

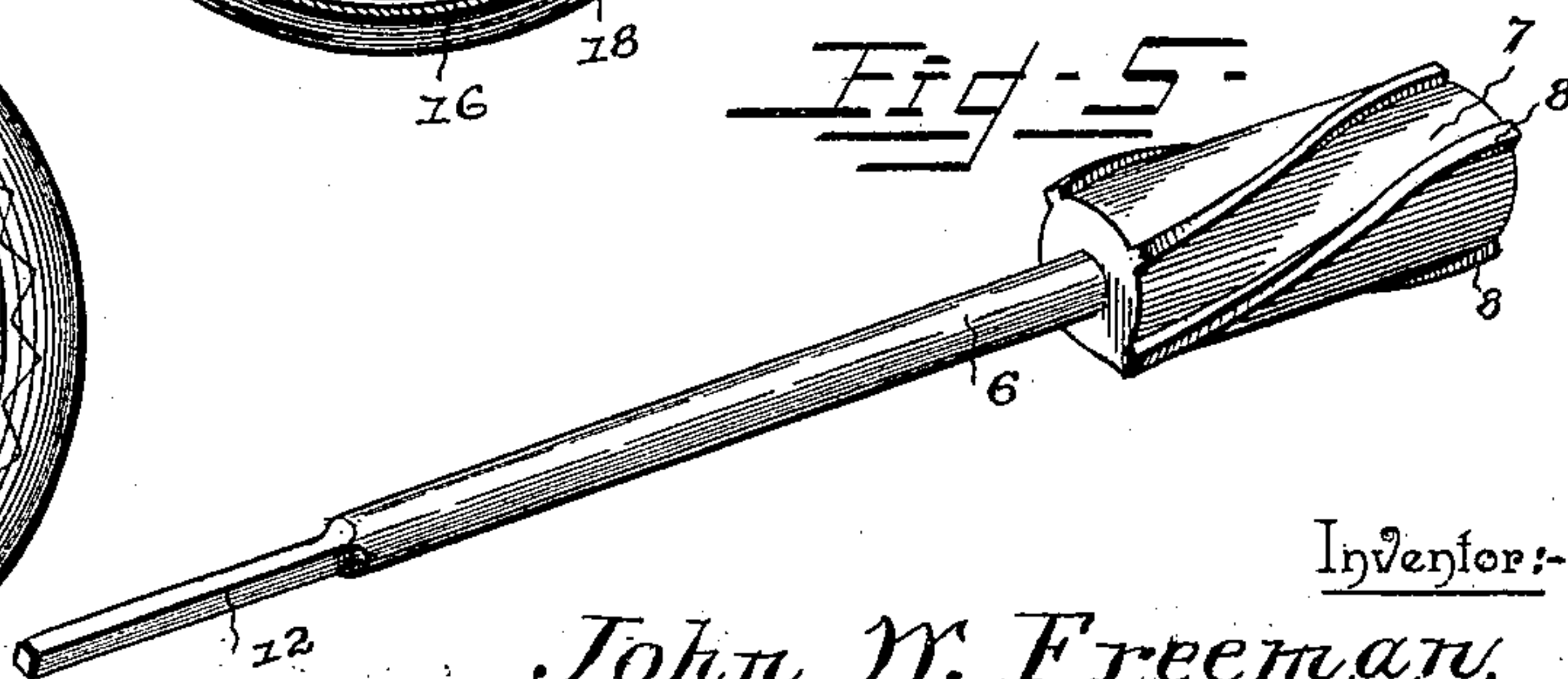
