

No. 881,555.

PATENTED MAR. 10, 1908.

W. D. DAVIES.
REPEATING ALARM CLOCK.
APPLICATION FILED OCT. 30, 1907.

Fig. 1.

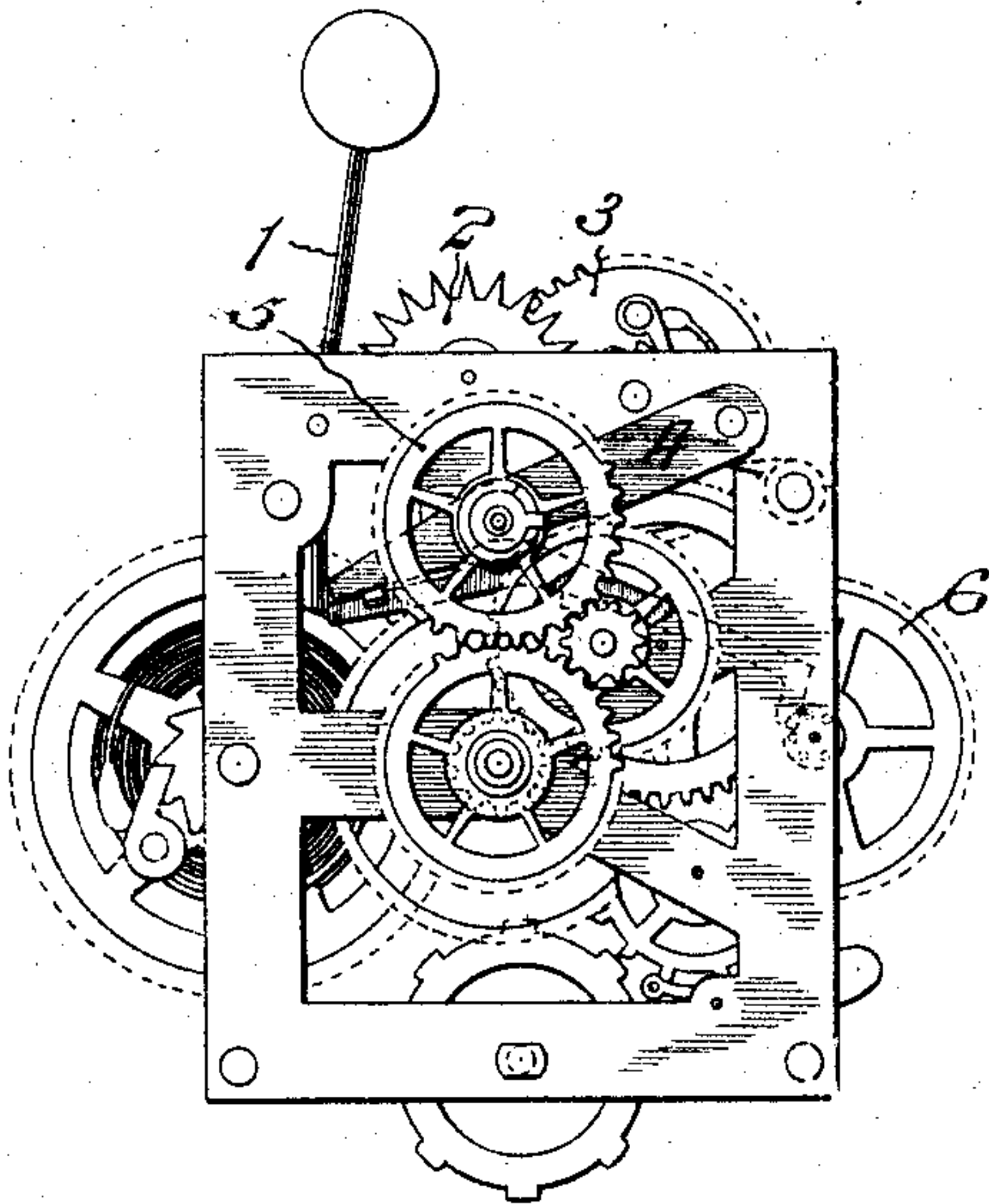


Fig. 3.

