one and the number plate. The number plate *u*, formed as seen in the drawing and having the number of the room painted upon it, is hung upon the end of the balance lever *t*. A transverse pendulum or vibrating plate *w*, suspended on journals or pivots at its two upper corners, is placed directly in front of the series of levers *t*, as seen in Fig. 2. Each extremity of the vertical carriage plate *c* has an arm *x'* applied to its vertical side and extending horizontally a short distance, thence vertically downward and thence horizontally as seen in Fig. 6, (which figure is a view of the same as detached) the said arm resting on and moving over a pin *y'* inserted in or projecting from the inner side of the frame piece *z*, and having a small pin or projection *a'* extending from its inner side. When the arm is moved by one of the bell wires operating upon the carriage *c*, the pin *a'* will be brought into contact with a shoulder *b'* of a latch *c'* jointed to the lower part of the end of the vibrating plate *w*.

The part of the latch in front of the shoulder is inclined upward as seen in the drawing and rests upon a pin *d'* extending from the rear side of a support piece *e'*. Therefore the movement of the carriage continuing, it draws forward the latch and the lower part of the plate *w* until the inclined part or plane of the latch moving over the pin *d'* raises the latch or shoulder thereof above the pin *a'*, when the plate *w*

falls back, by its gravitating power, into a vertical position and over the end of the balance lever *t*, which has, at the same time, been depressed by the particular wire *a*, that
 5 may have been pulled; thus securing this end from rising upward and holding the number plate down until another bell wire *a* is pulled or until the plate *w* is again drawn forward or beyond the end of the balance
 10 lever; which being accomplished, the said end of the said balance lever will rise, and another balance lever, corresponding to the wire actuated, be depressed. This operation raises one of the number plates to the
 15 level of the series thereof, and depresses another (or that corresponding to the number of the apartment from which the bell is struck) below the said level.

The next portion of the mechanism is that
 20 by which the bell is struck whenever one of the numbers is depressed. The bell represented at *f'* is suitably supported in front of the number plates. A hammer *g'* is raised and suffered to fall upon the bell
 25 whenever the carriage *c* is actuated by one of the wires *a*, *a*. This hammer vibrates on a fulcrum at *i'* in the end of a stationary support *h'* extending downward from the central part of a transverse bar *l'*. An arm
 30 *h'* rises vertically or thereabout from the rear end of the hammer as seen in Fig. 7 (the same being a detailed view) and is jointed to a horizontal tripping latch *m'*, and which extends back from the arm as
 35 seen in the drawing. The tripping latch *m'* is drawn back by the carriage *c* (thereby raising the hammer *g'*) and set free at the proper time, by mechanism connected with it and the carriage, in every respect substantially similar to that which actuates the
 40 latch *c'*. When the hammer is raised its end, on which it turns, acts against a spring *n'* (Fig. 7) which throws the hammer downward with sufficient force upon the bell
 45 when the latch *m'* escapes from its pin. Each of the wires *b*, *b* should have a shoulder piece or head *o'* which should abut against the first transverse bar *d*, of the frame supporting the apparatus, the object
 50 of the said shoulder being to constitute a stop for the reaction of the spring *f*.

From the above it will be seen that when-

ever any one of the wires *a*, *a* leading to the several rooms of a hotel or other building is pulled the carriage *c* will be actuated by it
 55 and will slide over the wires, *b*, *b*, belonging to the remaining bell wires *a*, *a*, and depress the balance lever or number corresponding to the wire, and elevate the number, or number plate before depressed, and at the same
 60 time elevate and depress the hammer upon the bell, thus giving warning to an attendant by the sound of the bell, and by means of the depressed number plate, informing him from whence the bell was struck.
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Having thus explained my invention I shall claim—

1. The combination of a series of drawing wires *b*, *b*, &c., the carriage *c*, the series
 70 of helical springs *f*, *f*, &c., that of the connecting wires *r*, *r*, &c., and the balance levers, or other similar contrivances to which the number plate was hung, the whole being arranged and constructed substantially in
 75 the manner as set forth and for the purpose of depressing one or more of the number plates and retracting the carriage after the same.

2. Also, the combination with the balance levers of the vibrating plate *w*, arranged
 80 and actuated by the movable carriage and the mechanism connecting the two; the same being for the purpose of retaining the balance lever and number plate in their depressed position until another balance lever
 85 is operated, and then permitting the first lever to ascend while the other descends; all as described.

3. Also, the combination with the series of depressing balance levers, and number
 90 plates of a bell *f'*, whose hammer *g'* is actuated by the carriage or other suitable mechanism; the whole being substantially as described.

In testimony that the above is a correct
 95 specification of my said invention I have hereto set my signature this twenty ninth day of July of the year eighteen hundred and forty three.

EDWD. STETSON.

Witnesses:

R. H. EDDY,
 CALEB EDDY.