J. G. DAY.

Bell Telegraph.

2 Sheets—Sheet 1.

No. 5,969.

Patented Dec. 19, 1848.

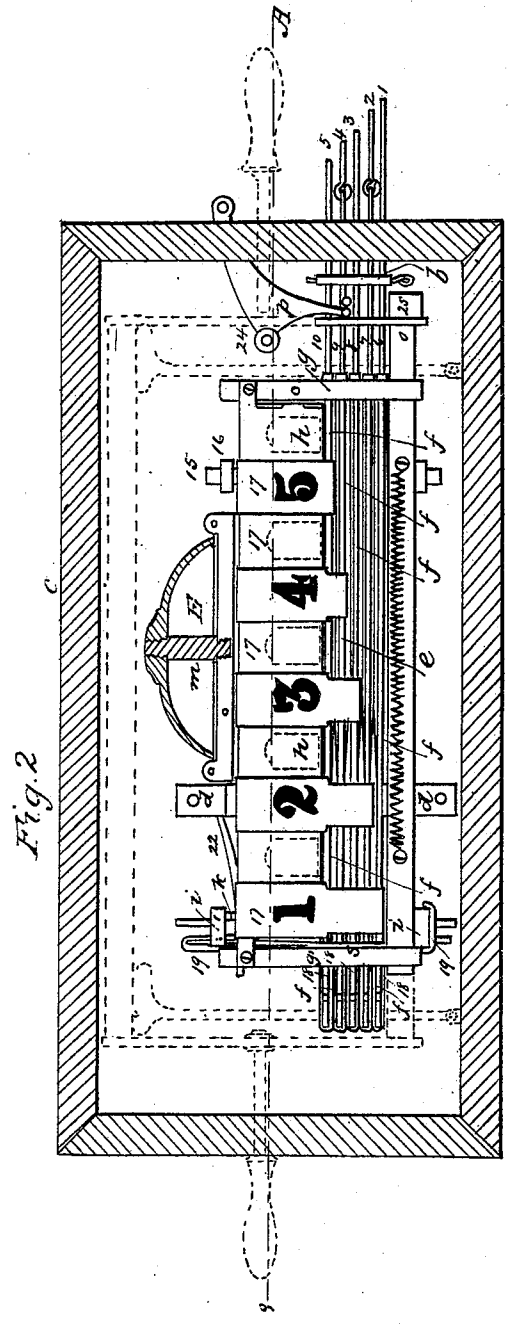


Fig. 2

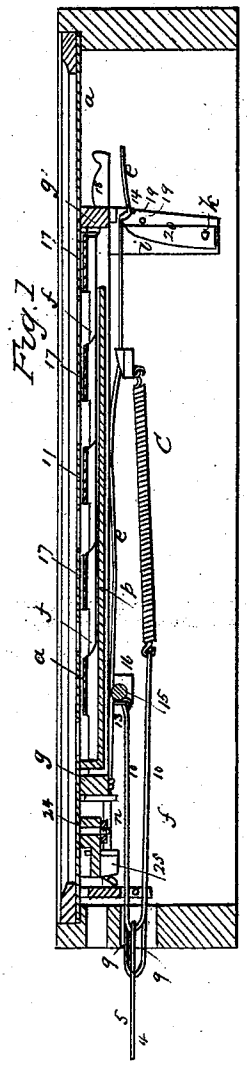
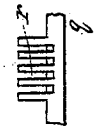


Fig. 7

Fig. 6



Figs

2 Sheets—Sheet 2.

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Fig. 4.

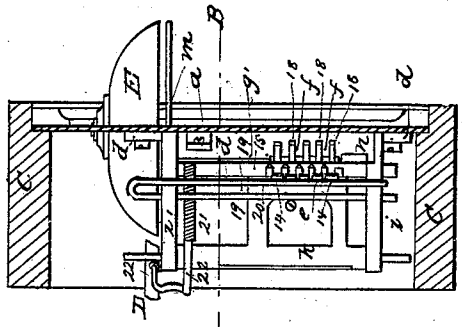
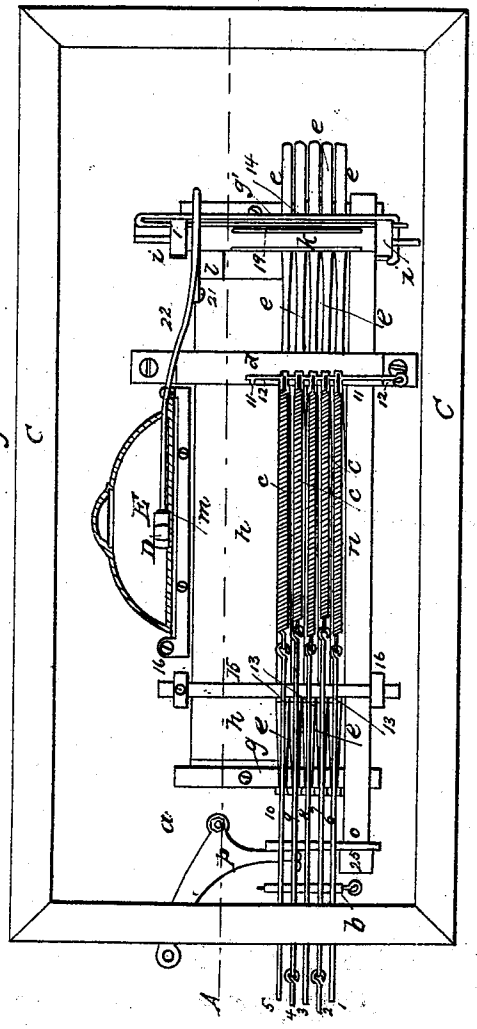


