

(No Model.)

C. A. TREADWELL.
BELL.

No. 574,643.

Patented Jan. 5, 1897.

Fig. I.

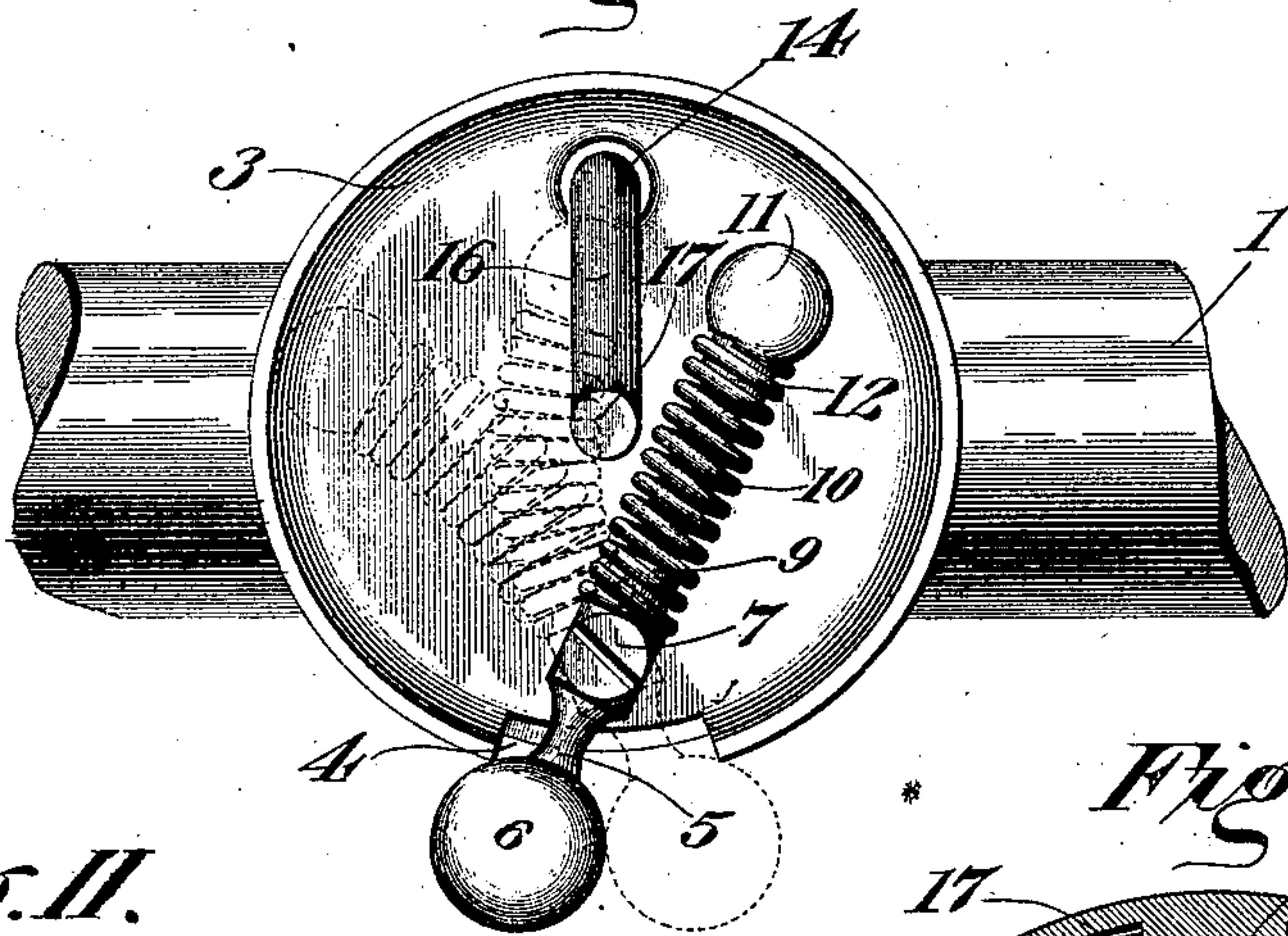


Fig. II.

