

No. 622,440.

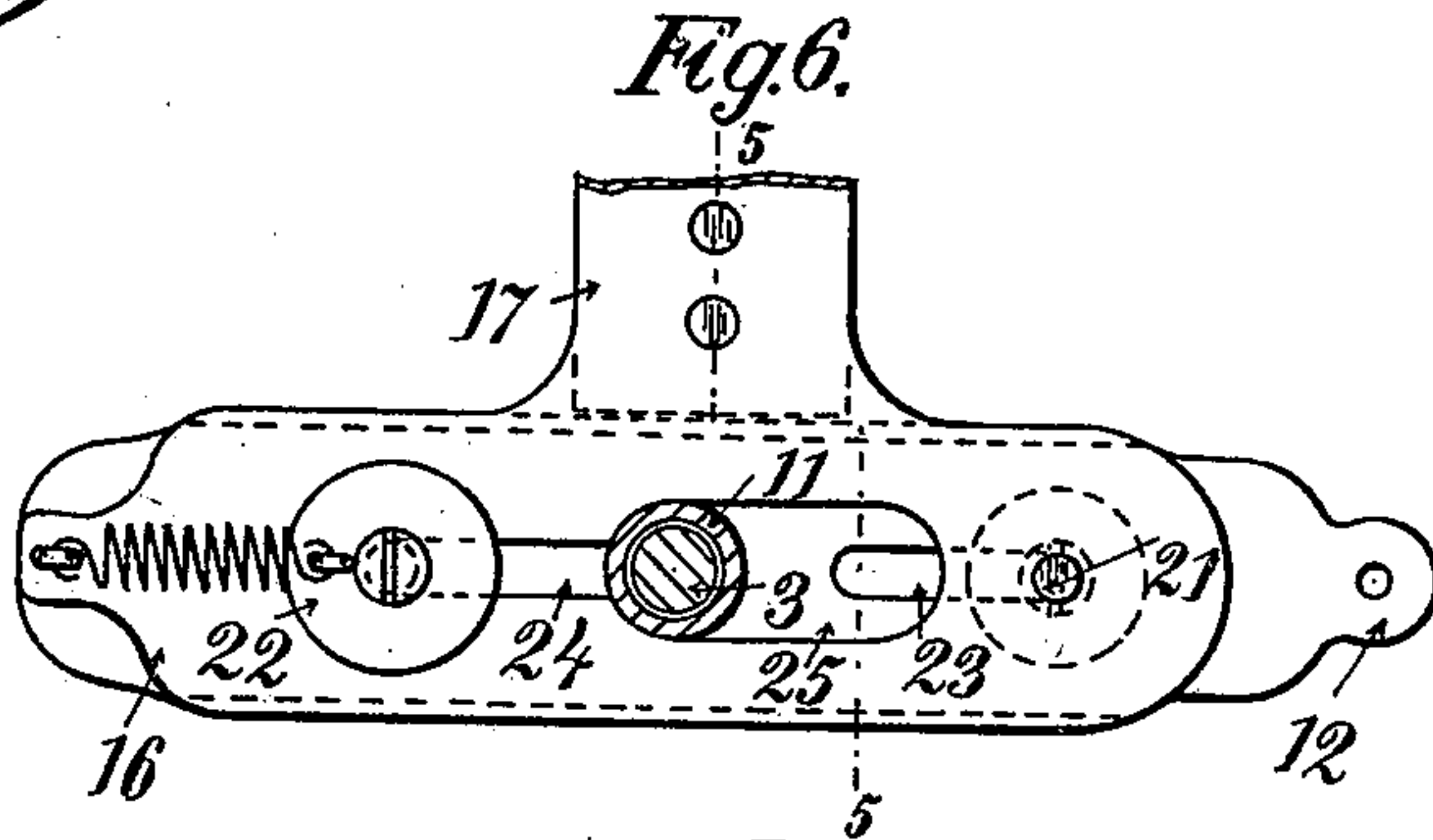