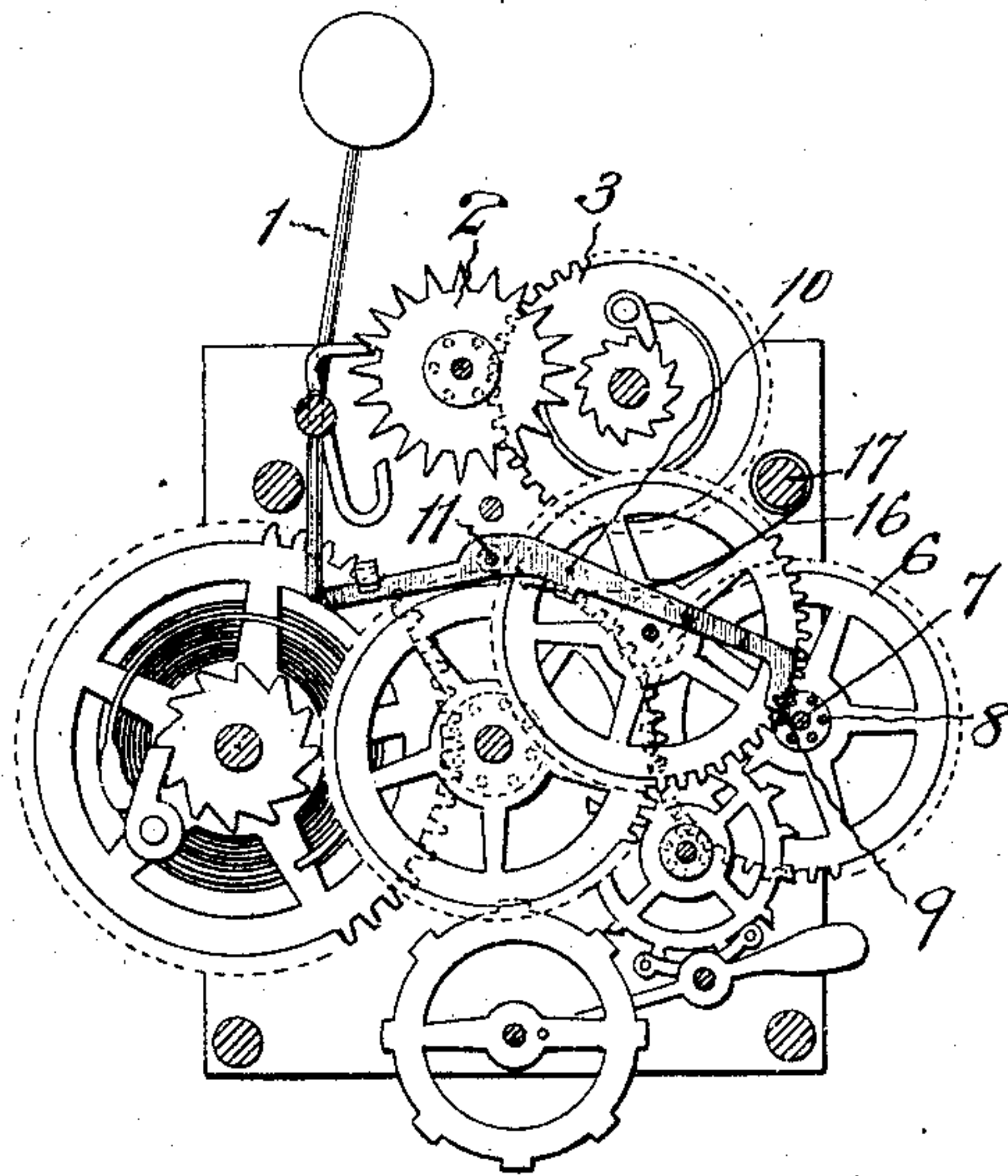


Fig. 2.

