

(No Model.)

2 Sheets—Sheet 1.

E. D. ROCKWELL.
BELL.

No. 471,983.

Patented Mar. 29, 1892.

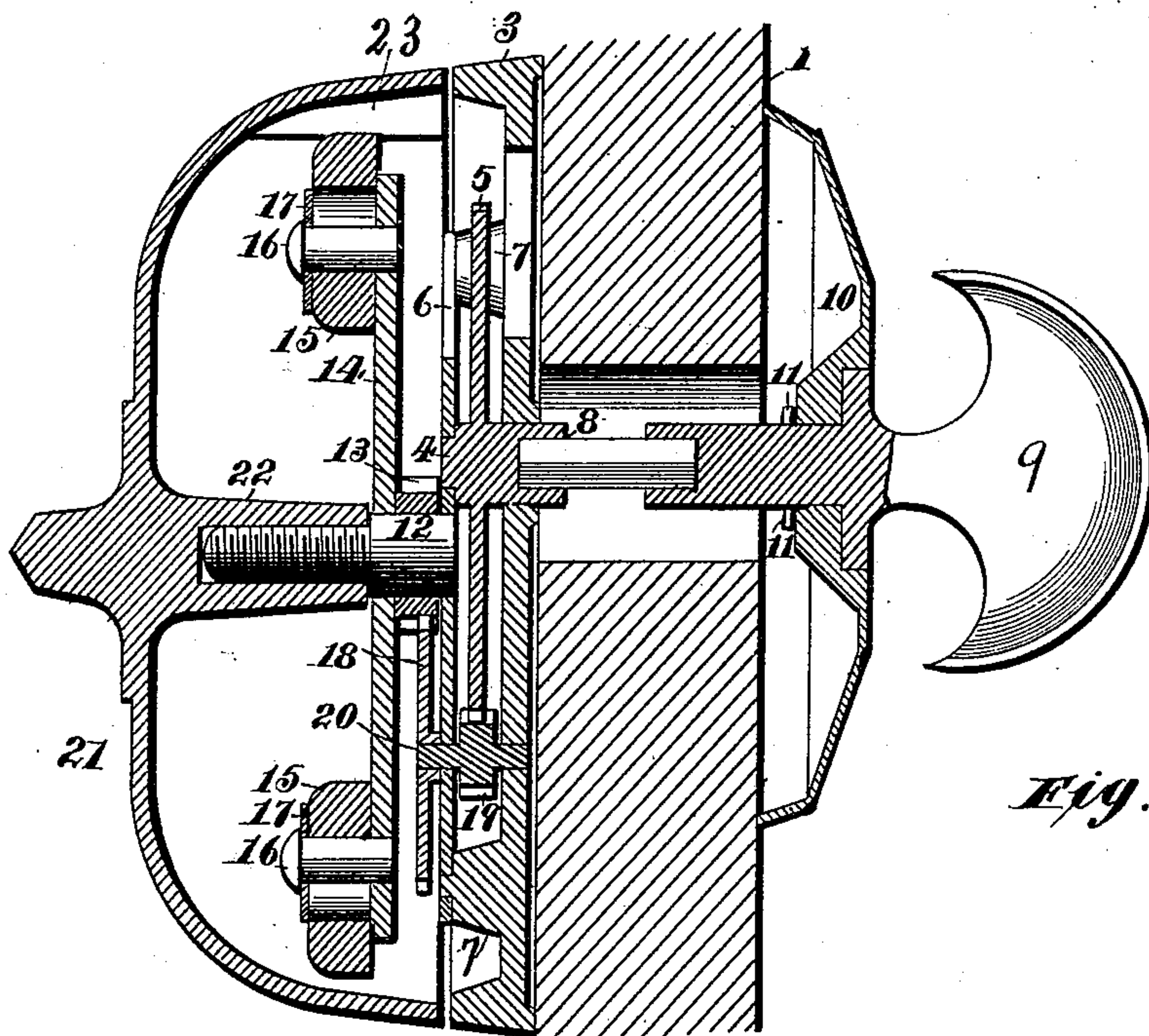


Fig. 1.