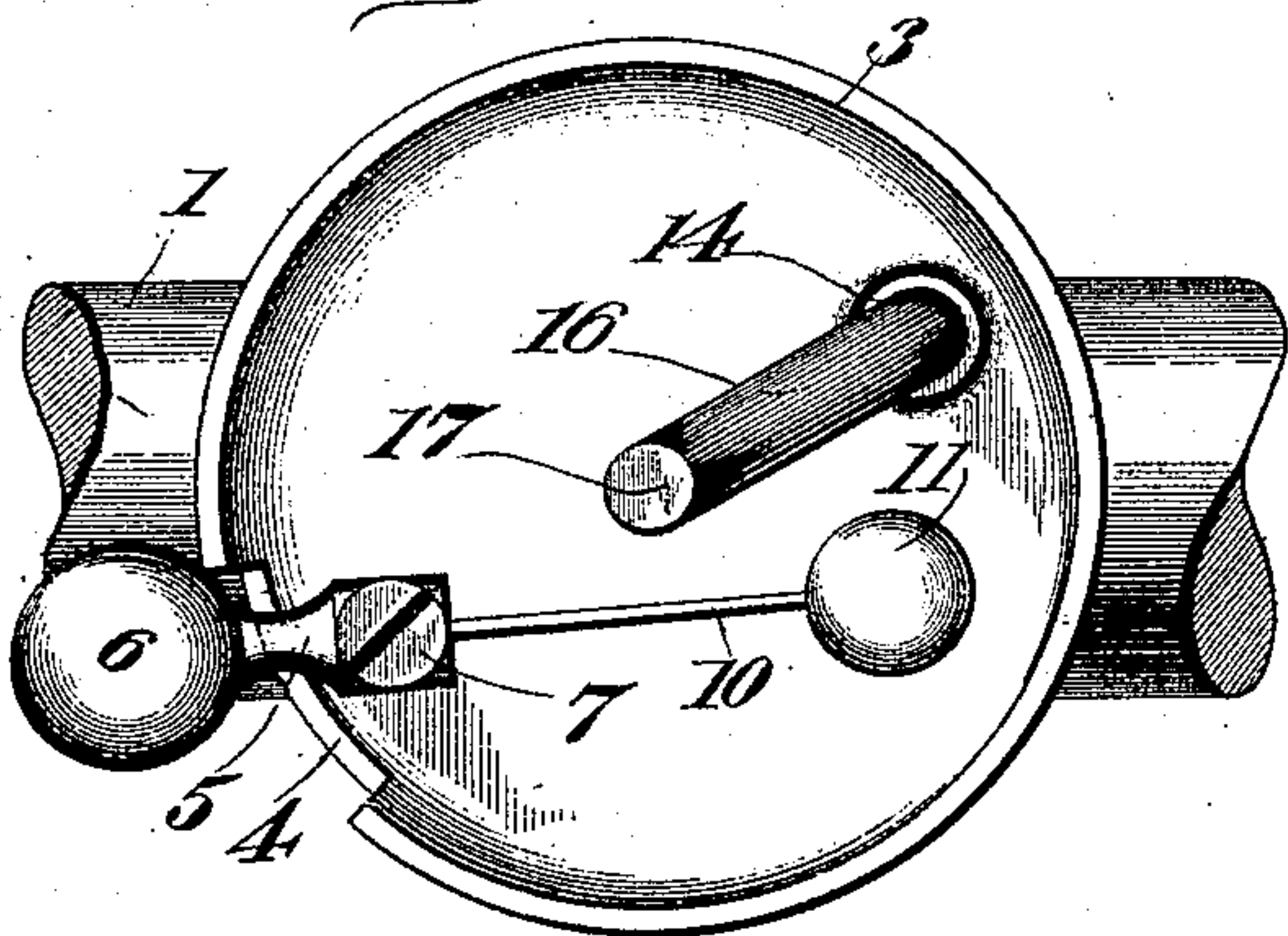


Fig. IV.