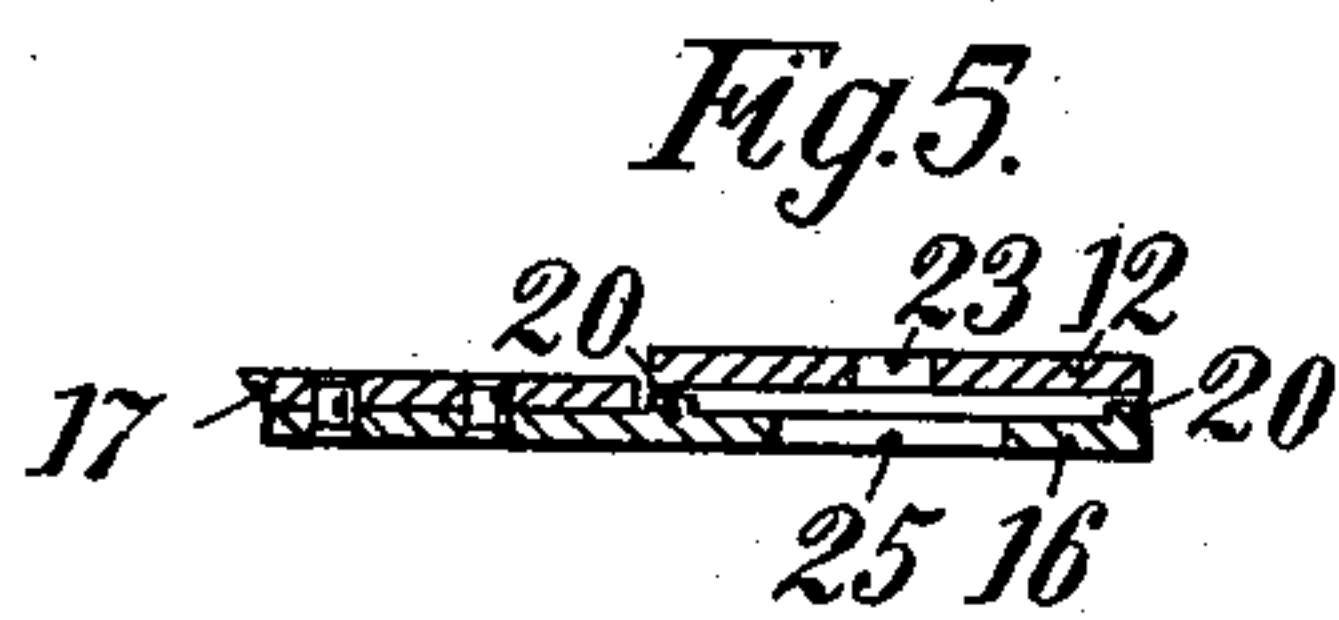