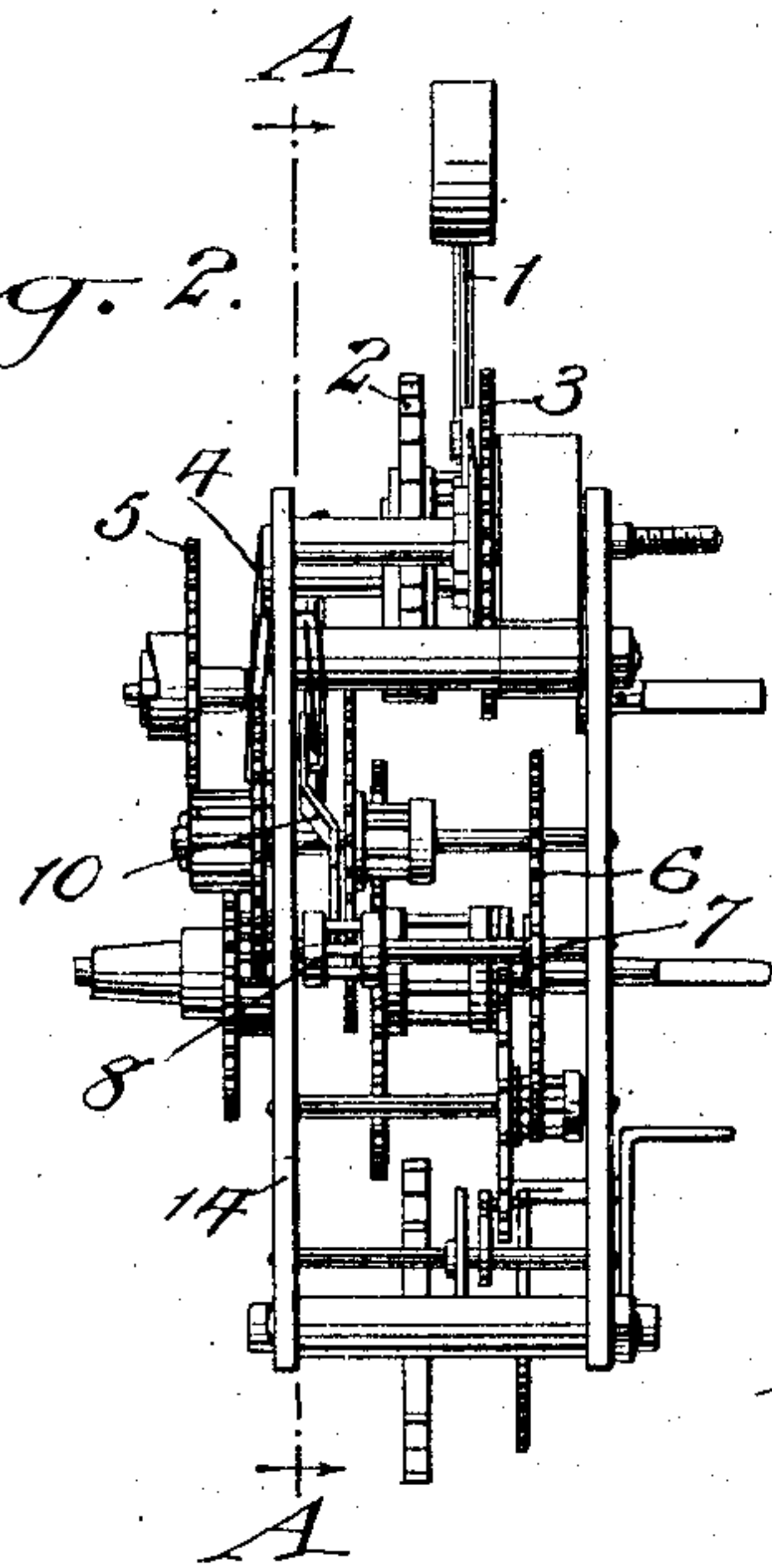


Fig. 4.

