(No Model.)

C. W. STORM & W. F. HUNTER.

BELL.

No. 574,830. Patented Jan. 5, 1897.

Fig. 1.

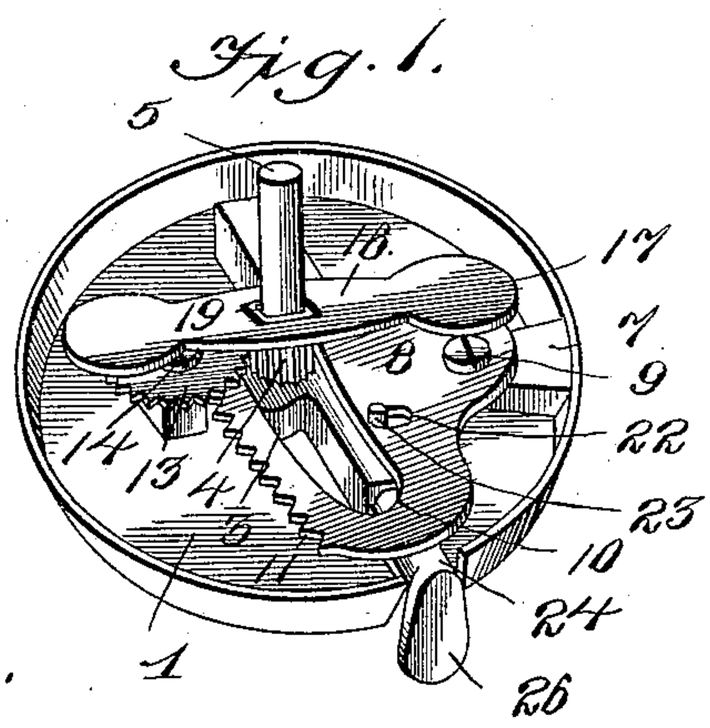


Fig. 3.

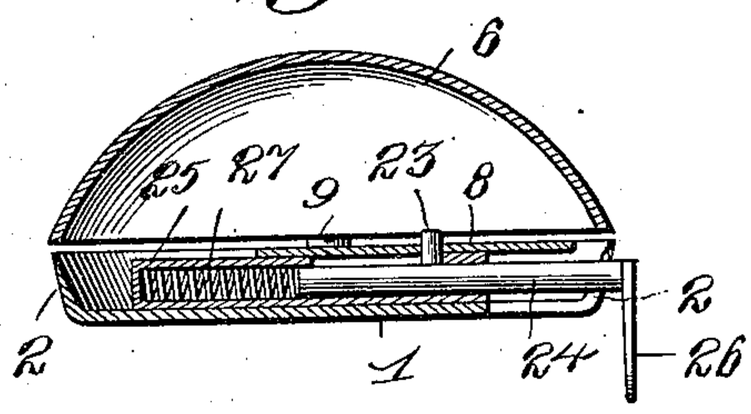


Fig. 4.

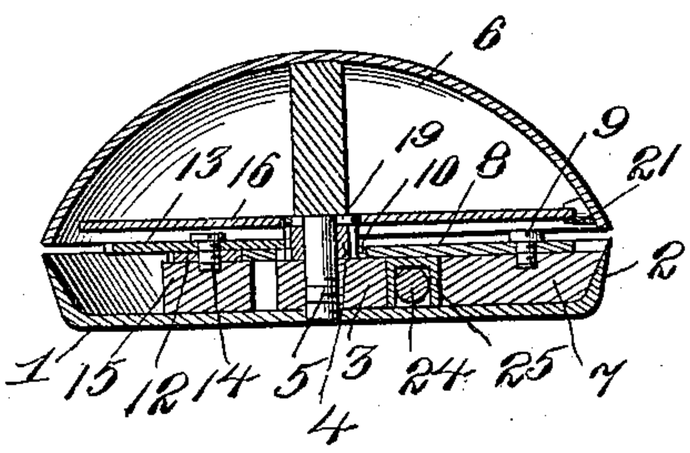


Fig. 5.

