

F. C. HANSEN.
 FLUID OPERATED BELL.
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925,095.

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Fig. I.

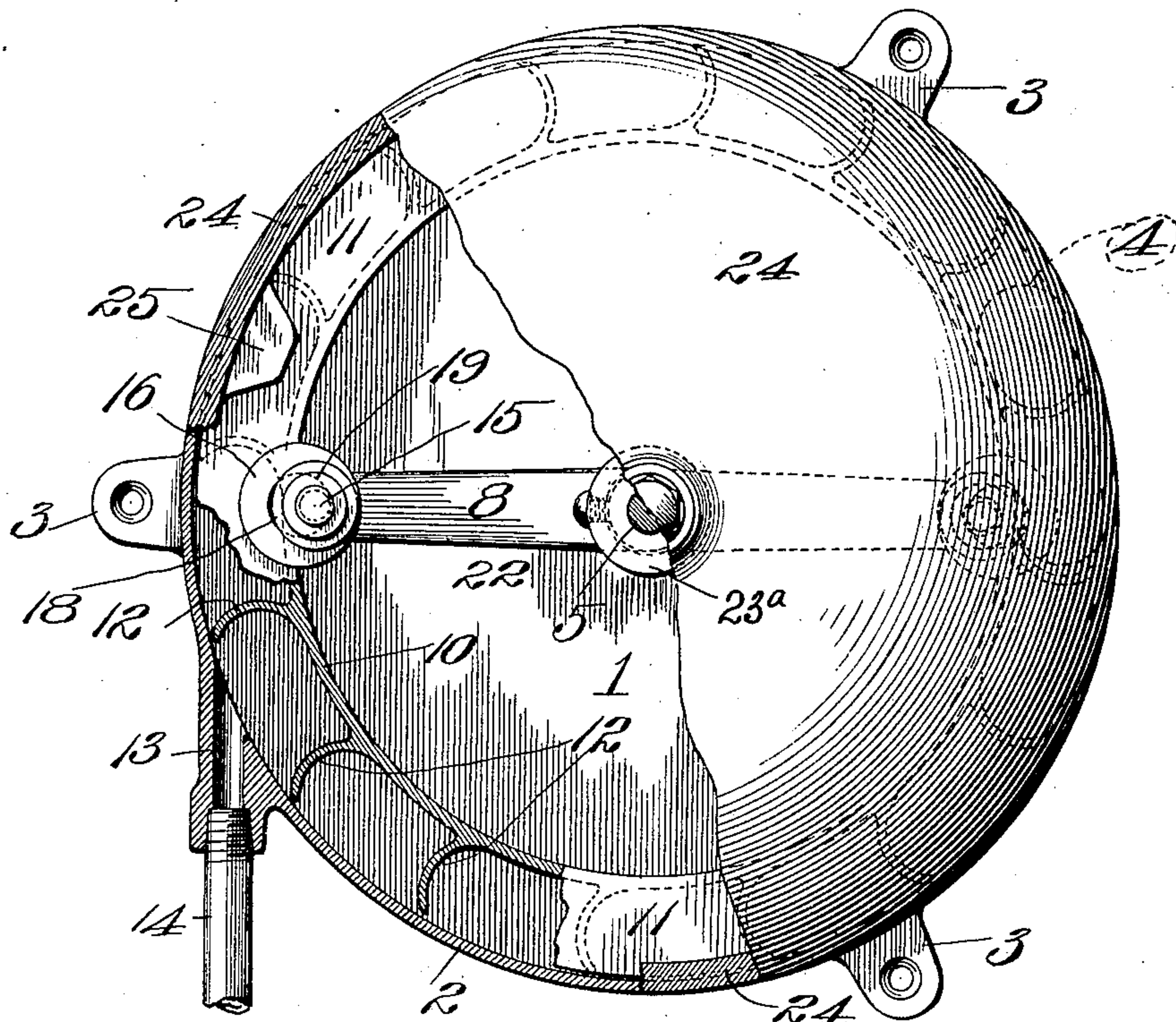
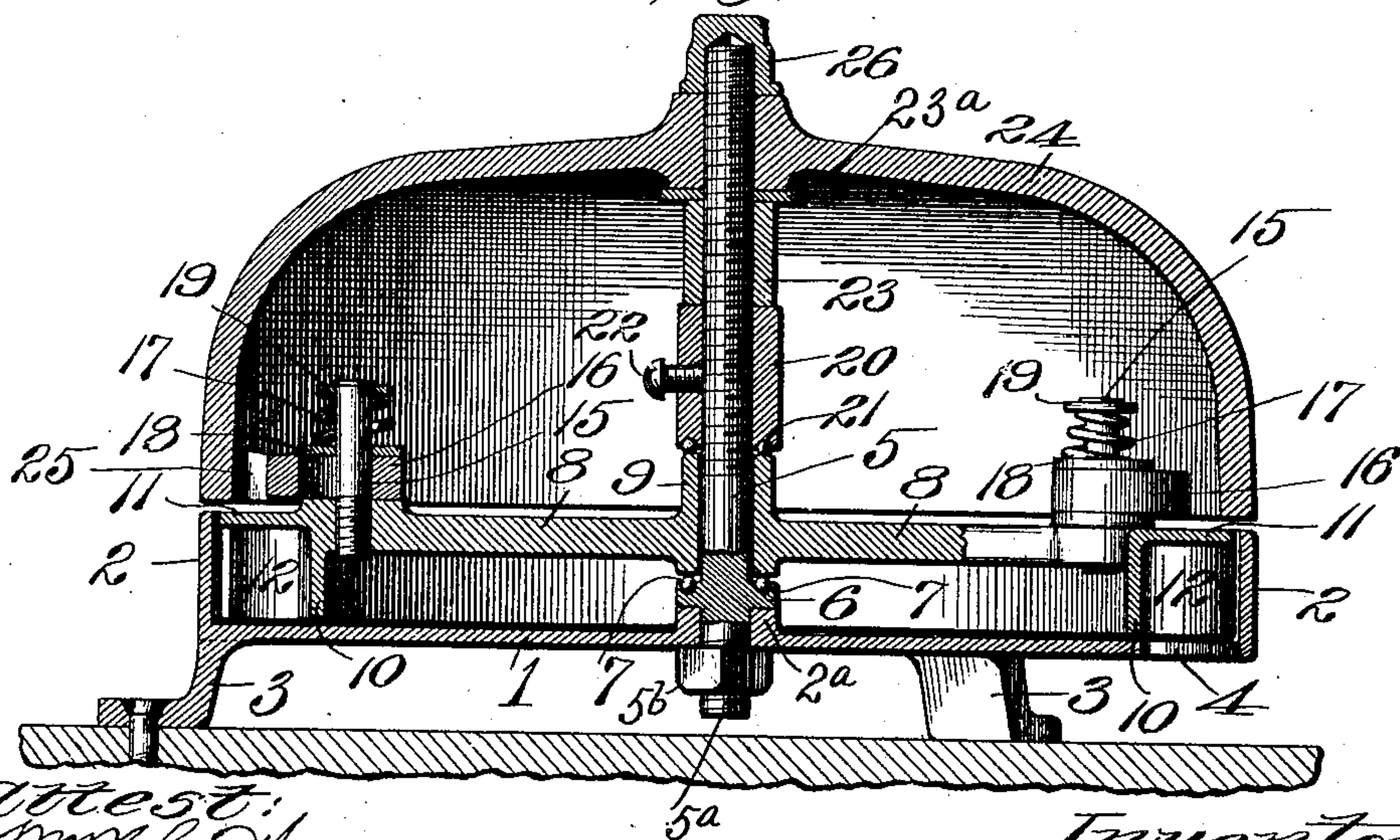