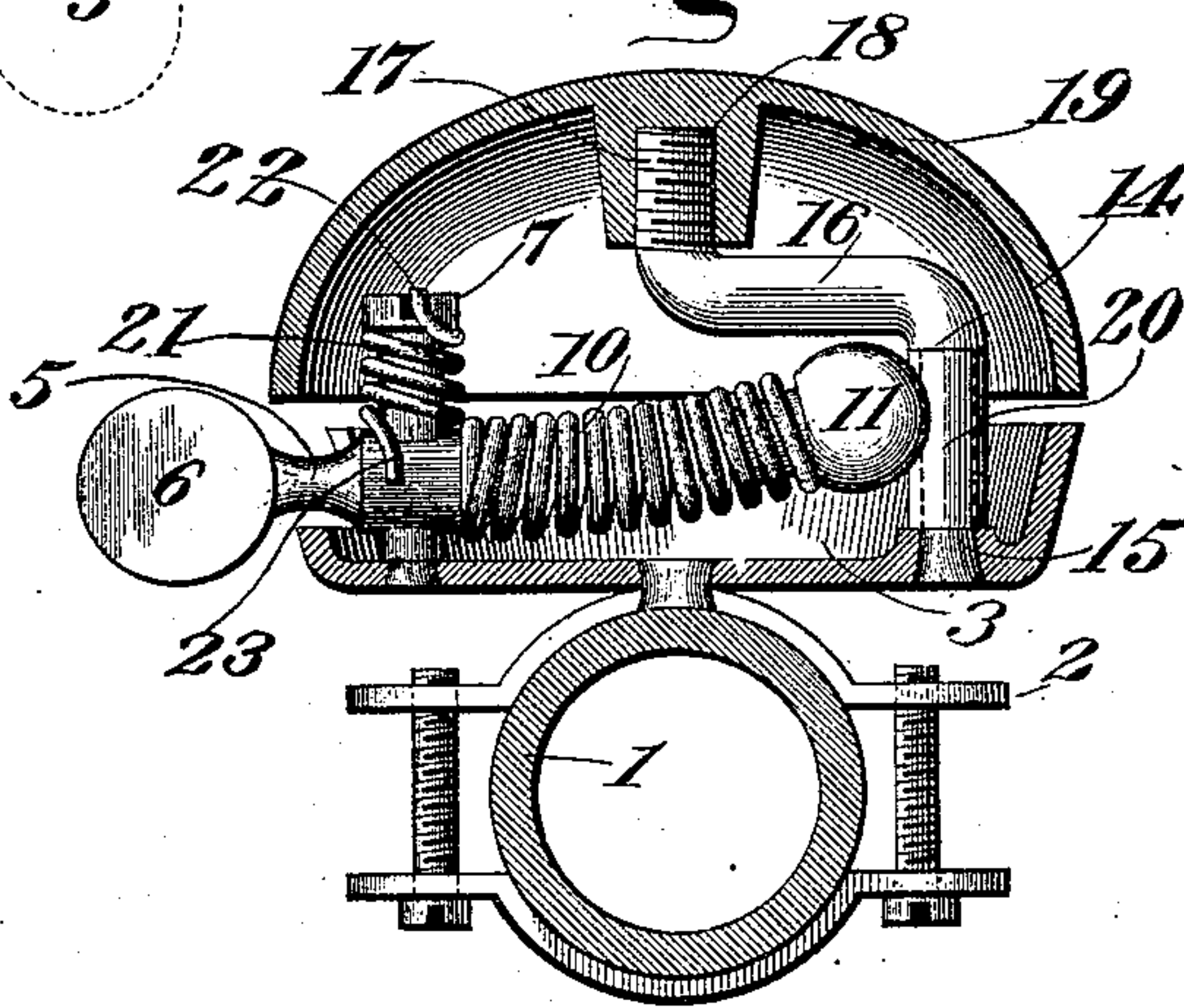