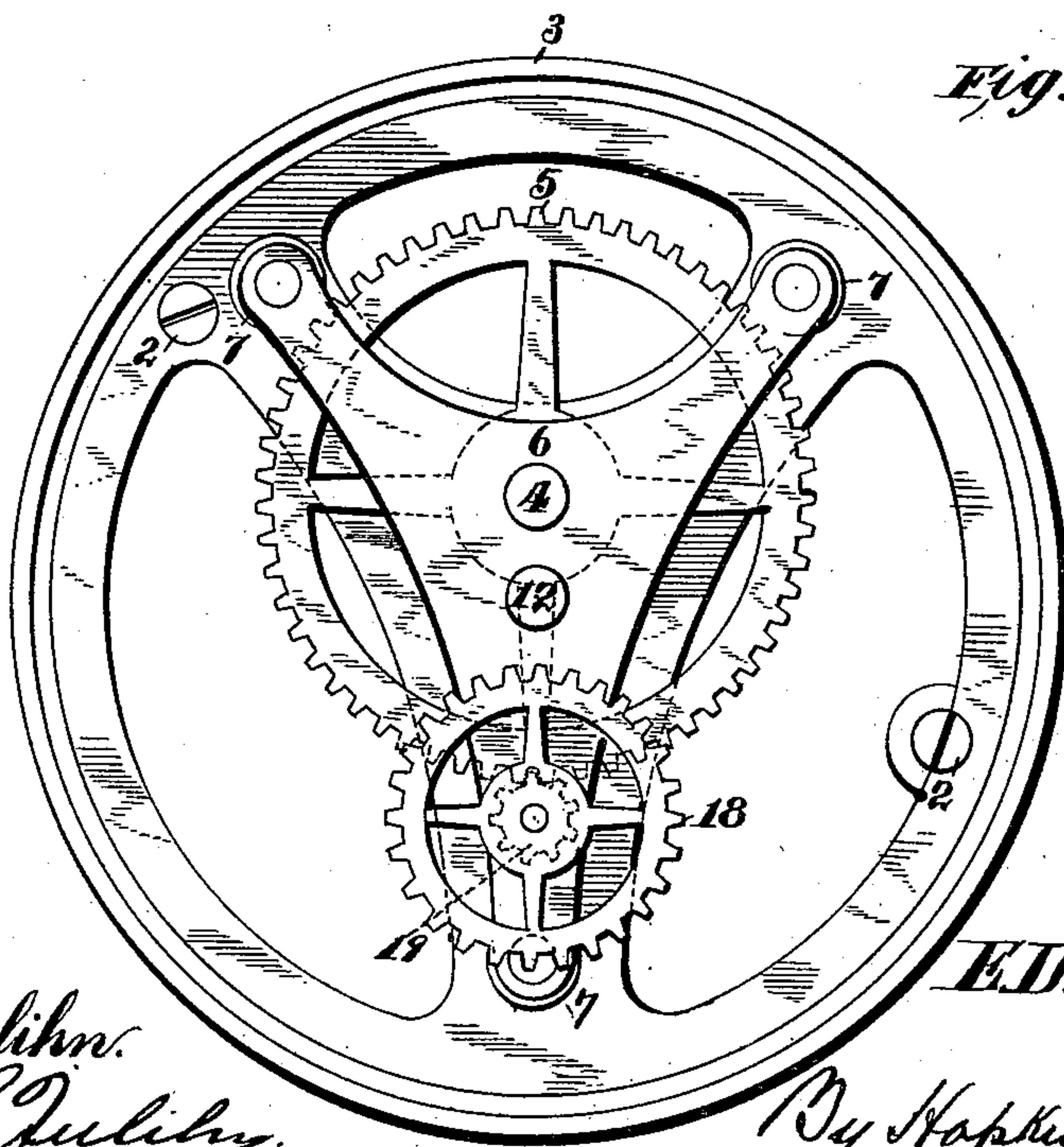


Fig. 2.

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Eric S. Julihn.