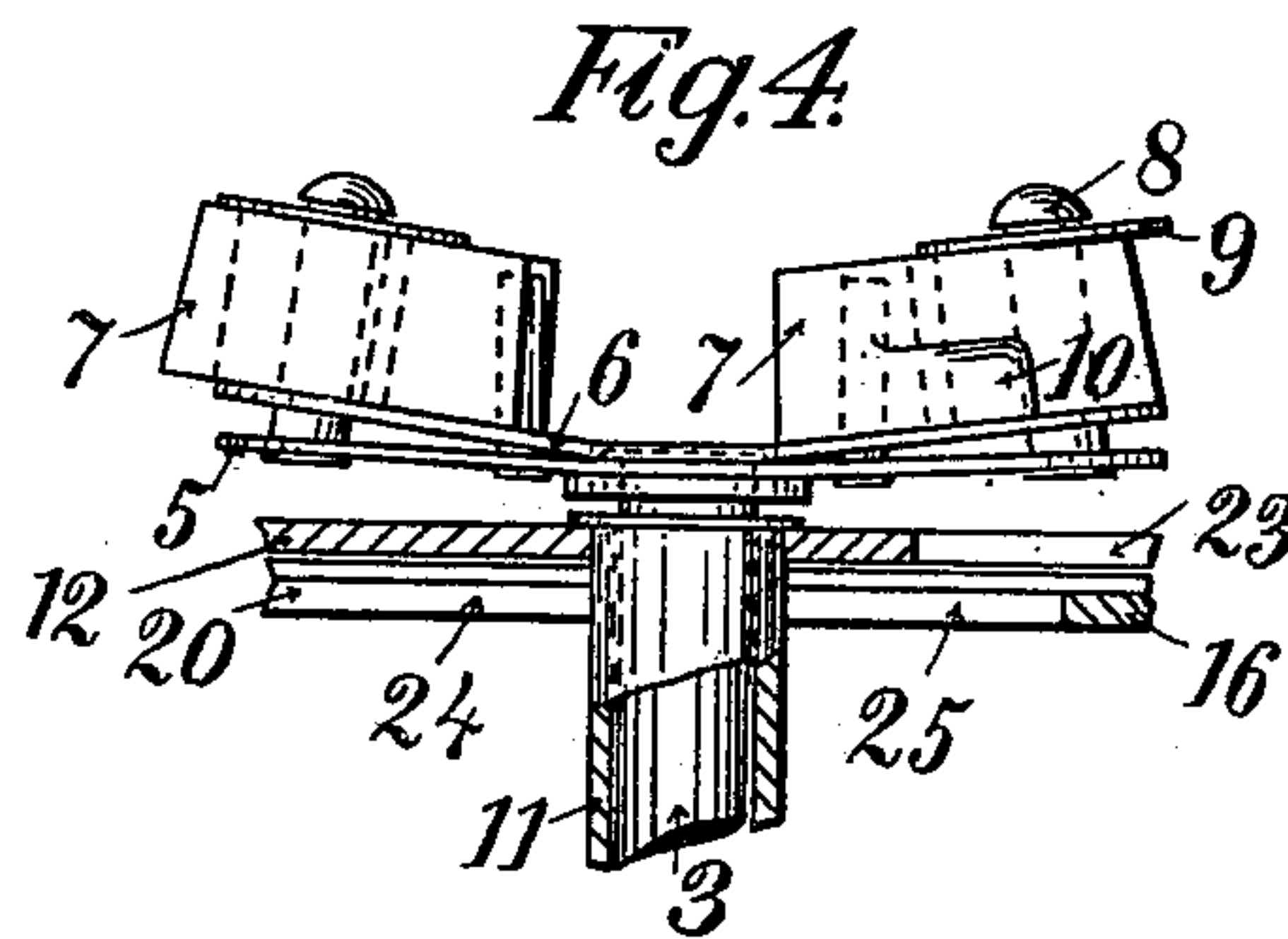
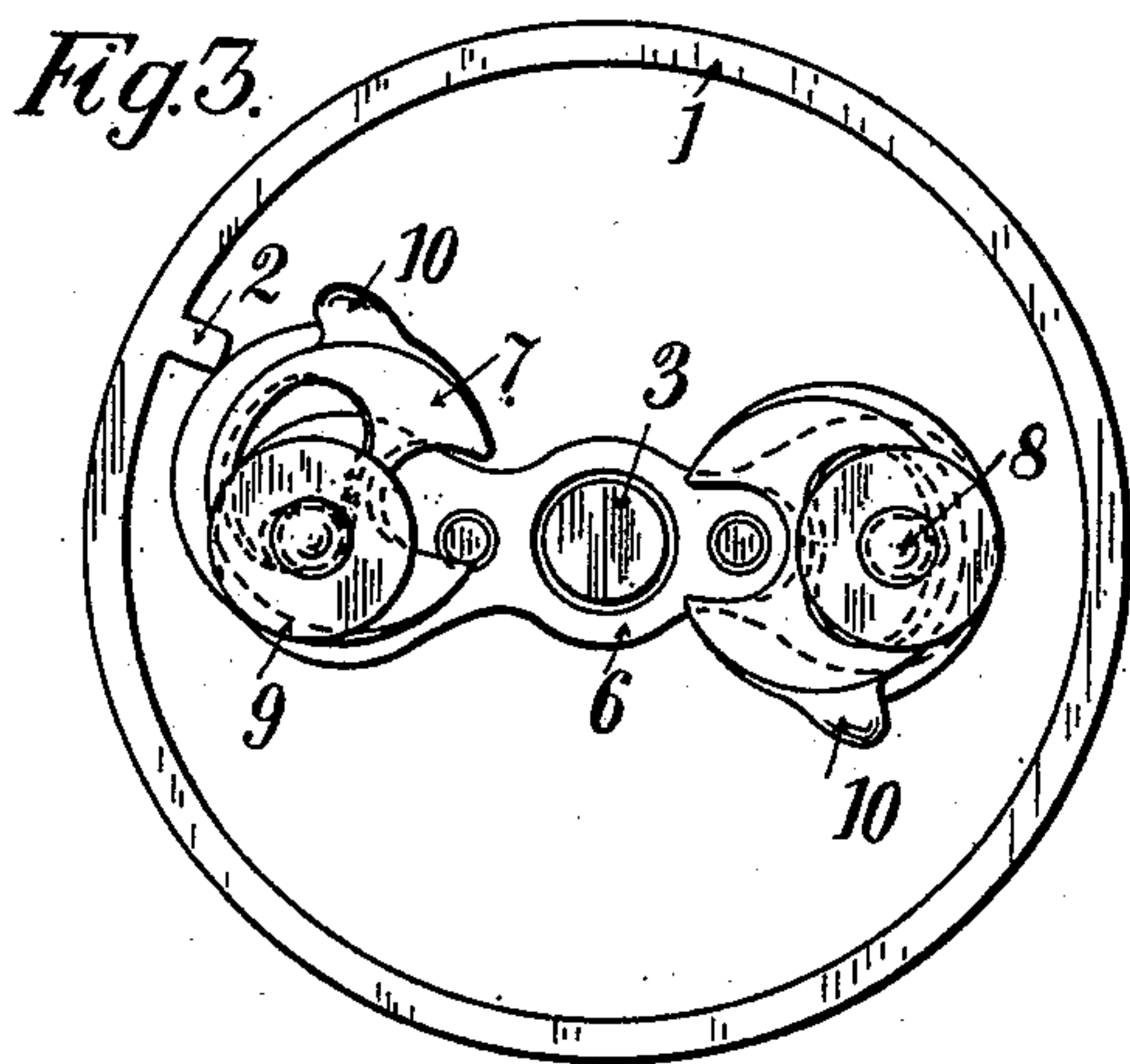
