

No. 617,356.

A. C. REICHEL.

Patented Jan. 10, 1899.

ALARM CLOCK.

(Application filed Jan. 26, 1898.)

(No Model.)

Fig. 1.

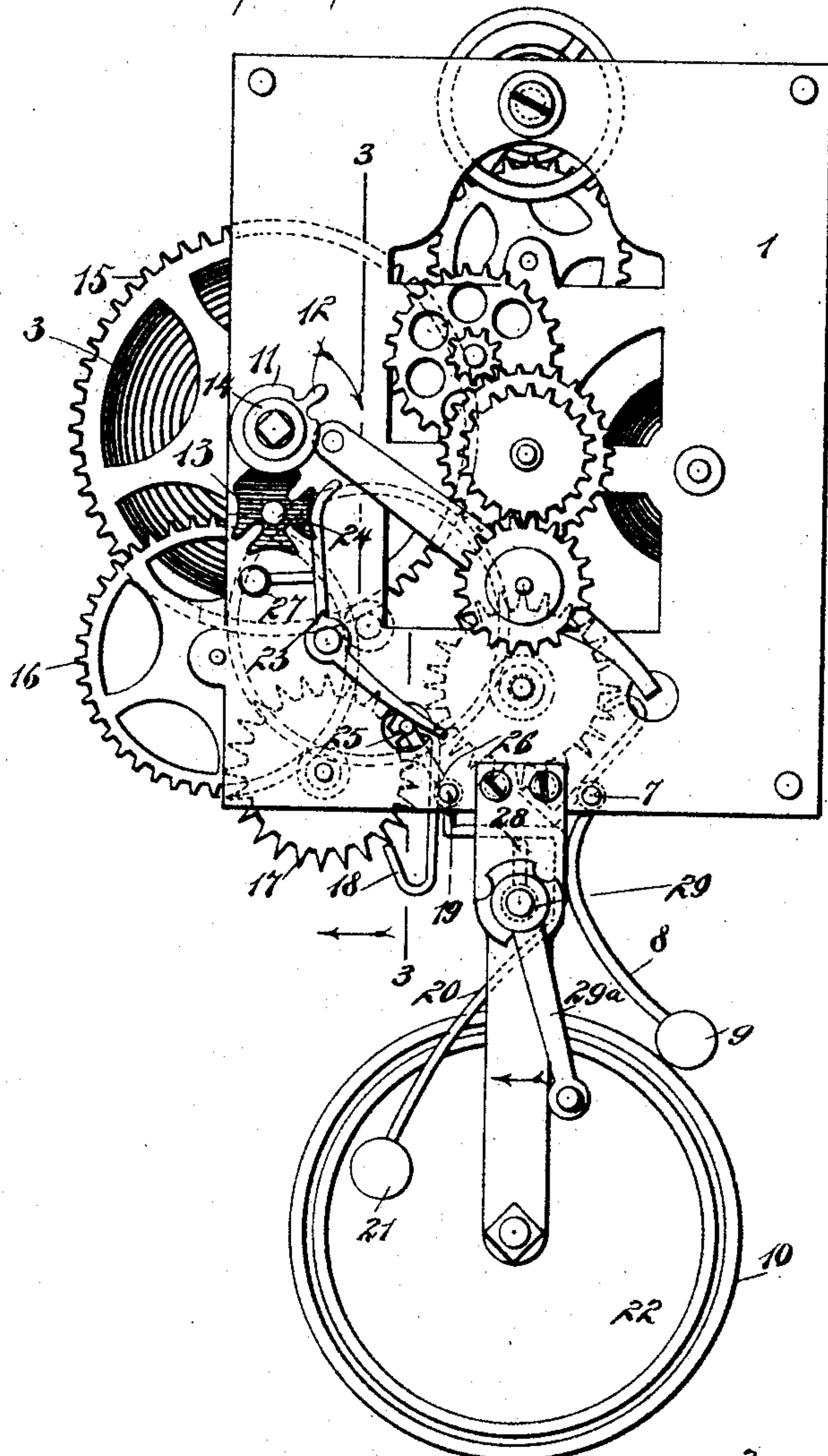


Fig. 2.