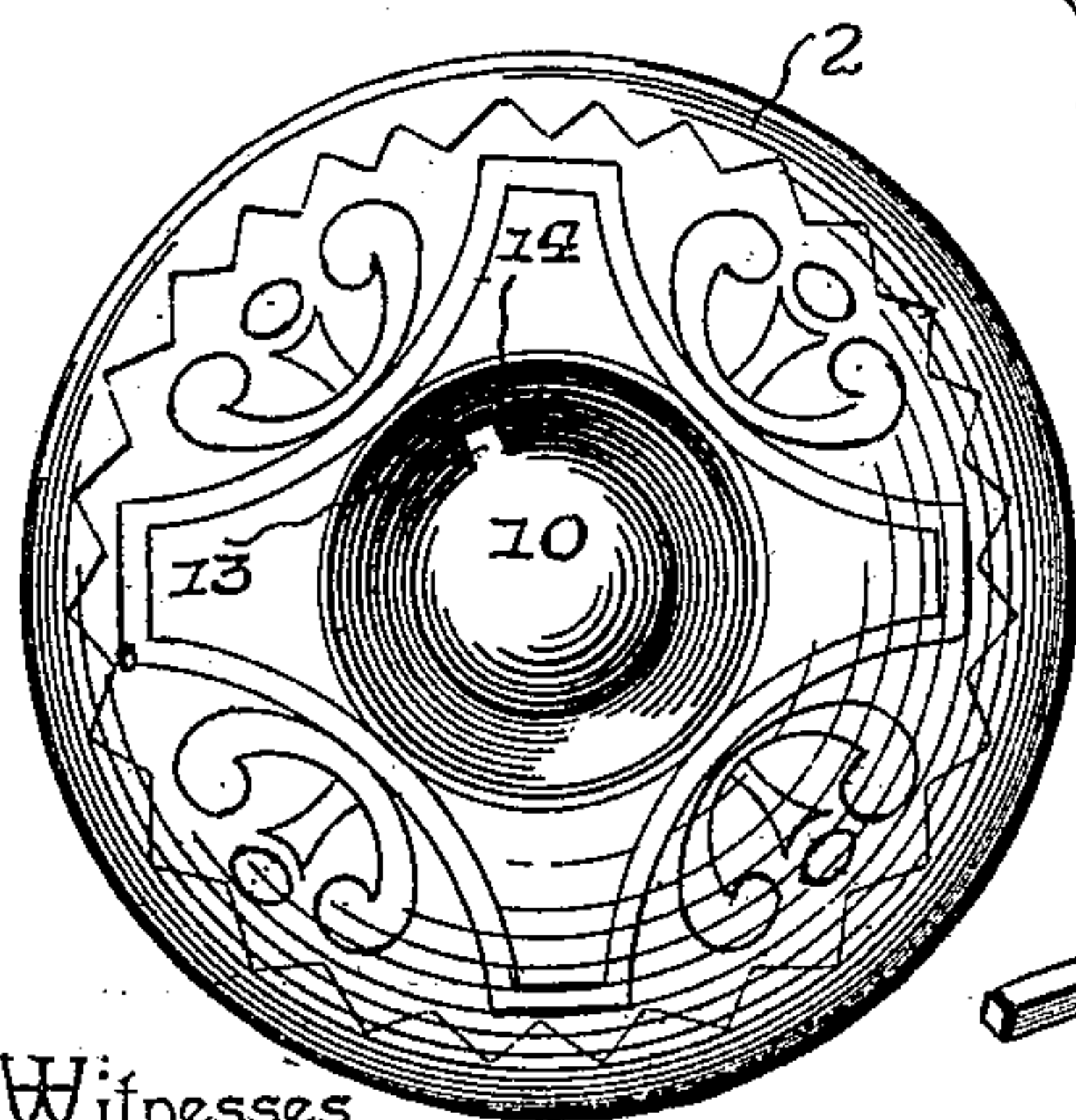
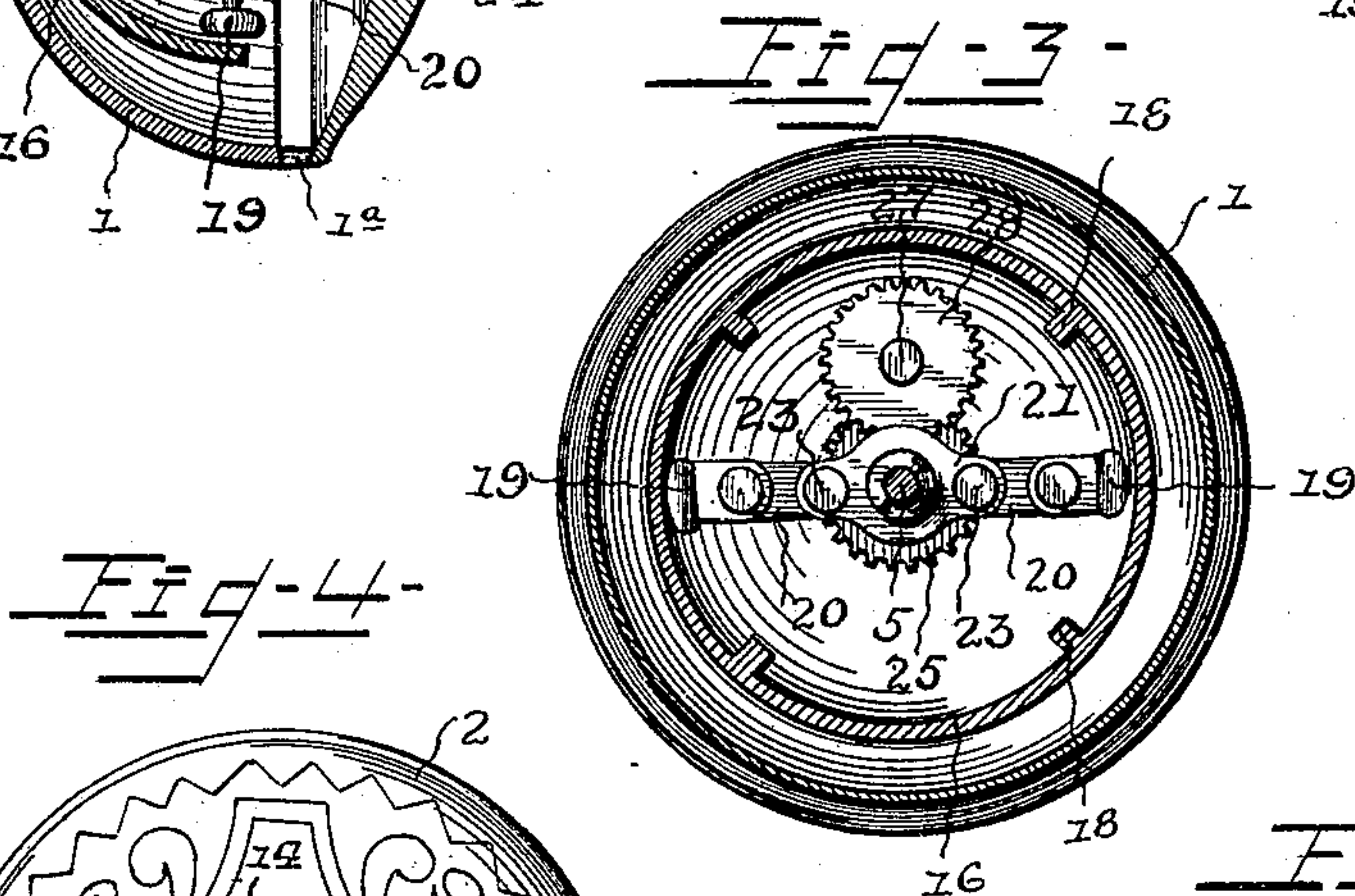