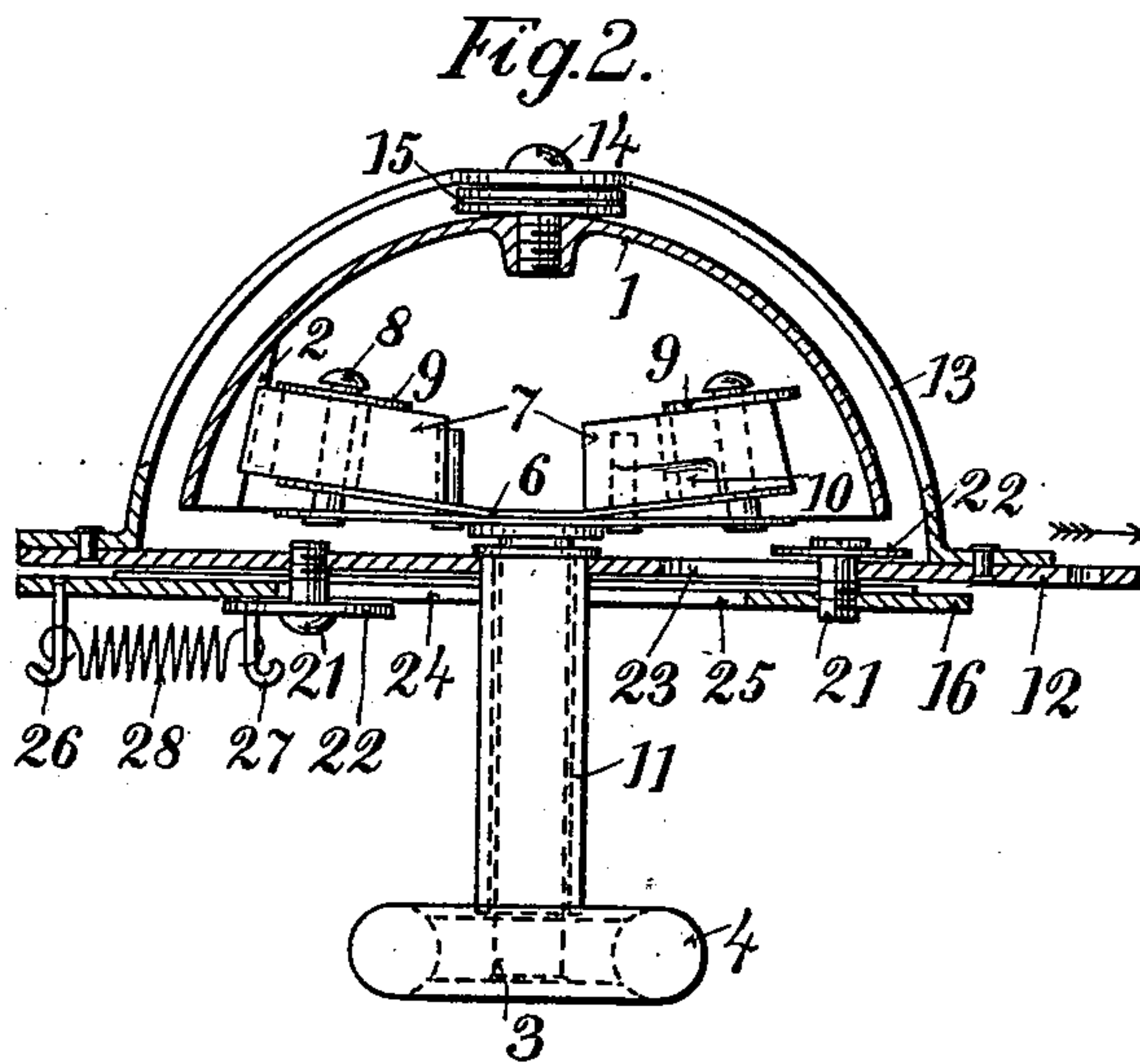