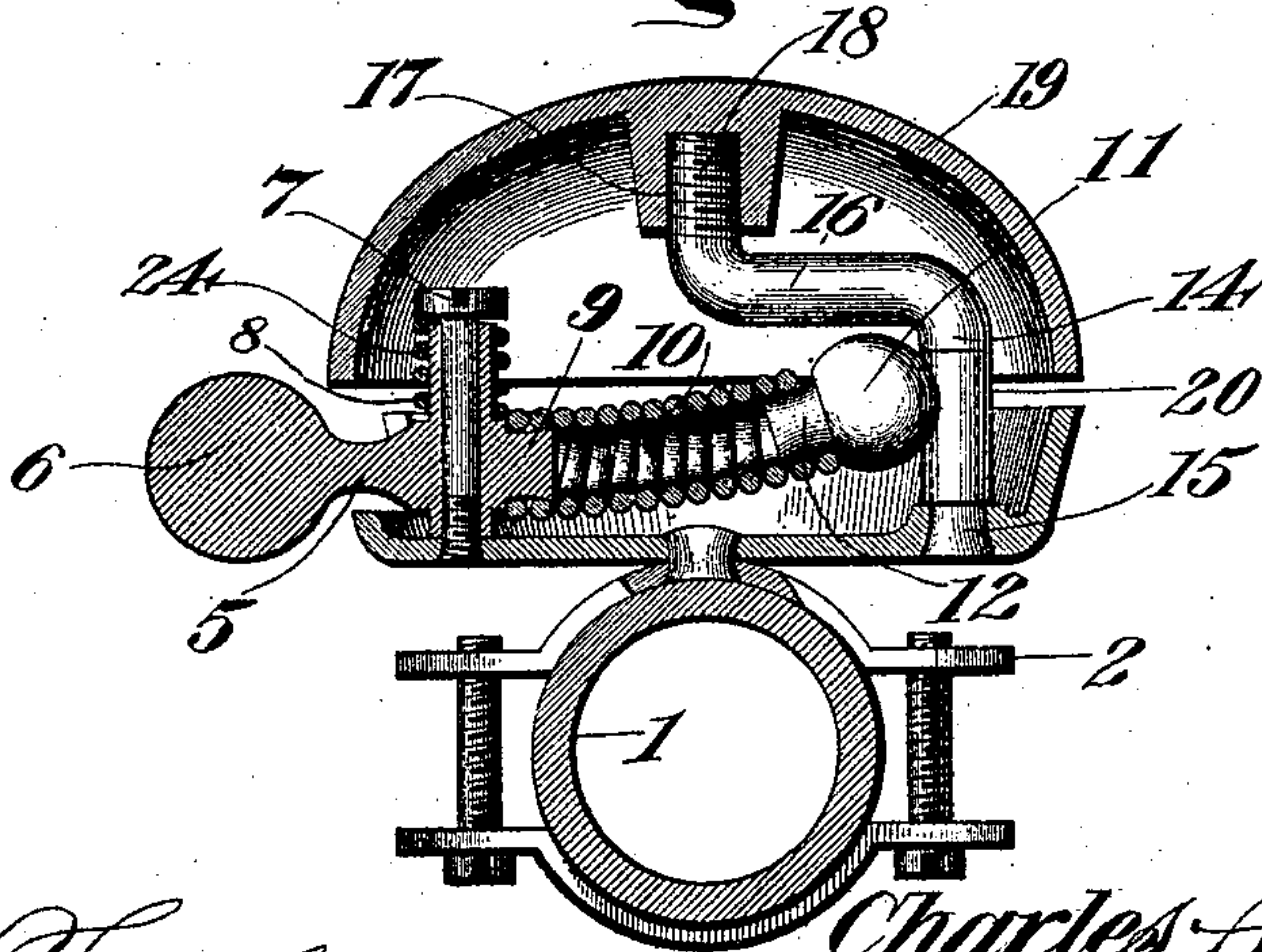