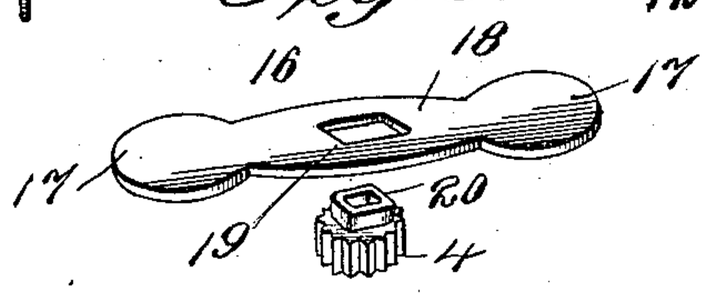
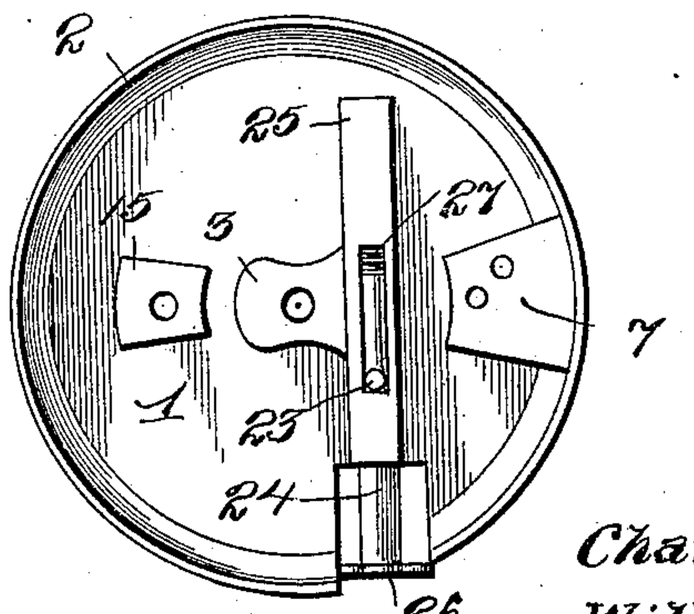


Fig. 2



Witnesses
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By their Attorneys,

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UNITED STATES PATENT OFFICE.

CHARLES WM. STORM AND WILLIAM F. HUNTER, OF ELGIN, ILLINOIS.

BELL.

SPECIFICATION forming part of Letters Patent No. 574,830, dated January 5, 1897.

Application filed February 20, 1896. Serial No. 580,031. (No model.)

To all whom it may concern:

Be it known that we, CHARLES WM. STORM and WILLIAM F. HUNTER, citizens of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented a new and useful Door, Call, or Bicycle Bell, of which the following is a specification.

This invention relates to an improvement in alarm-bells for bicycles, doors, &c.; and the object in view is to simplify and improve the construction shown and described in a former patent granted to us April 30, 1895, No. 538,607.

The present invention contemplates the use, in connection with a suitable propelling mechanism actuated by means of a push-button, as in the said former patent, of a rotary centrifugal hammer, the same being adapted to coöperate with an internal lug on the bell for rapidly sounding the alarm.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claims hereto appended.

In the accompanying drawings, Figure 1 is a perspective view of the improved alarm-bell with the bell proper removed to show the striking mechanism. Fig. 2 is a plan view of the bottom plate of the bell, the several gears being removed. Fig. 3 is a vertical section through the bell, taken in line with the push-rod. Fig. 4 is a similar view taken substantially at right angles to Fig. 3. Fig. 5 is a detail perspective view of the centrifugal hammer and the central pinion upon which said hammer is mounted to slide.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates the supporting-base of the bell, the same being disk-shaped, as indicated, and formed preferably with a surrounding annular flange 2, extending upwardly therefrom. This base is formed with a central lug 3, forming an elevated seat, upon which is mounted to revolve the central actuating-pinion 4. The said lug is also provided with a perforation or socket centrally located on the base 1 and internally threaded to receive the threaded center post 5, which is preferably formed integrally with or rigidly secured to the bell proper, (indicated at 6.) The pinion 4 rotates on this center post 5.

Adjacent to the annular flange 2 and attached rigidly to the base or formed integrally therewith, if desired, is a lug 7, forming an elevated seat, upon which is mounted a segmental gear 8, the fulcrum 9 of said gear screwing into a socket in said lug, as shown.