Fig. 3.



UNITED STATES PATENT OFFICE.

JACOB G. DAY, OF BROOKLYN, NEW YORK.

BELL-TELEGRAPH.

Specification of Letters Patent No. 5,969, dated December 19, 1848.

To all whom it may concern:

Be it known that I, JACOB G. DAY, of the city of Brooklyn, Kings county, State of New York, machinist, have invented and made and applied to use certain new and useful improvements in the application of common and well-known mechanical means for enabling several persons to communicate with each other when each of such persons is in a different part of a store or dwelling-house, hotel, factory, or other building, ship, or steam vessel, or in any other situation where quick and certain communication is desirable in a manner, by which separate signs or numbers at one point will indicate notices from a plurality of other positions and yet no subsequent notice will either interfere with a prior notice nor any prior notice interfere with a subsequent one and any notice not instantly attended to remains in place until attended to, which is believed by me to differ with all former mechanical contrivances for the same or similar objects, in the arrangement of the means employed and the results obtained, which improvements I designate collectively as "Days' Bell-Telegraph," and for which said improvements I seek Letters Patent of the United States, and that the said improvements and the ends obtained thereby are fully and substantially set forth and shown in the following description and in the drawing annexed to and making part of this specification of my said improvements, wherein—

Figure 1, is a plan of the interior parts, in place, as used by me, at and below the line A, B, of the Figs. 2, 3, and 4. Fig. 2, is a front elevation of the parts, with the cover plate removed, but the places for openings, for signs, words, or figures, shown by dotted lines. Fig. 3, is a back elevation of the parts, and Fig. 4, is an end elevation, as seen at the end B, of Figs. 2, and 3.

The same letters and numbers, as marks of reference apply to the like parts, in all the several figures.

In these C is the box, or inclosure of the machinery, *a*, is the front plate, seen in Figs. 1, 3, and 4, the places for numbers, or signs, to be seen, being merely shown dotted, in Fig. 2. 1, 2, 3, 4, 5, are wires from common bell cranks, not shown in the drawing, and taking the bights of the several two ended links 6, 7, 8, 9, 10, these slide in a guide piece *b*, and have one end of each, connected to this end of a contractile helical spring *c*, *c*; the opposite end of each of these springs *c*, is secured to a bracket ended bearer *d*, in the plate *a*, by a pin 12, in a rabbet 11, going through the loops of the spring, the other parts of the links 6, 7, 8, 9, 10, are looped to small studs or staples 13, on slide springs *e*, *e*, these move in guide notches, inside the bearer *d*, and are fitted with latch catches 14, at that end, and are kept in place, near the studs 13, by a keeper piece 15, going through studs 16, 16, on the plate *a*, which is necessary here, both to stop the slides in place, against the motions of the springs, and because the slides are made with a curvature in their length, to serve each as a spring, for a purpose hereafter stated.

The slides *f*, *f*, are fitted into two guide pieces *g*, g^1, and lie next the slides *e*, and have each a lip, turned up at one end, to take the flat ends of the slides *e*, and at the other end, are fitted with two notches, to fit on the guide piece g^1, with a half cam-formed projection 18, between the notches, this cam 18, underlies the latches 14, on the slides, and between the two ends, the slides *f*, carry the number, sign, or word plates 17, behind the front plate *a*, by upright arms, of a proper length between each slide and sign plate, the plate *h*, covers the sign plates as seen in Fig. 3; a small stop piece *s*, wedge formed at top see Figs. 1 and 2 takes the notches in the slides *f*.

The standards *i*, i^1, carry the rock shaft *k*, this has two or more arms, and connecting toe piece 20, overlying the slides *e*, and *f*, next the catches 14, and cams 18; an arm *l*, connects the contractile helical spring 21, to the rock-shaft, and the spring handle 22, carries the hammer D, to strike the bell E, mounted on a standard *m*; a cross piece 19, between the standards *i*, i^1, keeps the spring latches in place, on the bearer g^1, and also takes the recoil of the toe 20, to keep that in place, for the latches 14, to catch it, when moved as hereafter stated.