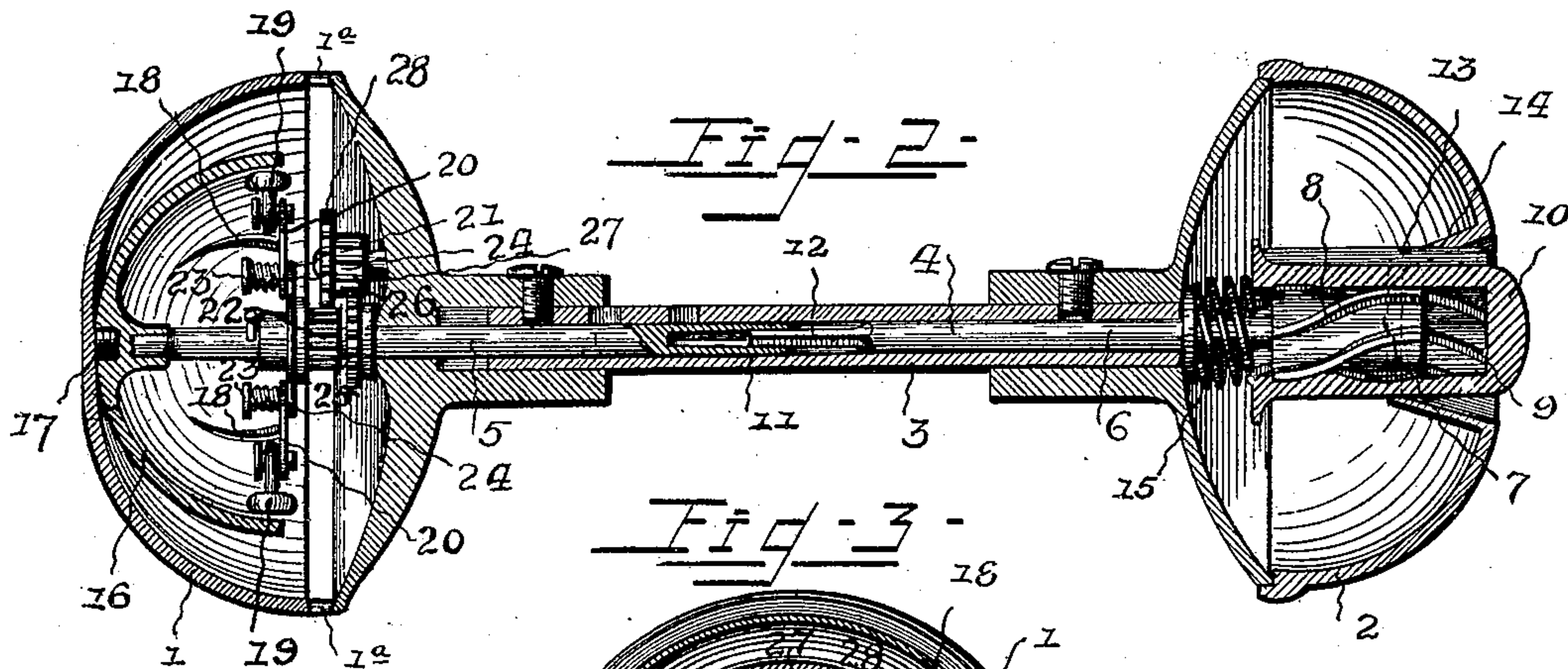