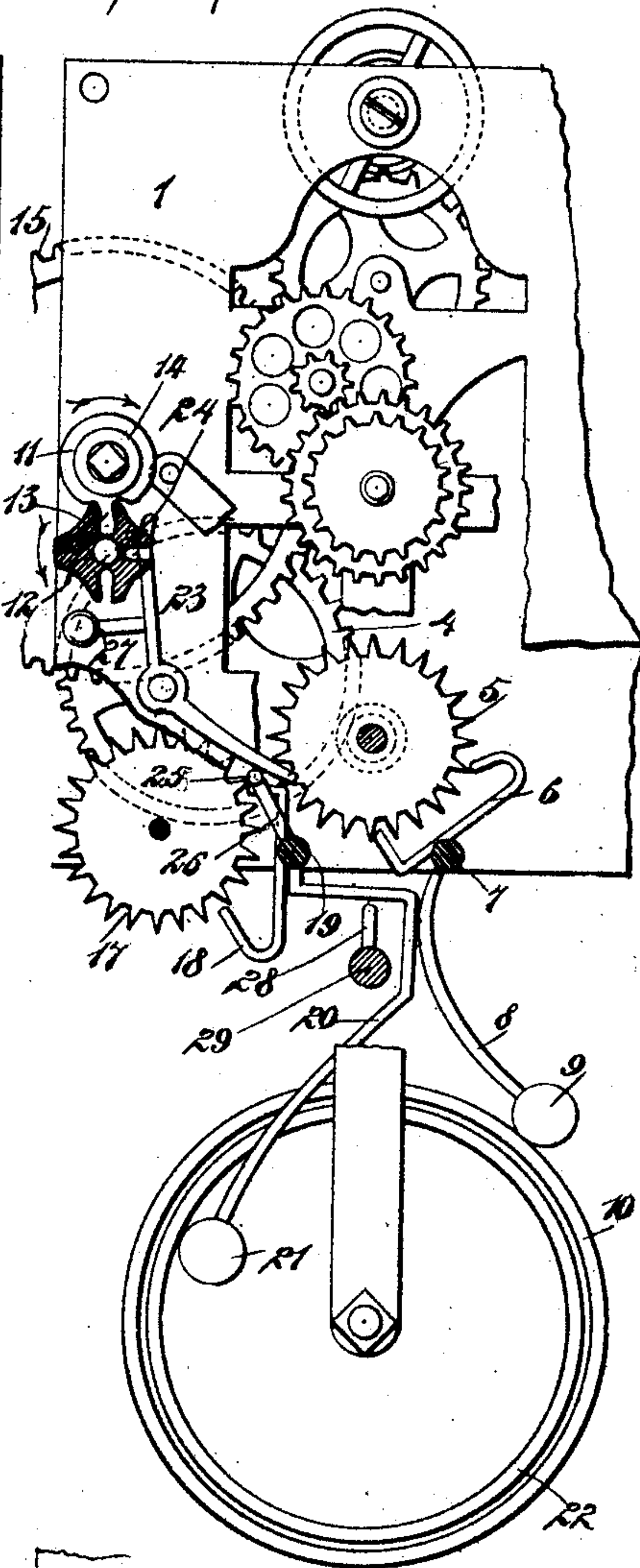


Fig. 3.