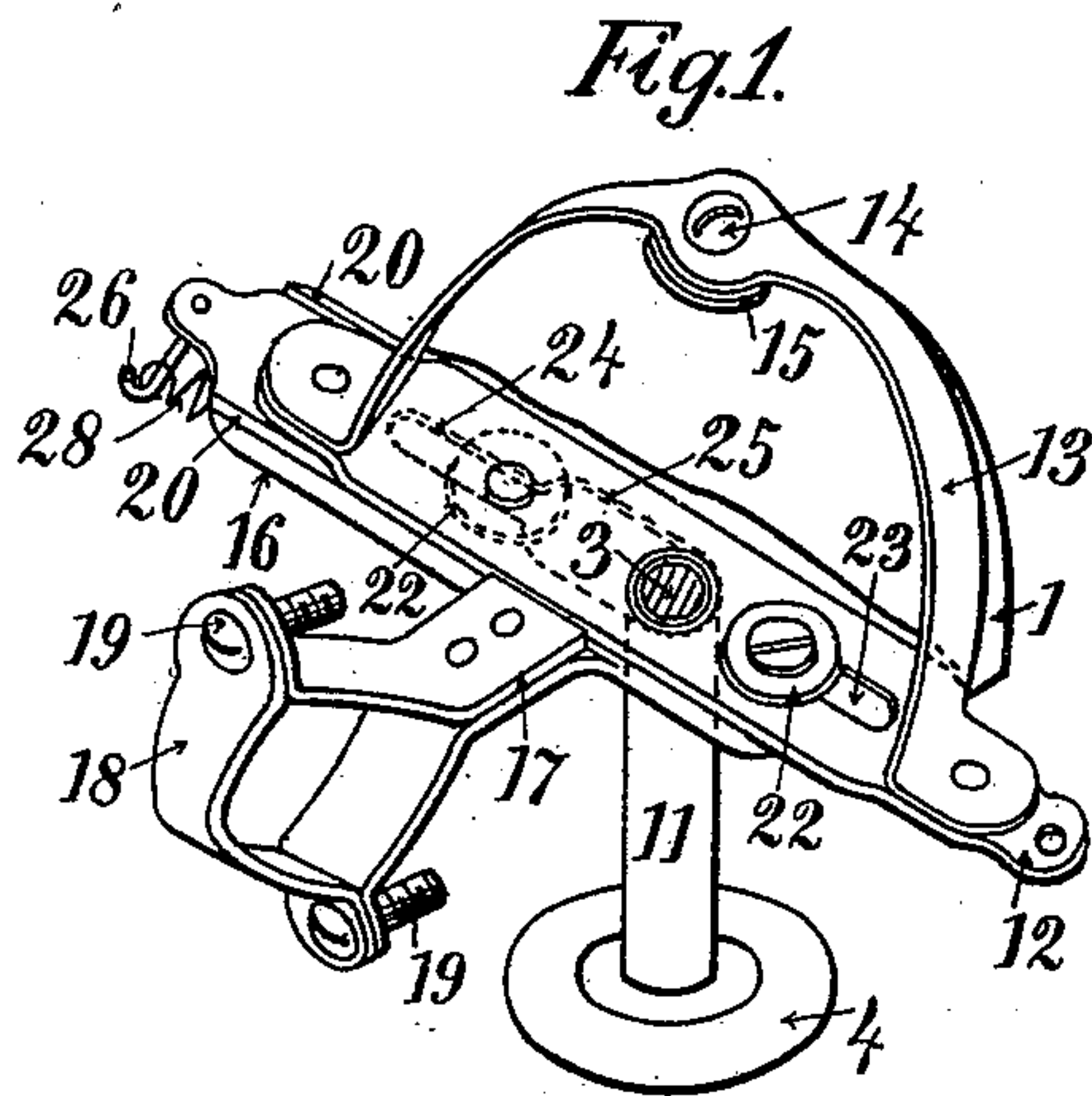
Patented Apr. 4, 1899.