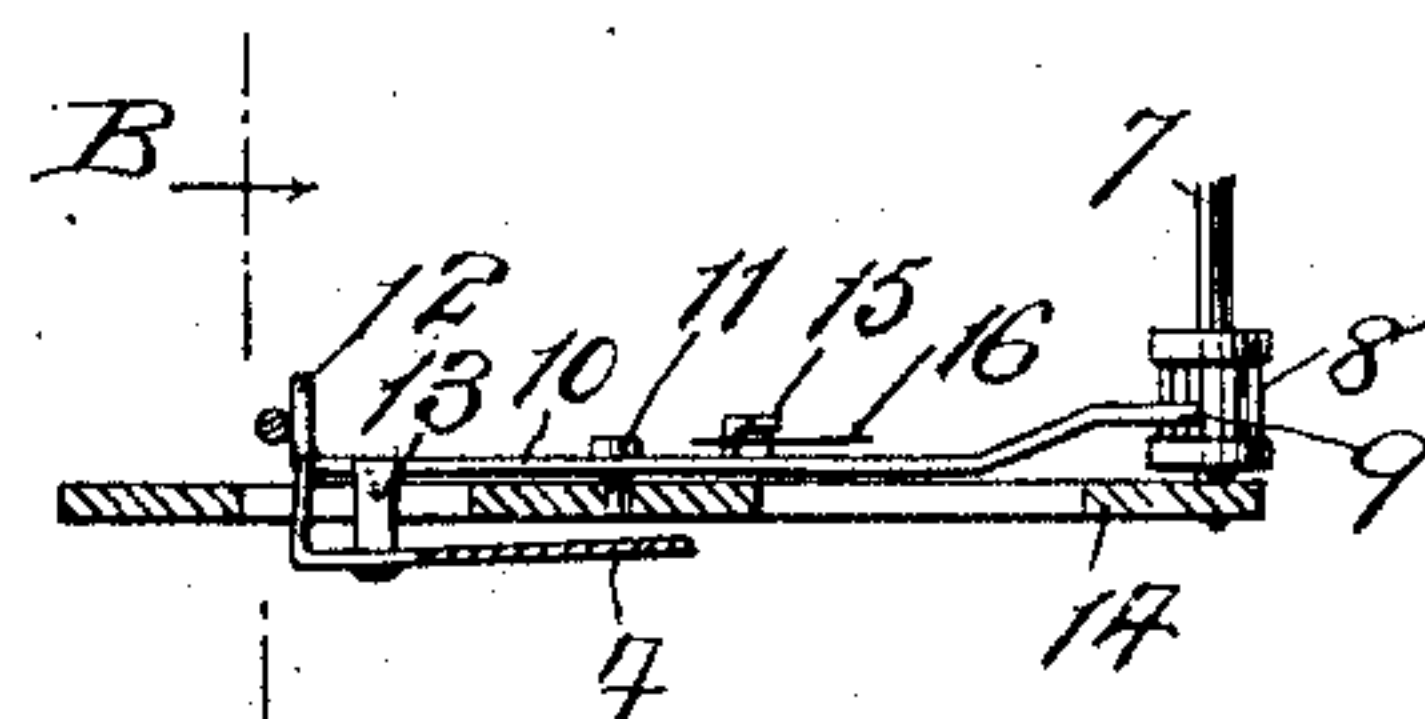
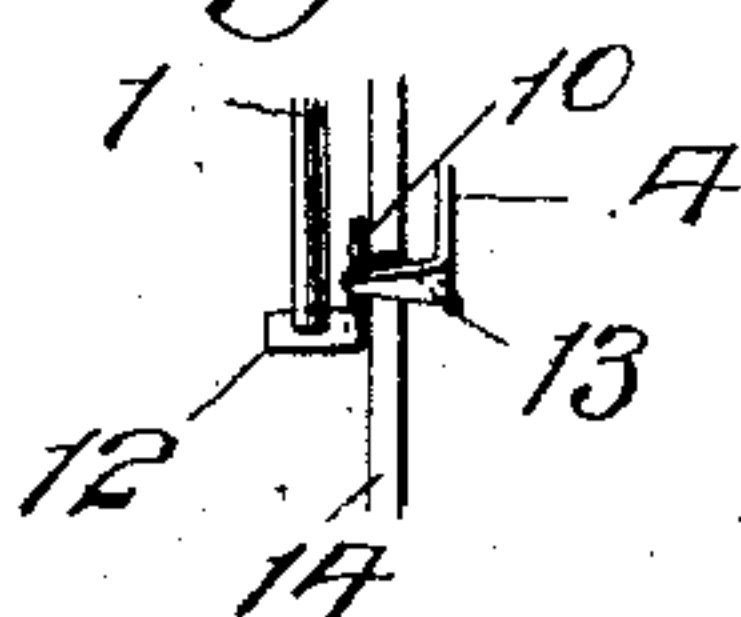