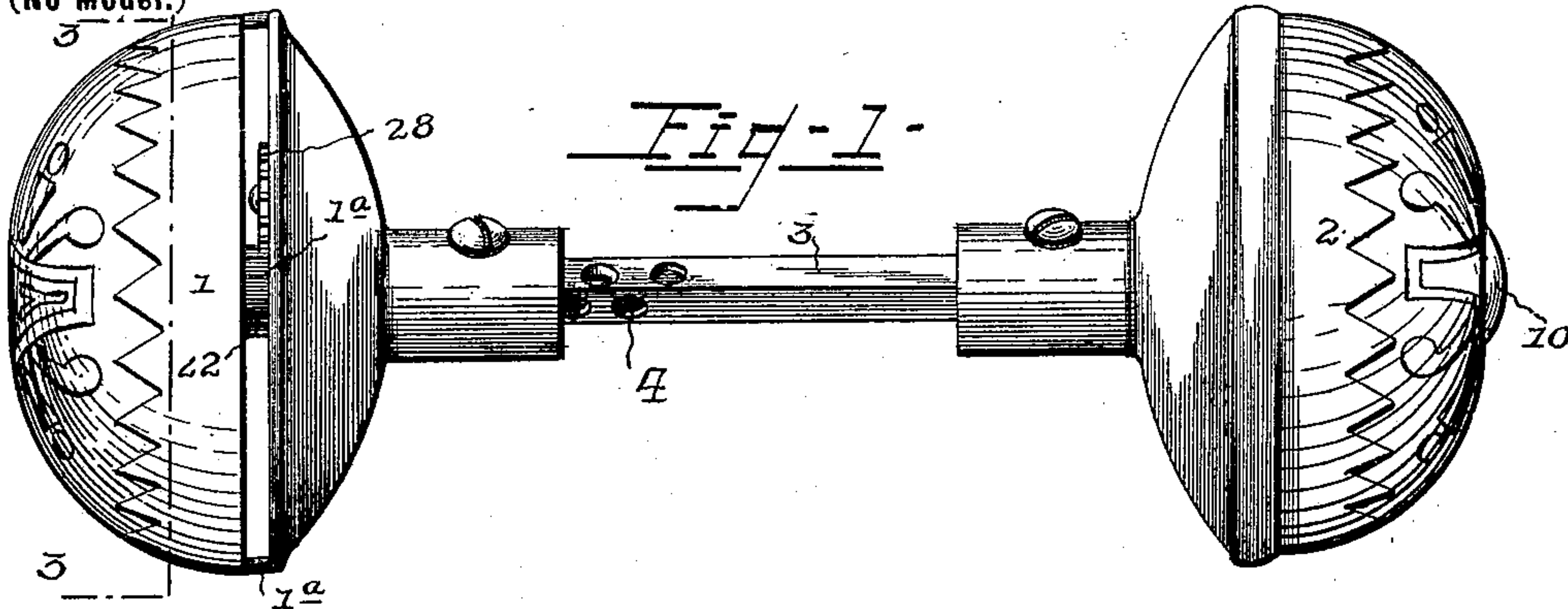
No. 620,297.

