

B. G. SHALET.

BELL.

APPLICATION FILED AUG. 23, 1912.

1,057,012.

Patented Mar. 25, 1913.

Fig. 1.

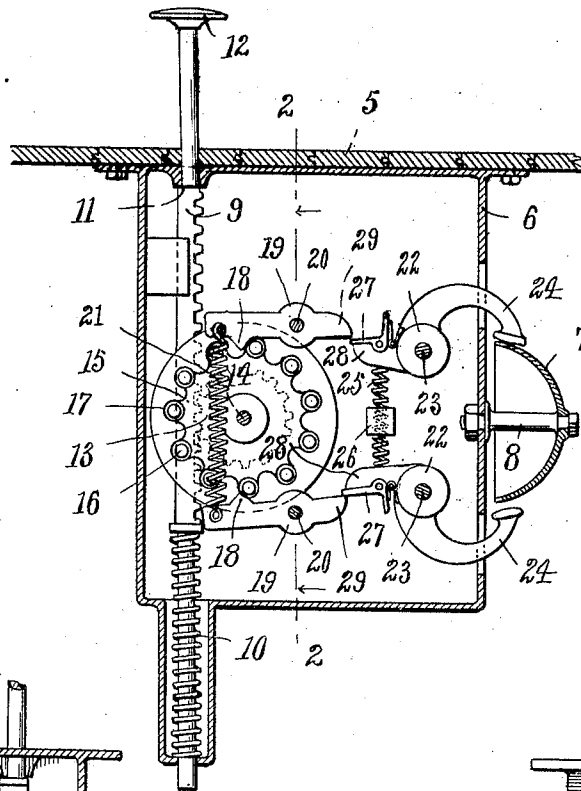
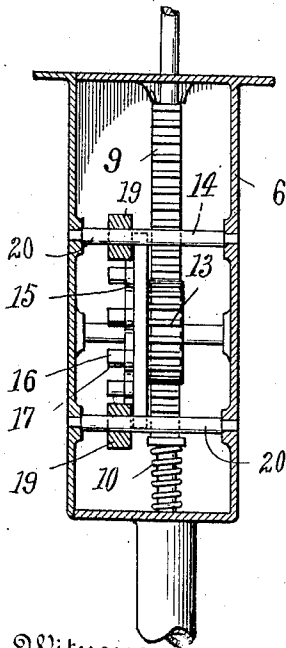


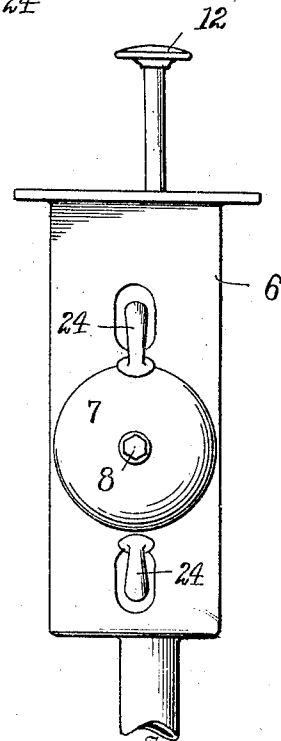
Fig. 2.



Witnesses

Natalie Newman
Dora L. Morehouse

Fig. 3.



Inventor

Bengamin G. Shalet

By Chamberlain & Newman
Attorneys

UNITED STATES PATENT OFFICE.

BENJAMIN G. SHALET, OF BRIDGEPORT, CONNECTICUT.

BELL.

1,057,012.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed August 23, 1912. Serial No. 716,638.

To all whom it may concern:

Be it known that I, BENJAMIN G. SHALET, a citizen of the United States, and resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Bells, of which the following is a specification.

My invention relates to new and useful improvements in alarm bells for use upon electric street cars or other similar vehicles where it is desired to give one or more warning signals, singly or successively, as preferred.

The objects of the invention are to produce an improved form of bell, including two hammers designed to strike singly or alternately to give one or more signals as required; to employ a spring actuated rack, gear, and bell-crank lever construction for operating the gong so as to effect a sharp, clear and distinct sound; to design a bell whereby a series of sounds may be obtained either in slow or rapid succession as the emergency requires, by a single movement of the push rod, which is designed so as to be operated either by hand or foot-power.

The invention further resides and consists in the construction and novel combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the scope, proportion, size and minor details of construction within the scope of the claims may be resorted to without departure from the spirit or sacrificing any of the advantages of the invention.

Similar characters of reference denote like or corresponding parts throughout the several figures of the accompanying drawings forming a part of this specification and upon which,

Figure 1 shows a central vertical sectional elevation of my improved bell. Fig. 2, is a vertical cross section of same taken on line 2—2 of Fig. 1; and Fig. 3 is an edge view of my bell as seen from right of Fig. 1.