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Attorneys

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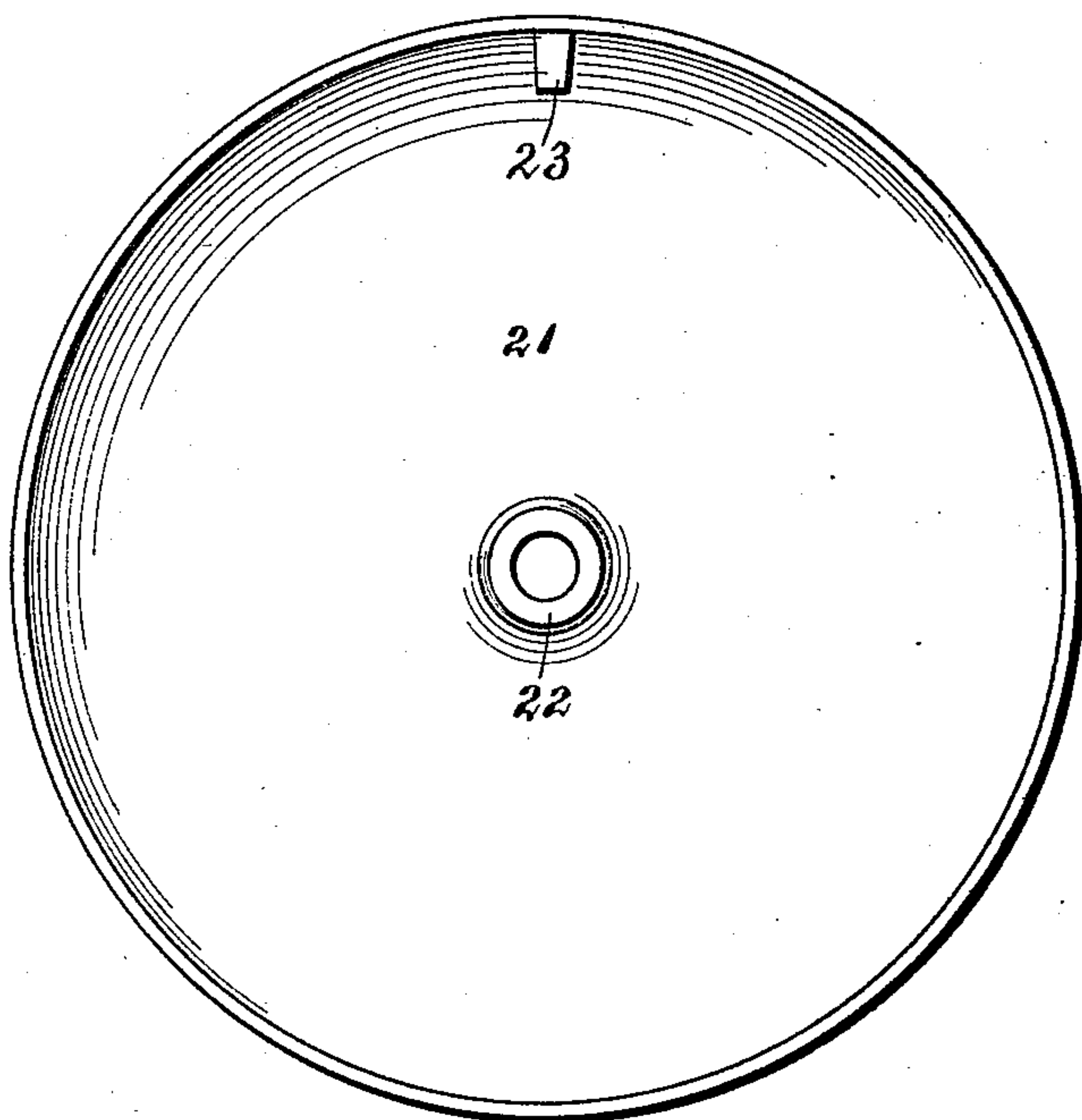


Fig. 3.