Patented Feb. 28, 1899.

J. W. FREEMAN.
COMBINED DOOR KNOB AND BELL.

(Application filed Dec. 6, 1897.)

(No Model.)



Witnesses

C. J. Young,
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By *his* Attorneys,

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Inventor:-

John W. Freeman,

UNITED STATES PATENT OFFICE.

JOHN WESLEY FREEMAN, OF FORT COLLINS, COLORADO, ASSIGNOR OF
ONE-FOURTH TO CHARLES F. DAVIS, OF SAME PLACE.

COMBINED DOOR-KNOB AND BELL.

SPECIFICATION forming part of Letters Patent No. 620,297, dated February 28, 1899.

Application filed December 6, 1897. Serial No. 660,872. (No model.)

To all whom it may concern:

Be it known that I, JOHN WESLEY FREEMAN, a citizen of the United States, residing at Fort Collins, in the county of Larimer and State of Colorado, have invented a new and useful Door-Knob Bell, of which the following is a specification.

The invention relates to improvements in door-knob bells.

10 The object of the present invention is to improve the construction of door-knob bells and to provide a simple and comparatively inexpensive one which will be positive and reliable in operation and capable of producing an effective ring.

15 Another object of the invention is to enable the device to be readily adjusted to correspond to the adjustment of the door-knobs to suit the thickness of a door.

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

25 In the drawings, Figure 1 is a side elevation of a door-knob bell constructed in accordance with this invention. Fig. 2 is a central longitudinal sectional view. Fig. 3 is a transverse sectional view on line 3 3 of Fig. 1. Fig. 4 is an end elevation showing the push-button. Fig. 5 is a detail perspective view of the outer section of the shaft.

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

1 and 2 designate inner and outer door-knobs constructed of suitable material and secured in the usual manner by screws to a spindle 3, which is hollow to receive a longitudinal shaft 4. The door-knobs are designed to be mounted on a door in the usual manner, and the spindle 3 is connected with any of the ordinary forms of locks similar to the common knob-spindle.

45 The shaft 4, which is composed of inner and outer sections 5 and 6, is provided at its outer end with a head or enlargement 7, having screw-threads 8, adapted to be engaged by corresponding grooves or threads 9 of a reciprocating push-button 10, whereby the shaft

4 is rotated. The section 5 is provided with a socket 11, having a rectangular bore or opening, and the inner end of the outer section 6 is squared at 12 to fit the socket 11 and telescope within the same to vary the length of the shaft. The shaft is adjustable to correspond with the adjustment of the door-knobs to suit the thickness of a door.

The push-button, which is housed within the outer knob, is adapted when reciprocated to rotate the shaft, and it is provided on its exterior with a longitudinal rib 13, fitting in a notch 14 of the outer door-knob, whereby the push-button is held against rotary movement. The outer door-knob is constructed of two sections suitably secured together, and the outer section is provided with an opening, through which the push-button projects. When the push-button is moved inward, it effects a rotation of the shaft, and it is automatically returned to its extended position by a spiral spring 15, interposed between the inner end of the push-button and the inner section of the knob 2. The outward movement of the push-button through the spring rotates the shaft in the opposite direction, and both the rotations of the shaft operate to ring a bell 16 by means hereinafter described.