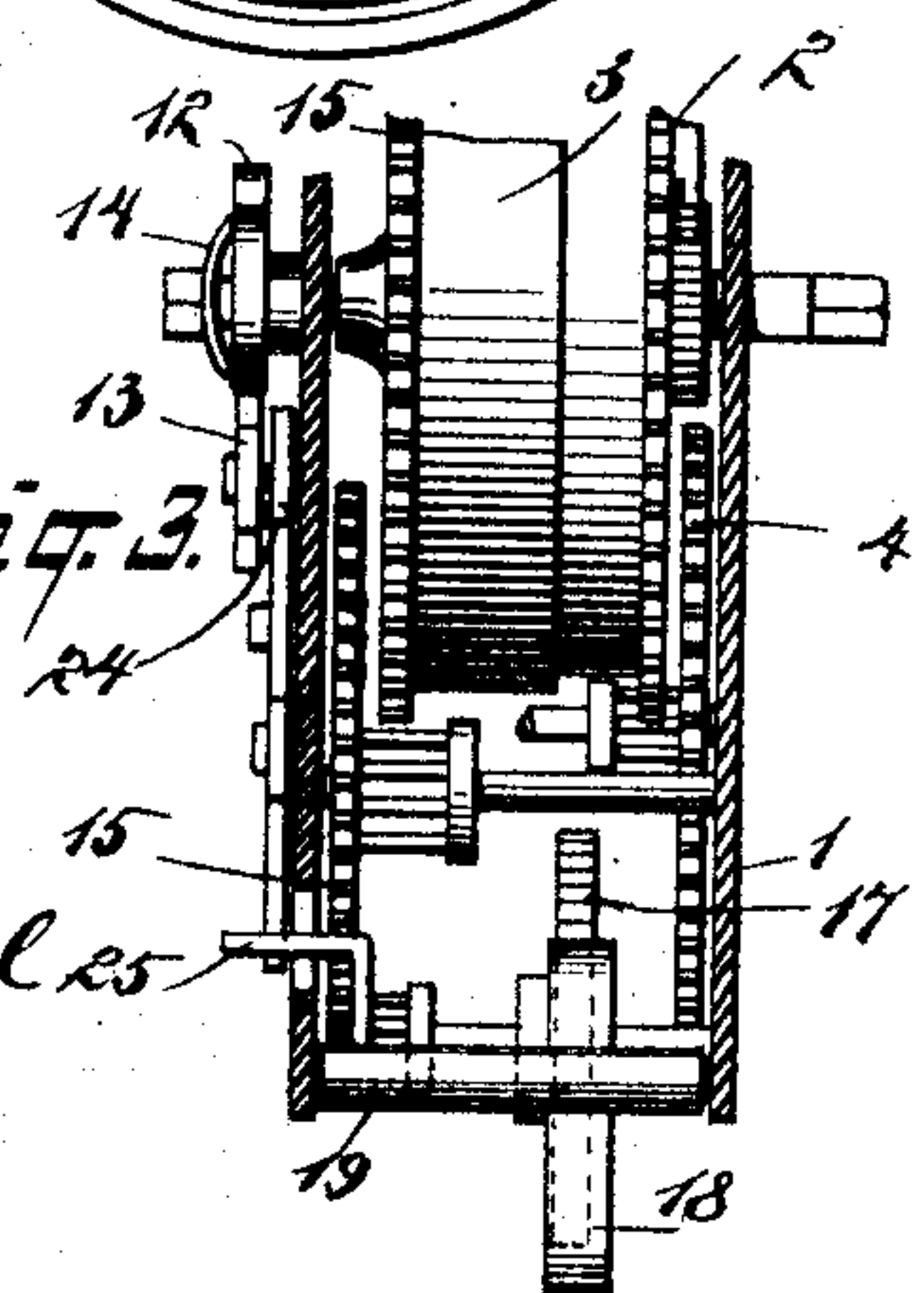
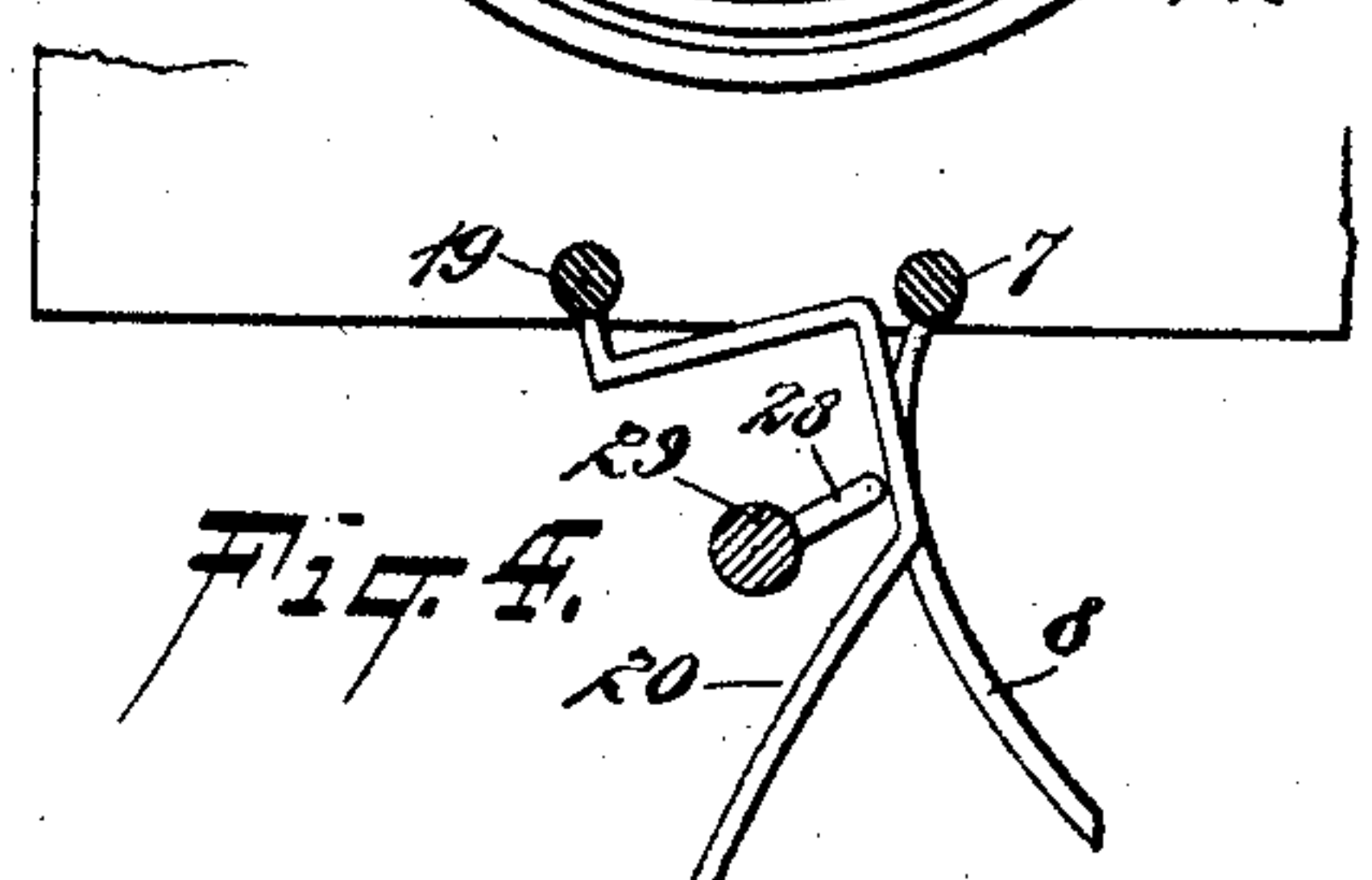