Referring in detail to the character of reference marked upon the drawings, 5 represents the floor of a car or other device to which the bell is shown attached, 6 is a casing inclosing the operating mechanism of bell, 7 represents the bell or gong proper,

which is supported on a post 8, and secured to the outside of the casing 6.

9 is a straight vertically operatable rack, mounted in the casing and supported upon a spring 10 that tends to hold the shoulder 11 of the rack up against the top of the casing. The stem and head 12 of the rack extends up through the casing and floor in position to be pressed down against the action of the spring by the hand or foot of an operator, to ring the bell.

The teeth of the vertically disposed rack 9 engage a pinion 13 that is loosely mounted upon a shaft 14, secured to the sides of the casing 6. A disk 15 having a toothed peripheral edge is secured to the side of the pinion 13. A series of pins 16 are secured to the side of the disk, one pin in line with each of the teeth, and upon each of said pins is mounted a roll 17 which together with the before mentioned teeth are designed to engage the lugs 18, upon the intermediate levers 19 pivotally mounted upon pins 20, secured to the casing. There are an uneven number of these pins and teeth and the lugs of the levers are so located with relation to the rolls as to throw the free end of one lever out, while the other is in, causing them to operate alternately and effect successive strokes of the two hammers on the bell. A spring 21 attached to pins, secured to the long end of the levers 19, serve to draw the same together and to hold the lugs in engagement with the disk and rolls.

A pair of bell-crank levers 32 are loosely mounted upon pins 23 in a way to operate the levers 19 before mentioned, so that they in turn will operate the bell-crank levers to strike the gong 7, mounted upon the outside of the casing. The free ends 24 serve as hammers to strike the said gong when released by the lever 19, through the action of a spring 25, secured to a post 26. A spring actuated pawl 27 is pivotally connected to the outer end of each of the short arms 28 of the bell-crank levers, for engagement by the short end 29 of the before mentioned levers 19, and in a way to permit a free movement of the said short ends 29 past the short arms 28, so that parts may return to their normal position. With the rotation of the disk the long end of the levers 19 are forced out by the teeth or pins of the disk and the short arms 30 and ends

29 of the two levers 19 and 22 are in turn thrown in against the action of the spring 25, until the short end of the lever 19 slips off of the spring-actuated pawl 27 to allow the spring 25 to act, and throw the hammer of the bell-crank lever to strike the gong. Immediately upon passing over the pins of the disk, the lugs of the levers drop into the pockets of the teeth and thus cause the short end of this lever to move out past the free end of the pawl 27, which is thrown back at an angle and snaps down again upon the lever (see Fig. 1), thus permitting the free return of said short ends 29 of the lever 19, and the positioning of them in readiness for a further operation.

From the foregoing construction it will be seen that alternate operations of the hammers upon the bell are effected and are designed to strike one or a dozen times according to the amount of the downward and upward movement of the rack 9. Said rack may be shoved down against the action of its spring by either hand or foot power, and if moved but a short distance would cause only one of the hammers to strike, whereas a further movement would cause both to strike once or more times, with both the downward and upward movement of the operating rack. In the above device, I have produced a bell which is particularly well adapted for use upon electrical cars, and which may be used for signaling the conductor, and wherein any certain number of rings would be understood to designate certain recognized signals.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. In a bell of the class described, the combination of a casing, a spring actuated rack mounted therein, a gear in engagement with

the rack, a toothed disk operated by the gear and carrying a series of pins, a pair of levers pivoted to the casing and engaging the teeth and pins of the disk, a spring connecting the said levers, a pair of spring actuated bell crank levers pivotally arranged to be operated by the before mentioned levers and each having one arm to form a striking hammer, a bell arranged between the said arms to be struck by said hammers, and springs to normally hold the last mentioned levers in engagement with the first named levers and into contact with the bell.

2. In a bell of the class described, the combination of a casing, a spring actuated rack mounted therein, a gear in engagement with the rack, a toothed disk operated by the gear and carrying a series of pins, a pair of levers pivoted to the casing and engaging the teeth and pins of the disk, a spring connecting the said levers, a pair of spring actuated bell crank levers pivotally arranged to be operated by the before mentioned levers and each having one arm to form a striking hammer, a bell arranged between the said arms to be struck by said hammers, and springs to normally hold the last named levers in engagement with the first mentioned levers and into contact with the bell, spring actuated pawls mounted on the bell crank levers and engaged by the actuating levers and so arranged to allow the actuating lever to move past the bell crank lever in one direction.

Signed at Bridgeport in the county of Fairfield and State of Connecticut this 21st day of August A. D., 1912.

BENJAMIN G. SHALET.

Witnesses:

C. M. NEWMAN,
MINNIE ROBBINS.