The inner door-knob is designed to be constructed of two sections, and the bell 16 is secured to the outer section preferably by means of a threaded stud 17 and a corresponding threaded opening or socket of the bell. The stud 17, which is centrally arranged, projects inward from the outer section of the door-knob 1, so that the bell may be readily screwed on and off it.

The bell 16, which is provided on its interior with a series of lugs or ribs 18, is struck by a pair of clappers 19, pivotally mounted on links 20 and connected by the same with arms 21 of a pinion 22, and the latter is mounted on the inner end of the shaft 4. The inner ends of the links 20 are mounted on pivots 23 and are engaged by springs 24, interposed between the heads of the pivots and the links to hold the latter against the arms and at the same time to permit them a free movement.

The pinion 22, which is provided with a sleeve or hub extension, is connected by gearing with the shaft, whereby a given number of rotations of the shaft will be multiplied into
 5 any given number of rotations of the pinion to produce the desired ring of the bell. A cog-wheel 25 is fixed to the shaft adjacent to the pinion 22 and meshes with a pinion 26 of a stub-shaft 27, which also carries a cog-wheel
 10 28. The cog-wheel 28 is rigid with the pinion 26 and meshes with the pinion 22, and the diameters of the cog-wheels and pinions may be varied to the desired extent. The sections of the inner knob are spaced apart to permit
 15 the bell to be clearly heard, and they are connected by lugs 1^a.

The invention has the following advantages: The door-knob bell is simple and comparatively inexpensive in construction, and it
 20 is capable of ready adjustment to suit the thickness of a door. It is positive and reliable in operation, and it produces a positive ringing of the bell when the push-button is moved inward and outward, and it is not liable
 25 to get out of order.

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

30 What I claim is—

1. In a device of the class described, the combination of an inner door-knob provided with a bell, an outer door-knob, a shaft extending from one door-knob to the other and
 35 provided at its outer end with threads, a push-button mounted in the outer knob and provided with corresponding threads and adapted to rotate the shaft, and a clapper carried by the inner end of the shaft and arranged to
 40 engage the bell, substantially as described.

2. In a device of the class described, the combination of inner and outer door-knobs, the inner door-knob being provided with a bell, a shaft extending from one door-knob
 45 to the other and composed of two telescoping sections, a clapper arranged at the inner end of the shaft and adapted to engage the bell, and means located at the outer door-knob for rotating the shaft, substantially as described.
 50

3. In a device of the class described, the combination of inner and outer door-knobs, the inner knob being provided with a bell, a shaft connecting the door-knobs, a clapper

mounted on the inner end of the shaft and arranged to engage the bell, gearing connecting the clapper with the shaft, and means located at the outer door-knob for rotating the shaft, substantially as described. 55

4. In a device of the class described, the combination of an inner door-knob provided with a bell, a hollow spindle, a centrally-arranged shaft passing through the spindle, a pinion mounted on the shaft and provided with opposite arms, clappers mounted on the
 60 arms and arranged to engage the bell, gearing connecting the pinion with the shaft, and an outer knob mounted on the spindle and provided with means for rotating the shaft, substantially as described. 65
 70

5. In a device of the class described, the combination of an inner door-knob provided with a bell, an outer door-knob having an opening and a notch at one side thereof, a shaft connecting the door-knobs and provided
 75 at its outer end with threads, a push-button provided with corresponding threads and extending through the opening of the outer door-knob, said push-button having a rib to engage the notch, and a clapper operated by the
 80 shaft and arranged to engage the bell, substantially as described.

6. In a device of the class described, the combination of an inner knob, a bell mounted within the same, an outer knob, a hollow
 85 spindle connecting the knobs, a shaft extending through the spindle and provided at its outer end with threads, a push-button mounted on the outer knob and having threads to engage those of the shaft, a spring for returning
 90 the push-button, clappers loosely mounted on the shaft and arranged to engage the bell, and gearing connecting the clappers with the shaft, substantially as and for the purpose described. 95

7. In a device of the class described, the combination of a bell, a door-knob receiving the bell within it and composed of two sections spaced apart to provide openings and suitably connected, and means for ringing
 100 the bell, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN WESLEY FREEMAN.

Witnesses:

FRANK J. ANNIS,
 CHARLES F. DAVIS.