H. BRÄNDLI.  
ALARM BELL FOR BICYCLES.

(Application filed May 10, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses  
John A. Paulson.  
Harry Calhoun.

Hermann Brändli Inventor  
By Schreiter, Van Oderstine & Mathews, Attys.

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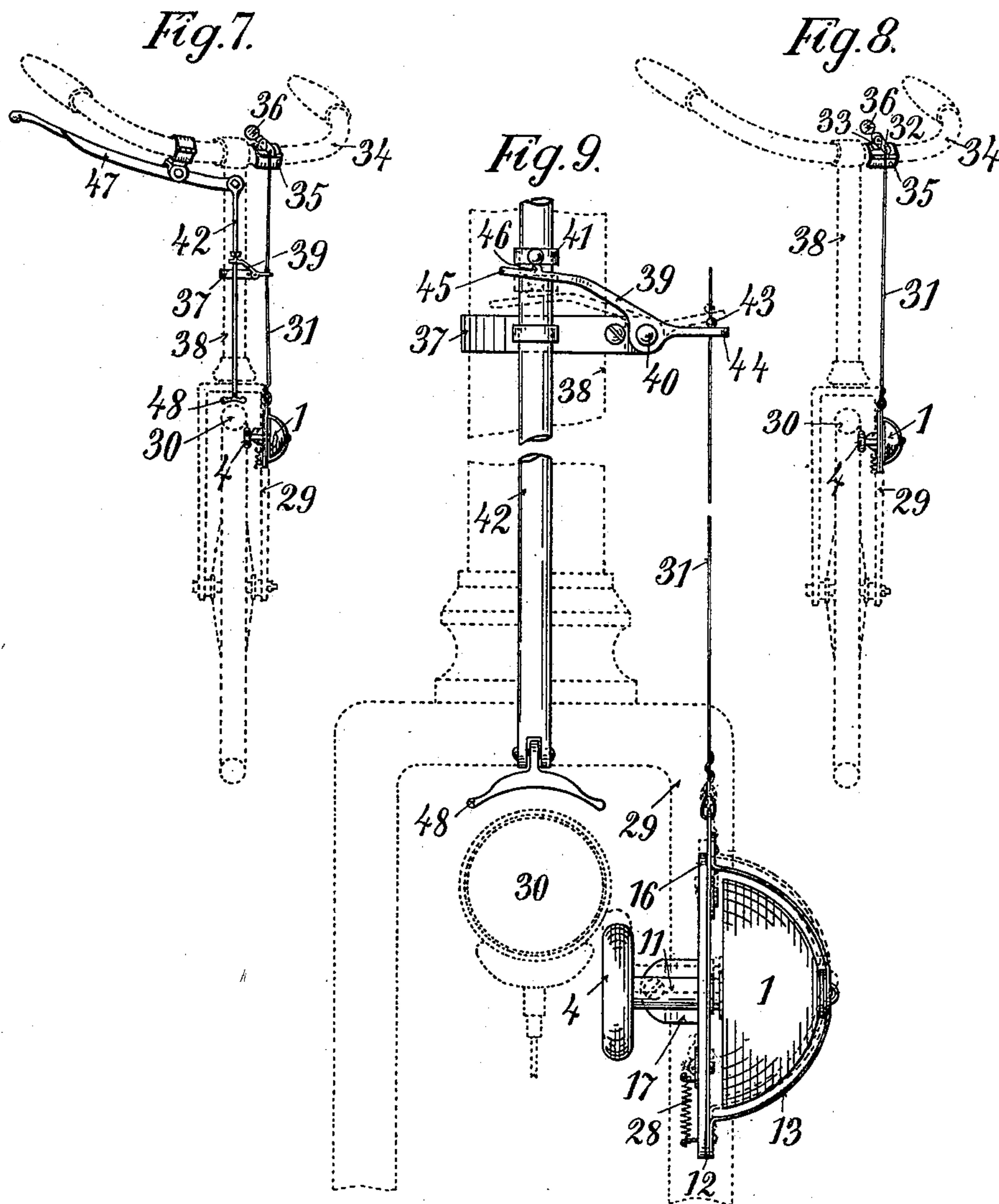
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John A. Paulson.  
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# UNITED STATES PATENT OFFICE.

HERMANN BRÄNDLI, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF  
ONE-HALF TO JOHN STERNAD, OF SAME PLACE.

## ALARM-BELL FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 622,440, dated April 4, 1899.

Application filed May 10, 1898. Serial No. 680,280. (No model.)

*To all whom it may concern:*

Be it known that I, HERMANN BRÄNDLI, of Jersey City Heights, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Alarm-Bells for Bicycles, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings, wherein—

Figure 1 is a perspective view of my improved bell-bracket; Fig. 2, a sectional view of the same with the bell set in position; Fig. 3, a bottom view of the bell; Fig. 4, an elevation of the bell-movement; Fig. 5, a sectional view on lines 5 5, indicated in Fig. 6; Fig. 6, a bottom view of the bell-bracket. Figs. 7 and 8 are elevations showing my improved bicycle-bell attached to the frame of the bicycle. Fig. 9 is an enlarged detail view showing the construction of the operating mechanism for starting the bell combined with the brake.