Fig. 4.



WITNESSES:

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ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 617,356, dated January 10, 1899.

Application filed January 26, 1898. Serial No. 667,993. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR C. REICHEL, of Union Hill, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Clocks, of which the following is a full, clear, and exact description.

This invention relates particularly to alarm-clocks; and the object is to provide a clock with two alarm-bells differing in sound or pitch and so arranged that both alarms may be sounded by the operation of one spring and whereby one bell will be sounded alone for a short time and then the two will be sounded together for a short time.

I will describe a clock embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a clock mechanism embodying my invention. Fig. 2 is a similar view, but showing the parts in a different position. Fig. 3 is a section on the line 3 3 of Fig. 1, and Fig. 4 is a detail of the brake mechanism.

Referring to the drawings, 1 designates the frame for a clock mechanism substantially of the usual character, and therefore all of the wheels contained therein need not be described. Mounted to rotate in the frame 1 is a gear-wheel 2, driven by a spring 3. This gear-wheel 2 meshes with a pinion on the shaft of a gear-wheel 4, which in turn meshes with a pinion on the shaft of an escapement-wheel 5. Engaging with this escapement-wheel 5 is an escapement 6, secured to a rock-shaft 7, and from this rock-shaft 7 an arm 8 extends, and this arm is provided at its end with a striker 9 for striking the gong 10.