Fig. III.



Witnesses

M. C. Fowler.
S. Macker.

Inventor

Charles A. Treadwell
By Joseph L. Atkins
Attorney

UNITED STATES PATENT OFFICE.

CHARLES A. TREDWELL, OF BRISTOL, CONNECTICUT, ASSIGNOR TO THE
P. & F. CORBIN, OF NEW BRITAIN, CONNECTICUT.

BELL.

SPECIFICATION forming part of Letters Patent No. 574,643, dated January 5, 1897.

Application filed December 30, 1895. Serial No. 573,741. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. TREDWELL, of Bristol, county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Bells, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to the class of bells especially adapted for use upon bicycles, although the applicability of my invention is not limited exclusively to that class.

The object of my invention is to produce a cheap and durable bell and one which, on account of the simplicity of its construction, is least liable to get out of order in use, and which at the same time will emit, when sounded, a clear pure tone.

In the accompanying drawings, Figure I is a top plan view of that which I call my "single-stroke" bell with the gong removed, showing in the first position in full lines the striker at rest, in the second position in dotted lines the striker engaging the detaining-post, and also in dotted lines in the third position showing the striker making its stroke after being released from the detaining-post. Fig. II is a similar view showing a modified form of striker-carrier. Fig. III is a central vertical section of Fig. I, taken through the pivotal stud of the striking mechanism, and the retaining and gong-sustaining stud. Fig. IV is a view similar to Fig. III, showing my bell as a double-stroke bell, in which the striking mechanism when actuated in one direction to produce one stroke is automatically actuated in the other direction to produce a second stroke.

Referring to the figures on the drawings, 1 indicates an ordinary handle-bar of a bicycle, shown as an example of a support for my bell.

2 indicates clamping mechanism (shown in Figs. III and IV) which affords means of securing the bell to the handle-bar. It should be understood that the handle-bar and clamp are shown by way of example solely.

3 indicates a frame or base of my bell. It may be made of any suitable, ordinary, or desirable construction—for example, of the cup or dish shape shown in the drawings, in which form it is preferably provided with an aperture 4 in one side, in which works the

neck 5 of the striker-actuating lever, whose head 6 projects outside of the periphery of the frame and affords means for actuating the lever upon its pivot 7, which secures it movably to the frame 3. The pivot 7 may be a headed screw or rivet secured at its bottom to the base or frame 3 and passing through a sleeve 8, with which the lever is preferably provided, it being perfectly integral therewith and affording a broad bearing for the lever.

The head 6 may be a knurled ball, as shown in Figs. I to III, inclusive, or a flat piece, as shown in Fig. IV.

The actuating-lever on the side of the pin 7 opposite the neck 5 may be provided with a stud 9, that is designed to securely carry a flexible resilient striker-carrier. This striker-carrier preferably consists of a suitable piece of spring metal, the size, form, and arrangement of which may be widely diversified. It may be a flat spring, as shown in Fig. II, but I now conceive the preferable form to be a spiral spring made of coiled spring-metal wire 10. I deem this form of spring to be preferable because it is durable, noiseless, and highly elastic, the coils of the spring operating one against the other, so as to close up on one side and open on the other, as shown in Fig. I, when the spring is bent for sounding the bell.