A counter slide *n*, is fitted into the lower parts of the bearers *g*, g^1, with a contractile helical spring 23 between it and the plate *a*, and has a vertical arm *o*, standing in contact with the lower arm of a bell crank *p*, set on a fulcrum 24, above, and a stop stud 25, limits the back movements of the slide *n*.

When thus completed, and in place for use, on pulling any one of the wires 1, 2, 3, 4, 5, the corresponding slides and springs will carry on the corresponding sign, or

number, and place it just within the corresponding opening, while the catch 14, on the moving spring slide *e*, is, by the curvature before referred to, kept up against, and carries the toe 20, with it, until the toe can slide back, over the latch, the recoil of the rock-shaft, caused by the arm *l*, and spring 21, throws the hammer D, forward, to strike the bell E, while the recoil of the spring *c*, replaces all the other parts, except the slide *f*, which remains stationary, with the number, or sign plate, opposite the proper opening, so that although a second, or more pulls, may be made at the same wire, or at any other of the same gang of wires, the same number, or numbers, will remain in place, no matter how often the bell may be struck, by the pulls of the same, or other wires; and this will continue, until the upper arm of the crank *p*, is pulled downward, to move the counter slide *n*, which will throw back the slide *f*, and place the lip, on its end, in contact with this end of the slide *e*, the curvature of which, acting as a pressing spring, forces the slide *f*, on to the stop piece *s*, next the cross bearer *g* g^1, so that the notch or that side of the cam 18, falls on, and remains in place, when all the warning, or sign movements, will be repeated, by the next pull at the same wire.

A variation in, the mode of fitting the cross bearers *g*, g^1, Figs. 1, 2, 3, may be advantageously made, as shown in the detached Figs. 5 and 6. In Fig. 5, these are shown as a comb formed standard, *q*, the bed, between each two teeth, made as shown sectionally in Fig. 6, as an inclined plane, or wedge *r*, the point of which takes the notches, on each side of the cams 18, on the slides *f*, and the lengths of the parts are so adjusted, that on the pull of the wire, to give the sign, the deepest part of the second notch slightly over rises the point of the wedge *r*, Figs. 5 and 6, or stop plate *s*, Figs. 1, and 2, and on the pull ceasing, the spring of the curvatures in the slide *e*, forces the slide *f*, downwards, giving that slide, and its numbers, or sign, a slight but perceptible back motion, to replace the deepest part of the notch, on the piece *s*, or wedge *r*, and if the same sign, or number, is pulled at again, the bell will be struck, as in any other case, but the given slide will go forward, and back again, with a slight snatching motion, enough to indicate the actual number struck for, although there may then be more than one of the signs, words, or numbers, visible at the same time.

The bell E, is shown as over a sound board, or plate, but any other competent instrument of sound, may be employed, in any convenient manner, as it is not intended to claim any instrument, from which to produce a sound, by a blow, but only, as hereafter stated, the means of striking the blow, coöperatively with the means of indicating, at the same instant, the corresponding sign, or word, requiring attention.

If desired, the bell E, may be placed vertically, instead of horizontally, and the counter slide *n*, may be made as a frame, having a handle at each end, as shown by dotted lines, in Fig. 2, and these variations may be useful in a large machine; and by increasing the size of the inclosure, and the size of the plate *a*, and multiplying the number of the parts employed, the numbers, signs, or words, to be indicated by them, may be increased, to any convenient extent, without any departure from the general arrangement described and shown, whether the pull at the wires be given horizontally from either end, or vertically from above, or below the machinery.

I do not claim to have invented any of the parts herein described, as employed by me, for these purposes; but

I do claim as new, and of my own invention, and desire to secure by Letters Patent of the United States,

The parts and their arrangement as described by which the spring slides *e*, and their latches 14, coöperate with the slides *f*, and cams 18, move the words, signs, or numbers 17, into place, to be seen as required, and strike the bell E, through their operation on the rock shaft *k*, and toe 20, and also allow any subsequent blow on the bell, to be given by the same, or any other slides, while the previous sign, word, or number, remains in place to be seen, and to indicate that fact, by the intermittent, or snatching motion, caused by the limited movement of the notch next the cam 18, on the pieces *s*, or wedge *r*, including the means shown of returning the signs into the spaces between their proper openings, by the counter slide, or frame *n*.

In witness whereof I have hereunto set my signature this thirteenth day of April in the year one thousand eight hundred and forty-eight.

JACOB G. DAY.

Witnesses:
W. SERRELL,
LEMUEL W. SERRELL.