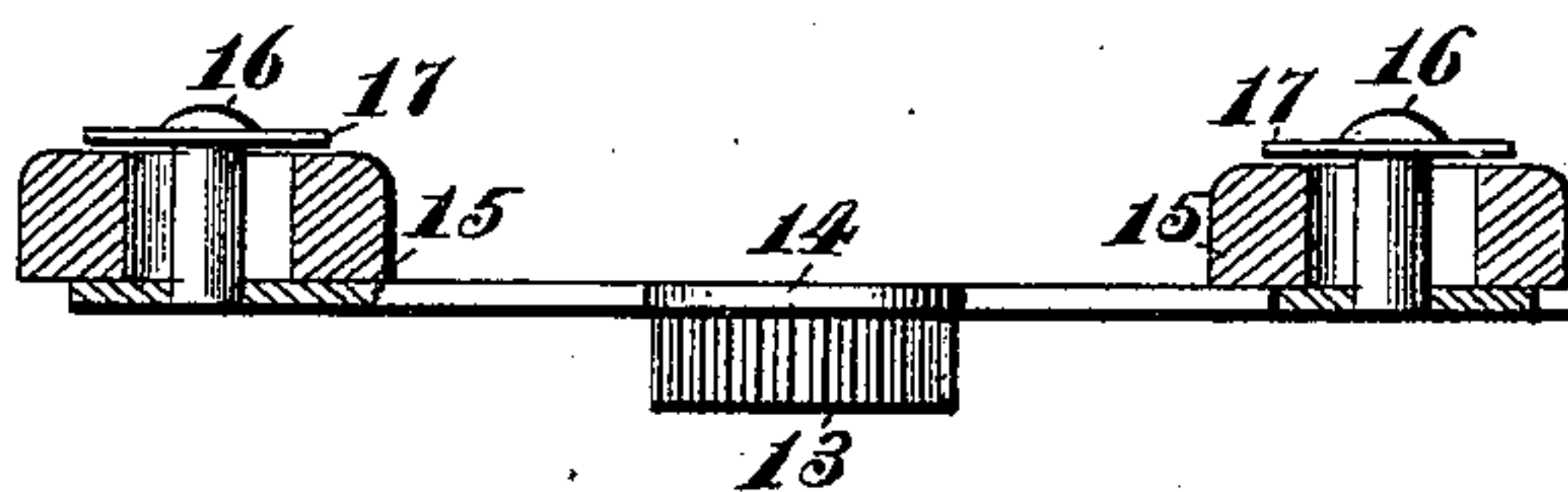


Fig. 4.

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UNITED STATES PATENT OFFICE.

EDWARD DAYTON ROCKWELL, OF BRISTOL, CONNECTICUT, ASSIGNOR TO
THE NEW DEPARTURE BELL COMPANY, OF SAME PLACE.

BELL.

SPECIFICATION forming part of Letters Patent No. 471,983, dated March 29, 1892.

Application filed October 29, 1891. Serial No. 410,248. (No model.)

To all whom it may concern:

Be it known that I, EDWARD DAYTON ROCKWELL, of Bristol, county of Hartford, and 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.

The object of my invention is to produce an improved bell that can be operated without the use of springs of any kind and can be caused to emit a continuous-ringing sound resembling that of an electric bell. Bells designed to accomplish the same object have been heretofore devised; but by my invention I produce a simpler, more durable, and clearer-sounding bell than those of the same class ordinarily used. In accomplishing this object I provide within a gong a centrally-pivoted swinging arm that extends nearly the length of the diameter of the gong and carries one or more loosely-pivoted strikers. I also provide a lug upon the side of the gong, against which the strikers may impinge squarely, and thereby produce a clear resonant tone. Heretofore in bells of this class revolving arms with loosely-pivoted strikers have been used; but the arms, being short, have been pivoted near one side of the gong instead of at its center. Even by this arrangement, which increases the angle at which the strikers would be thrown against the side of the gong, the strikers would nevertheless impinge against the gong glancingly, and thereby impair the purity of the tone of the bell. By increasing the length of the revolving striker-arm the dimensions of the parts, especially the size and weight of the strikers, may be materially increased and the durability of the bell mechanism enhanced; but with a smooth gong it would have been impossible to use an arm which would swing its entire inside diameter, because instead of being thrown against the side of the gong at intervals to produce a ringing sound the strikers would at all times during a revolution of the arm be brought in contact with its side and produce only a scraping noise. To adapt a bell for the use of such mechanism as above described, I provide a lug projecting inwardly on the side of the gong, so that the strikers, while out of reach