To the end of the striker-carrier opposite the stud 9 is secured a striker 11, the form of which may be modified in any wise, but which may be made spherical, as illustrated in the drawings, and provided with a stud 12, by which it may be secured to the spiral spring, when that form of spring is employed, in the same manner in which the stud 9 is secured to the spring. If with the striker secured by a flexible resilient connection to an actuating-lever, as in the manner above described, the lever is caused to move from one side to the other of the aperture 4, the striker will sweep freely across the base plate or frame 3. If, however, an obstructive element be placed across its path, the striker will, in moving across the plate, engage with the obstructive element until the spring 10, yielding, releases it, as shown in Fig. I in full lines. When released, the force of the spring imparts a mo-

mentum to the striker, which will cause it to sweep with a quick motion from the obstruction toward the side of the frame, and, in practice, to impart to the gong, which overhangs the plate 3 and is concentric therewith, a quick sharp blow. As soon as it strikes the blow the striker retreats from the wall of the gong under the reaction caused by the stroke, assisted by the resiliency of the striker-carrier, which, as illustrated, is the spring 10.

A convenient form of obstruction in this class of bells may be afforded by a post 14, secured, as indicated at 15, to the base, and which being bent, as indicated at 16 and 17, and screw-threaded upon its extremity, as indicated at 18, affords a support for the gong 19.

In addition to the simple striker and detaining-post 14 any suitable antifriction device may be employed, for example, an antifriction-roller 20, carried on the post 14, to receive the face of the striker.

As above suggested in Figs. I, II, and III, a single-stroke form of bell is shown, by which is meant that the striker must be actuated positively by the thumb of an operator across the post 14 to produce each stroke imparted to the gong.

In Fig. IV a double-stroke bell is shown, which may be in all respects the same as the form shown in the other figures, except that an actuating-spring 21 is provided around the pin 7, secured at one end, as indicated at 22, to the pin, and at the other end, as indicated at 23, to the actuating-lever. If with this arrangement the head of the lever 6 is turned in opposition to the force of the spring, it will, in the manner above described, in passing the post 14, produce a stroke upon the gong. Likewise, when released, the power of the spring 21 exerts itself to carry the striker 11 backward in the opposite direction across the post 14, and thereby produces a second stroke. In this manner a double stroke is produced, one being directly imparted by the thumb of the operator and the other by the release of the lever through the force of the spring 21.

In Fig. III a spring 24 is shown, which, however, is not secured to the pin 7 or to the actuating-lever, but is merely a spring-washer designed to prevent rattling of the parts, and which may or may not be employed, as preferred.

What I claim is—

1. In a bell, the combination with a frame and gong, of a yielding vibratory striker-carrier, pivotally mounted on the frame, a striker, and a fixed obstructive element in the path of the striker, which impedes the pivotal movement of the striker and striker-carrier, until sufficient pressure is brought to bear upon the latter to cause it in yielding to slip by the obstructive element and strike the side of the gong, substantially as specified.

2. In a bell, the combination with a frame and gong, of a yielding vibratory striker-carrier pivoted to the frame, a striker, a fixed obstructive element in the path of the striker adapted to impede the movement of the latter until sufficient force is exerted to cause it to slip by and strike the gong, and an antifriction device arranged to cooperate between the striker and the obstructive element, substantially as set forth.

3. In a bell, the combination with a frame and gong, of a yielding vibratory resilient striker-carrier pivoted to the frame, a striker, and a post secured eccentrically to the frame, and obstructing the movement of the striker until sufficient force is exerted upon it to cause it to slip by and strike the gong, said post being bent to carry the gong concentrically with the frame, substantially as specified.

4. In a bell, the combination with a frame and gong, of an actuating-lever pivoted to the frame, a yielding spring secured to the lever, a striker secured to the spring, and an obstructive element located in the path of the striker and adapted to impede its pivotal movement until sufficient force is exerted upon it to cause it to slip by and strike the gong, substantially as specified.

5. The combination with a frame and gong, and a yielding vibratory resilient striker-carrier pivoted to the frame, and spring-actuated in one direction, of a striker secured to the carrier, and a fixed obstructive element in the path of the striker adapted to impede its movement until sufficient force is exerted to cause it to slip by and strike the gong, substantially as specified.

In testimony of all which I have hereunto subscribed my name.

CHARLES A. TREDWELL.

Witnesses:

JOHN P. BARTLETT,

EDWARD D. ROCKWELL.