Fig. II.



Attest:
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UNITED STATES PATENT OFFICE.

FREDERICK C. HANSEN, OF QUINCY, ILLINOIS, ASSIGNOR TO QUINCY FOUNDRY & NOVELTY COMPANY, OF QUINCY, ILLINOIS, A CORPORATION.

FLUID-OPERATED BELL.

No. 925,095.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed September 14, 1908. Serial No. 452,829.

To all whom it may concern:

Be it known that I, FREDERICK C. HANSEN, a citizen of the United States of America, residing at Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Fluid-Operated Bells, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a bell adapted to be operated by a fluid, such as air, which, upon its admission to the bell, acts to operate a hammer or hammers that by contact with lugs upon the gong act to sound said gong.

Figure I is in part a top view and in part a section of my bell. Fig. II is a cross section taken through the bell.

In the accompanying drawings: 1 designates the base of my bell which is provided with an upwardly extending peripheral rim 2 and a centrally located hollow boss 2^a and is preferably supported by legs 3. In the base adjacent to the peripheral rim is an exhaust opening 4, see full lines Fig. II and dotted lines, Fig. I.

5 designates a post centrally mounted in the base 1 and extending upwardly therefrom, this post being screw threaded throughout its upper portion, as seen in Fig. II. The lower end 5^a of the post is screw threaded and extends through the hollow boss 2^a and the base. At the lower end of the post immediately above the base is a rim 6 that seats upon the hollow boss 2^a and is provided at its upper surface with a race-way for antifriction bearing balls 7.

5^b is a nut threaded upon the lower end 5^a of the post and seating against the base which in connection with the rim 6 secures the post rigidly to the base.

8 designates the cross arm of a runner wheel that is provided with a hub 9 loosely fitted to the post 5 and seated upon the balls 7. The cross arm of the runner wheel serves as a carrier for the rim of the wheel which comprises an annular vertical depending ring 10 separated from the peripheral rim 2 of the base 1, a horizontal flange 11 extending outwardly from the top of the depending ring 10 toward the peripheral rim and laterally curved wings or cups 12 located beneath the horizontal flange 11 and extending outwardly from the depending ring 10.

The base 1 is provided with a tangentially

arranged air inlet duct 13 into which air, preferably compressed, or other fluid may be delivered from a suitable conducting pipe 14 into the base of the bell to strike against the wings of the runner wheel for the purpose of imparting rotation to said wheel.

The runner wheel has fixed to it one or more posts 15, the posts being preferably two in number, as illustrated in the drawings, and being preferably located diametrically opposite each other.

16 are hammers preferably in the form of metal rings that loosely surround the posts 15 and are susceptible of play relative to said posts. The hammers are yieldingly held depressed upon the portions of the runner wheel on which they rest by springs 17 surrounding the posts 15 and bearing against lower washers 18 surmounting the hammers, the springs being maintained in their positions around the posts by retaining upper washers 19.

The hub of the runner wheel is surmounted by a set collar 20 having threaded engagement with the post 5 and a raceway in its lower face and between which and the hub of the runner wheel are anti-friction bearing balls 21. The set collar is held in an adjusted position by a set screw 22.

23 is a jam nut above the set collar.

24 designates the gong of my bell which is fitted centrally to the post 5 and supported upon a washer 23^a and is held to said post by a cap nut 26. The peripheral rim of the gong overhangs the peripheral rim of the base 1 and upon the interior of the rim of the gong is a laterally extending lug 25 that is adapted to be engaged by the hammers 16 during the rotation of the runner wheel and whereby the gong is sounded.

When, in the practical use of my bell a fluid is admitted through the inlet 13 said fluid, by striking against the wings 12 of the runner wheel, acts to forcibly drive said wheel in order that the hammers 16 will be brought into contact with the lug 25 of the gong. As each hammer strikes said lug and sounds the gong it recedes inwardly in order that it may pass said lug and then immediately moves outwardly again, due to centrifugal action so that it is in position to again strike the lug of the gong when it returns thereto.

It is obvious that the soundings of the gong may be made either at more or less

frequent intervals according to the force at which fluid is admitted to the bell for the operation of the runner wheel.

I claim:

- 5 1. A fluid operated bell comprising a base formed with a peripheral rim having a tangentially projecting inlet duct, and with an exhaust opening adjacent to said peripheral rim, a central post, a runner wheel mounted
10 loosely on said central post within said peripheral rim, and formed with a cross arm, with a depending ring with an outwardly extending horizontal flange and with laterally extending curved wings between said
15 peripheral rim, and said depending ring, a post mounted on said cross arm adjacent to said depending ring, a hammer mounted on said post of said cross arm, and a gong mounted on said central post and overhang-
20 ing said peripheral rim and having a laterally extending lug, located over said hori-

zontal flange and which said hammer is adapted to engage so as to sound said gong.

2. A bell comprising a base formed with a centrally arranged hollow boss, a screw 25 threaded central post formed with a rim seating on said hollow boss, a runner wheel mounted loosely on said post and formed with a cross arm having a hub seating on said rim of said central post, means for rotating 30 said runner wheel, a post mounted on said cross arm, a hammer mounted on said post of said cross arm, a set collar surmounting said hub, a jam nut above said set collar, and a gong mounted on said jam nut, and having a 35 laterally extending lug with which said hammer is adapted to engage.

FREDERICK C. HANSEN.

In presence of:

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