of the gong proper, may hit the lug squarely, and, being loosely pivoted, rebound at once, and thus cause the bell to emit a clear musical tone.

In the accompanying drawings, Figure 1 is a central vertical section of my bell and knob escutcheon set in place—as, for instance, upon a door—some of the parts being shown in perspective. Fig. 2 is a top plan view of the bell mechanism with the gong and striker-arm removed. Fig. 3 is a plan view of the inside of the gong, showing the position of the lug on its side. Fig. 4 is a side elevation, partly in section, of the striker-arm detached.

Referring to the figures on the drawings, 1 indicates a section of a door, it may be, to the inside of which may be fastened by screws 2 a base-plate 3, that carries on an arbor 4 in suitable bearings a little to one side of its center a main gear or cog wheel 5.

6 indicates an internal frame-plate that is fastened securely to studs 7, projecting from the base-plate. The base-plate and frame-plate so united constitute the frame of the bell. The plate 6 is provided with one bearing for the arbor 4. The outer end of the arbor 4 is provided with a square opening 8, adapted to receive the squared shank of a knob 9, that is revolvably secured within an escutcheon 10 by pins 11. The escutcheon may be secured by screws in the ordinary way to the outside of the door, and the knob be thus held in fixed operative relations with the arbor, so that a turn in either direction of the knob may cause the wheel 5 to revolve. Any suitable means for rotating the gear 5 may be employed. I have only suggested a simple and convenient means of rotating it; but any other suitable means may be substituted therefor.

In the center of the base-plate, upon top of the frame-plate, is fixed a cylindrical stud 12, which is smooth next to the plate and is screw-threaded on its projecting end. Around the smooth part of this stud is pivoted a revolvable pinion 13, that carries fixedly on one side an arm 14. Upon opposite ends of the arm I provide loosely-pivoted strikers of any suitable shape—such, for instance, as those shown in the drawings—which consist of round pieces of metal 15, provided with large cen-

tral apertures, through which pass pivot-pins 16 and to which they are secured by washers 17 on the ends of the pins. The pinion 13 is geared to the cog-wheel 5 by any suitable gear—such, for instance, as the large gear 18 and a pinion 19, borne, respectively, above and below the frame-plate by a common arbor 20, carried in suitable bearings in the base-plate and frame-plate. Upon the screw-
10 threaded end of the stud 12 may be screwed a gong 21. An internally-screw-threaded projection 22 upon the inside of the gong is provided for this purpose, the projection, when in place, being adapted to hold the arm 14
15 and its pinion securely in place.

As illustrated in Figs. 1 and 3 of the drawings, I provide on the interior of the gong, on one side near its edge, an internally-projecting lug 23. It will be observed that the arm
20 14 extends almost entirely across the inside of the gong and is adapted to swing around its entire inside diameter, its dimensions being such that the strikers are out of reach of the sides of the gong, but are adapted to im-

pinge against the lug 23, that is located in their path.

I do not confine myself to the shape of the striker-arm that carries the striker. It may be duplicated in effect, so as to present the appearance of a cross-arm, or it may be wheel shaped, if desired, so as to carry more than two strikers; but these are manifestly mere details of construction.

What I claim is—

In bell mechanism, the combination, with a frame and gong and lug upon the gong, of a centrally-pivoted pinion loosely mounted on a central post on the frame and having an arm upon one side, strikers upon the arm, and mechanism for communicating motion to it through the pinion, substantially as set forth.

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

EDWARD DAYTON ROCKWELL.

Witnesses:

ETTA B. SPRING,
CHARLIE DOWNS.