On the shaft of the wheel 2 is mounted a collar 11, having a finger 12, designed to engage with one of a series of radial slots formed in a releasing-wheel 13 for the second alarm, as will be hereinafter described. The collar 11 has a spring yielding engagement with the shaft of the wheel 2, so that the shaft may be turned when it is desired to wind the spring without entirely rotating the collar carrying

the finger 12. The spring yielding connection consists of a spring-washer 14.

Mounted on the shaft at the end opposite that with which the wheel 2 is engaged is a similar gear-wheel 15, meshing with a pinion on the shaft of the gear-wheel 16, and this gear-wheel 16 meshes with a pinion on the shaft of an escapement-wheel 17, with which an escapement 18 engages. This escapement 18 is attached to a rock-shaft 19, and from the rock-shaft 19 an arm 20 is extended, and this arm 20 at its end is provided with a striker 21 for sounding a gong 22, arranged inside the gong 10.

Pivoted to the frame 1 is a lever 23, the upper end of which is designed to be engaged by a pin 24, arranged near the periphery of the slotted wheel 13. The lower portion of this lever 23 is designed to engage with a laterally-extended finger 25 on an arm 26, extended upward from the rock-shaft 19, so that when the pin 24 is in engagement with the upper portion of the lever the rock-shaft 19 will be held from movement, and consequently the inner gong will not be sounded until the lever 23 is released, as will be hereinafter described. The lever 23 is provided with an arm carrying a counterbalance 27.

In operation the time for sounding the alarm will be set in the usual manner. When this time arrives, the spring-motor will be released, and by rotating the gear-wheel 2 the rock-shaft 7 will be rotated through the escapement mechanism, and this of course will sound the gong 10. The shaft of the gear-wheel 2 will be in rotation with the gear-wheel, as will also the gear-wheel 15. When the finger 12 of the collar 11 enters a slot in the slotted wheel 13, the said slotted wheel will be rotated sufficiently to move its pin out of engagement with the lever 23. The lever 23 will then swing under the pressure of the counterbalance 27, releasing the finger 25, and consequently releasing the rock-shaft 19. Then of course the said rock-shaft will be operated through the medium of the gearing before described and sound the gong 22. Then both gongs will be sounded together for a short time or until the vibration of the striking devices is stopped by a brake. This brake is here shown as an arm 28, attached

to a shaft 29. The said arm 28 may be moved by means of a handle 29^a, attached to the shaft 29, into engagement with the arms and stop their vibration. The movements of the
 5 finger 12 and wheel 13 are indicated by arrows in Fig. 2.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

10 1. In an alarm mechanism for clocks, the combination of two driven primary-movement gear-wheels, two escapement-wheels respectively driven by the gear-wheels, striker-arms respectively vibrated by the escape-
 15 ment-wheels, a gong coacting with each striker-arm, a third arm in connection with one striker-arm and serving normally to stop the movement thereof, a lever, one arm of which is normally engaged with the third arm
 20 to hold the same in locked position, a slotted wheel having a pin engaged with the lever to hold the same, and a collar provided with a finger coacting with the slots of the slotted wheel to periodically turn the slotted wheel,
 25 the collar being driven by one of the primary-movement gear-wheels.

2. In an alarm mechanism, the combination of two primary-movement gear-wheels, two

alarm devices respectively driven by the primary-movement gear-wheels, a lever coact- 30 ing with one of said alarm devices to hold the same normally inactive, a slotted wheel having a projected portion engaging the lever to normally hold the same, and a collar driven by one of the gear-wheels and having a fin- 35 ger coacting with the slotted wheel whereby to periodically move the wheel so as to release the lever.

3. In an alarm mechanism, the combination of two primary-movement gear-wheels, two 40 alarm devices respectively driven from the gear-wheels, a lever capable of holding one of said alarm devices inactive, the lever having a counterbalance serving to normally hold the lever out of engagement with the said 45 alarm device, a slotted wheel having a projected portion capable of engaging the lever to throw the same against the tendency of the counterbalance, and a collar mounted to turn with one of the gear-wheels, the collar having 50 a finger coacting with the slots of the slotted wheel, whereby to periodically turn the wheel.

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Witnesses:

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