The segmental gear 8 extends across the central lug 3 and is formed with a segmental slot 10, which receives the central pinion 4 and permits the said segmental gear to oscillate without in any way interfering with the rotation of said pinion. The said segmental gear is formed at its peripheral edge with a segmental series of teeth 11, which intermesh with the teeth of a pinion 12, rigidly connected to or formed integrally with a larger gear 13, rotating upon a post 14, screwed into a lug 15, rigid with the base 1 of the bell. The lugs 3, 7, and 15 all have their upper faces arranged in the same horizontal plane, thus forming an even bearing-surface for the segmental gear 8. When the segmental gear is oscillated, it imparts motion to the pinion 12, which turns the gear 13, and this, by reason of its intermeshing with the central pinion 4, imparts a rapid motion to the latter.

16 designates a double centrifugal hammer or striker, the same comprising the rounded striking end portions 17 and the connecting web or bar portion 18, the latter being formed with a central longitudinal slot 19, which receives the upwardly-projecting hub portion 20 of the central actuating-pinion 4, the said hub portion being formed with opposite flat sides which engage the centrifugal hammer, thus rotating the said hammer with a speed equal to that of the pinion. The bell 6 has an internal lug or stud 21 cast thereon, the said lug extending inwardly, so as to lie within the path of the rounded ends of the centrifugal hammer when the latter is rotated. As one end of the hammer strikes against the lug and sounds the alarm the said hammer at the same time, by reason of the central longitudinal slot therein, slides upon the central pinion 4 and moves away from the said lug. Upon a further rotation of the hammer the opposite end thereof comes in contact with the lug and again sounds the alarm. In this

manner the alarm is sounded very rapidly and as long as the segmental gear is oscillated.

The segmental gear 8 is also formed with a radially-disposed slot 22, which receives a pin or stud 23, projecting laterally from a push-rod 24, mounted in a hollow rib or sleeve 25, connected rigidly to the base 1 of the bell. This push-rod is provided at its outer extremity with a push-button 26, by means of which it may be thrust inward, and between the inner end of said push-rod and the inner end of the bore in said hollow rib or sleeve is located an expansive spring 27, which exerts its tension to thrust the push-rod outward and hold the same normally projected.

By manipulating the push-button the segmental gear may be oscillated as frequently as desired and the centrifugal hammer rapidly rotated and caused to impinge against the bell and sound the alarm.

The alarm-bell above described is extremely simple in construction. There are no small and delicate parts to become broken or get out of order, thus rendering the bell durable, and the device will be found very reliable and satisfactory in practice.

It will be apparent that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What we claim is—

1. In an alarm-bell, a reciprocating spring-actuated push-rod having a lateral stud and mounted on the base of the bell, in combination with a segmental gear fulcrumed at one side of said push-rod and having an oblong slot with which the stud on the push-rod engages, the center post, the central pinion journaled thereon, the centrifugal hammer slidingly mounted on said pinion and rotating therewith, the stud on the bell for actuating said hammer, and suitable gearing between the central pinion and the segmental gear, all arranged for joint operation substantially as described.

2. In an alarm-bell, the combination with a rigid base, of a central actuating-pinion, a segmental gear pivotally mounted on said base and formed with a segmental slot whereby it is adapted to embrace the central pinion and oscillate with relation thereto, and also provided with a radially-disposed slot, a spring-actuated push-rod having a laterally-projecting pin engaging said radial slot for oscillating the segmental gear, a pinion meshing with the segmental gear, a gear-wheel rotatable with said pinion and meshing with the central actuating-pinion, the bell having the center post thereon and passing through the central pinion, the said bell being also provided with an inwardly-projecting stud, and a centrifugal hammer formed with a central longitudinal slot embracing the hub portion of the central pinion, the said hammer being mounted to rotate with said pinion and being adapted to slide longitudinally upon the hub of said pinion, substantially as and for the purpose described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

CHARLES WM. STORM.
WILLIAM F. HUNTER.

Witnesses:
GEO. H. MCDONALD,
J. H. WILLIAMS.