Fig. 5.



Witnesses:
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Walter S. Davies
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UNITED STATES PATENT OFFICE.

WALTER D. DAVIES, OF NEW YORK, N. Y., ASSIGNOR TO THE ANSONIA CLOCK COMPANY,
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REPEATING ALARM-CLOCK.

No. 881,555.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed October 30, 1907. Serial No. 399,894.

To all whom it may concern:

Be it known that I, WALTER D. DAVIES, a citizen of the United States, and resident of the borough of Brooklyn, in the city and State of New York, have invented a new and useful Improvement in Repeating Alarm-Clocks, of which the following is a specification.

My invention relates to a clock movement, the object being to provide simple and effective means in connection with the repeating alarm for leaving the time movement free from any interference from the repeating alarm mechanism when the latter is not in actual operation.

A practical embodiment of my invention is represented in the accompanying drawings in which

Figure 1 is a view of a clock movement in front elevation; Fig. 2 is a side view of the same, Fig. 3 is a vertical section in the plane of the line A—A of Fig. 2, Fig. 4 is a partial horizontal section in detail showing the parts which form the subject-matter of my present invention in their relation to the alarm trip spring, and Fig. 5 is a section in the plane of the line B—B of Fig. 4.

The several parts of the clock movement and the alarm in its relation thereto, may be of well known or approved construction, the general arrangement here shown being a well known arrangement in which the stem of the alarm hammer is denoted by 1, the escapement wheel for operating it, by 2, the spring-actuated spur wheel for operating the escapement mechanism by 3, the alarm trip spring by 4, the wheel driven by the time mechanism for permitting the trip spring to disengage the stem 1 of the alarm hammer by 5, and the second time wheel by 6.

On the spindle 7 of the second time wheel 6, there is a lantern pinion 8 which engages a toe 9 on a swinging lever 10 fulcrumed at 11 on a stud set in the front frame, the said lever being provided with a lateral projection 12 at its end, in the present instance the lever itself is bent at its end to form the offset 12, the said offset being located in position to rock into and out of the path of the lower end of the stem 1 of the hammer to permit the latter to vibrate or prevent it from vibrating. The lever 10 is further provided with an inclined bearing, in the present instance a bent or curved arm 13 extending laterally therefrom and projecting through the front frame 14 of

the movement into position to engage the underside of the trip spring 4. In the present instance the arm 13 curves upwardly and outwardly and it may be conveniently formed integral with the lever 10 by cutting the lever and arm in a single piece of sheet metal. The lever 10 is further provided on the opposite side or toe side of its fulcrum, with an offset 15 for receiving the free end of a light spring, in the present instance a wire spring 16, which may be coiled around the post 17 and extended, as clearly shown in Fig. 3, from the post 17 to the offset 15, the tension of the spring being exerted in a direction to normally depress the toe end of the rocking lever 10.

The relative position of the trip spring 4 and the curved arm 13 on the rocking lever 10 is such that when the trip spring 4 is pressed inwardly into position to engage the stem 1 of the alarm hammer, that is, into the position which it occupies when the alarm is not in actual operation, the said spring 4 will by its engagement with the top of the curved arm 13, depress the end 12 of the rocking lever, lifting the toe 9 wholly out of engagement with the lantern pinion 8, thereby leaving the time movement wholly free from interference until the alarm actually operates.