My invention relates to bicycle appliances; and it consists of the hereinafter-described construction of a bicycle-bell and of the bracket for mounting the same in such position on the frame that the movement of the bell may be operated by the tire of the wheel and of the construction of mechanism whereby the bell may be operated by the brake-lever simultaneously with the brake.

The bell proper consists of the globe 1, provided with an inwardly-projecting abutment 2, and of the movement, which comprises shaft 3, friction-wheel 4, set on one end of the shaft, bars 5 and 6, mounted transversely upon the shaft 3, and oscillating hammers 7, pivoted one to each end of the bars 5 and 6 by pivots 8. Strikers 7 are held between the bars 6 and washers 9, and they swing on the pivots, so that when the shaft 3 is rapidly rotated the projections or abutments 10 of these strikers are thrown outwardly and strike against the projections or abutments 2, and thereby produce the sound. The peculiar configuration of the strikers 7 is shown in Fig. 3 in plan and in Fig. 4 in side elevation. They are made in the shape of cams, the abutments 10 being the farthest projecting parts from the center, as represented by pin 8. The circumference of these strikers is so shaped that

when receded they may pass along the abutment 2 of the bell without striking and, again, so that when striking against the abutment 2 they are receded gradually as they pass along the abutment. The construction of these moving parts of the bell is shown independently of other parts and in somewhat enlarged detail in Fig. 4. Shaft 3 is inserted in tube 11, which serves as a bearing for it, and is rigidly secured in a corresponding bore of the bar 12 of the bracket. Arch 13 is riveted to the same bar 12, and bell-globe 1 is screwed thereto by screw 14. Washers 15, set on the screw 14 between the bell-globe 1 and the arch 13, serve for the adjustment of the position of the bell-globe within the arch. Bar 12 and arch 13 compose the frame of the bell.

The bracket for affixing the bell to the frame of the bicycle consists of the bar 16, the forked arm 17, and arch 18, which is fitted upon the flanged side bars of the arm 17 and forms, together with them, a clamp held together by screws 19. The longitudinal edges of bar 16 are turned at right angle to its plane and form ways 20, on which the bar 12 rests and slides to and fro. Bars 16 and 12 are fastened together by screws 21, one of which is screwed in each of the bars and passes through a slot 23 and 24, respectively, provided in the other bar. Washers 22, set between the heads of the screws 21 and the surfaces of the bars 12 and 16, respectively, are provided to facilitate a smooth sliding of the parts. Slot 25 in bar 16 provides a passage for the tube 11 when the bell-frame is shifted in its position relatively to the bracket. A hooked pin 26 is fastened in the bar 16, and a similar pin 27 is fastened in the washer 22 of the screw 21, screwed in the bar 12. A spiral spring 28 is attached to the pins 26 and 27, so as to draw them together. This spring holds the bell in the position shown in Fig. 2, the tube 11 being then at the downward end of the slot 25. By pulling the bar 12 in the direction indicated by the arrow in Fig. 2 the position of the bell-frame in relation to the bar 16 is shifted. This is done for the purpose of bringing the friction-wheel 4 in contact with the tire, as shown in Fig. 9, and when the pull is released spring



28 contracting draws the frame of the bell again in its normal position, thereby withdrawing friction-wheel 4 from the tire.

The manner of affixing the bell to the frame of the bicycle is illustrated in Figs. 7, 8, and 9. Bracket 17 is clamped by arch 18 and screws 19 to side bar 29 of the fork in such position that the friction-wheel 4 will stand inwardly and near below the tire 30 of the wheel of the bicycle when the bell-frame is in its normal position.

The bell-frame (composed of bar 12 and arch 13, as explained above) is connected by means of wire 31 to lever 32, fulcrumed between the side bars of the bracket 33, which is rigidly affixed to the handle-bar 34 by collar 35. Lever 32 is provided with a thumb-piece 36, projecting inwardly from the handle-bar. By pressing upon this thumb-piece 36 of the lever 32 the bell-frame, and with it also the friction-wheel 4, is lifted upwardly into the position indicated in dotted lines in Fig. 9, whereby the friction-wheel 4 comes into contact with the tire 30 and is set thereby in rapid rotary motion. This motion is imparted, as explained above, to the movement of the bell and causes the hammers 7 to strike with their abutments 10 against the abutment 2 of the bell in rapid succession and to produce thereby the ringing sound. When the pressure upon the terminal 36 of the lever 32 is released, the spring 28 draws the bell-frame downwardly, and thereby also withdraws the wheel 4 from contact with the tire 30 and the ringing of the bell ceases.

In Figs. 7 and 9 I have shown a device for operating the bell simultaneously with the brake. This arrangement is devised to enable the rider to operate the bell on such occasions where he is required to apply the brake simultaneously with ringing the bell. The device consists in the collar 37, secured to the fork-stem 38, double-armed lever 39, fulcrumed on screw-bolt 40, collar 41, rigidly secured to brake-rod 42, and ball 43, secured to the wire 31. Arm 44 of the lever 39 is bifurcated, and the wire 31 passes through the slot, which, however, is only wide enough to permit the wire to pass through and not the ball 43. Arm 45 of the lever 39 is extended in front of the brake-rod 42 and below the collar 41. This arm is provided with an upwardly-projecting tooth 46, engaging with the collar. When the brake is applied, rod 42 is moved downwardly by the lever 47, as indicated in dotted lines in Fig. 9. Ring 41 presses upon the arm 45 of the lever 39, moving the other arm 44 of the lever upwardly. Ball 43 cannot pass through the slot, and thus the lever pulls the wire 31 and the bell-frame upwardly and, bringing friction-wheel 4 in contact with the tire 30, causes the bell to ring in the manner as described above.

I am aware that bicycle-bells mounted in movable frames adapted to be operated by a friction-wheel brought in contact with the tire of the bicycle were known heretofore;

but my invention differs from those devices in that these bells require intermediate gears for transmitting the motion from the friction-wheel to the movement of the bell, and consequently besides being more complicated in construction and requiring many more parts than my improved bell described above they require also a safe incasing of the gearing parts, and, in fact, of the whole device, to prevent their becoming clogged by dust and unserviceable.

My improved bell is greatly simplified in construction and does not require practically any casing at all, the only part oiled being safely preserved in the tube 11. There is practically no part that could be rendered inoperative by becoming clogged with dust or otherwise.

Owing to its simplicity of construction, my improved bicycle-bell can be manufactured very cheaply and is easily applicable to any bicycle or similar vehicle now in use.

I claim as my invention and desire to secure by Letters Patent—

1. A bicycle-bell comprising a frame composed of a bar and an arch secured thereto, a bell-globe secured to the apex of the arch and provided with inwardly-projecting abutment, a tube secured in the bar, a shaft journaled in the tube, a friction-wheel secured to one end of the shaft, a bar transversely mounted on the other end of the shaft and inside of the bell-frame, oscillating strikers set on pivots, one on each end of the bar, a slotted bar provided with a clamp for affixing it in suitable position to the frame of the bicycle, means for movably affixing the bell-frame to the slotted bar, and means for shifting the bell-frame so as to bring the friction-wheel in and out of contact with the tire of the bicycle-wheel.

2. A bicycle-bell comprising a bracket adapted to be secured to the frame of the bicycle, a slotted bar integral with the bracket, a bell-frame movably mounted upon the slotted bar and comprising a slotted bar and an arch riveted thereto, a tube secured in the bar of the bell-frame, a shaft journaled in the tube, a friction-wheel secured to one end of the stud, a bar transversely mounted on the other end of the stud, and inside of the bell-frame, oscillating strikers set on pivots one on each end of the bar, a bell-globe secured to the apex of the arch and provided with an inwardly-projecting abutment, bolts connecting the bell-frame to the bracket-bar and a spring holding them in relative position, and means for shifting the bell-frame along the bracket-bar oppositely to the action of the spring.

3. In combination a bell-frame, comprising a slotted bar and an arch rigidly secured thereto, a bell mounted in the frame and provided with friction-wheel in position to be brought in contact with the tire of the bicycle, a slotted bar provided with a clamp for affixing it in suitable position to the frame of



the bicycle, screw-bolts passing through the slots of the bars and connecting them movably together, a contractile spring connecting the frame to the bar and means for shifting the frame in relation to the bar.

4. The combination with a bicycle-brake, of a device for ringing a movable bell adapted to be operated by a friction-gear in contact with the tire, comprising a collar rigidly secured to the fork-stem of the bicycle, a two-armed lever fulcrumed to the collar, a collar rigidly secured to the brake-rod in position

to engage with the inwardly-pointing longer arm of the lever and means for connecting the outwardly-pointing shorter end of the lever to the frame of the movable bell. 15

In witness that I claim the improvements described in the foregoing specification I have signed my name in the presence of two subscribing witnesses.

HERMANN BRÄNDLI.

Witnesses:

HENRY SCHREITER,

ROBERT VALENTINE MATHEWS.