When during the rotary movement of the wheel 5 the trip spring 4 is permitted to move outwardly and disengage the stem 1 of the alarm hammer as is common, it will at the same time swing over a depressed portion of the arm 13 on the lever 10, permitting the end 12 of said lever to rise and consequently the toe 9 at the opposite end of the lever to drop into engagement with the lantern pinion 8, the rise of the end 12 being sufficient to catch the lower end of the stem 1 of the alarm hammer, the lever 10 thus for the time being, assuming control of the action of the alarm hammer.

As the lantern pinion 8 revolves with the second time wheel 6, the teeth of the lantern pinion 8 by their engagement with the toe 9 of the lever, will automatically lift the toe end of the lever, thereby moving the end 12 out of engagement with the end of the stem 1 of the alarm hammer and the latter will be allowed to vibrate and ring the alarm until the tooth of the lantern pinion 8 which lifted the toe end of the lever 10, has disengaged the toe 9 and permitted the said toe end of the lever to again drop under the pressure of

the spring 16, thereby throwing the end 12 again into engagement with the stem 1 of the alarm hammer and arresting the action of the alarm.

5 In the present instance the lantern pinion 8 has six teeth at equal distances apart thereon so that the alarm will operate for about ten seconds and then will be silent for about the same length of time and this repetition will take place until the alarm driving
10 spring has lost its driving force.

This simple mechanism above described is eminently effective in operation, and is, as hereinabove described, capable of being
15 freed from any interference with the time mechanism by the action of the alarm trip spring itself and is capable of being applied to ordinary clock movements without requiring any serious re-organization of the
20 movement.

What I claim is:

1. In a clock movement provided with an alarm mechanism, the combination with the ordinary alarm trip spring, of an alarm repeating mechanism arranged to be thrown
25 out of engagement with the time mechanism when the said trip spring is in position to arrest the alarm the said alarm repeating mechanism including a rocking lever provided with an inclined laterally directed
30 bearing in position to be engaged by the alarm trip spring.

2. In a clock movement provided with an alarm mechanism, the combination with the
35 trip spring, of a rocking lever in position to engage the time mechanism to repeat the alarm, the said lever being provided with a curved bearing in position to engage the said trip spring and rock the lever out of engagement with the time mechanism when the
40 trip spring moves into position to arrest the alarm.

3. In a clock movement provided with an alarm mechanism, the combination with a
45 pinion on the second time wheel and the

alarm trip spring, of an alarm repeating lever fulcrumed intermediate of the said pinion and the stem of the alarm hammer and provided with a curved bearing in position to be engaged by the alarm trip spring when
50 the latter is moved in position to arrest the alarm.

4. In a clock movement provided with an alarm mechanism, the combination with the alarm trip spring and a pinion on the second
55 time wheel spindle, of an alarm repeating lever fulcrumed intermediate of the said pinion and the stem of the alarm hammer and provided with a toe in position to engage the pinion and with a projection in position to
60 engage the stem, the said lever being further provided with a curved bearing extending laterally therefrom for engaging the trip spring as the latter is moved laterally to arrest the alarm for lifting the toe of said lever
65 out of engagement with the pinion when the alarm is not in operation.

5. In a time movement provided with an alarm mechanism, the combination with the trip spring and a pinion on the spindle of the
70 second time wheel, of an alarm repeating lever interposed between the said pinion and the stem of the alarm hammer, the said lever being provided with a toe at one end for engaging the pinion and with a projection at
75 the opposite end for engaging the stem of the alarm hammer, and a spring for holding the toe end of the lever depressed, the said lever being provided with a bearing for placing the said repeating lever under the control of the
80 trip spring.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 25th day of October, 1907.

WALTER D. DAVIES.

Witnesses:

JOS. SCHWEIZER,
WALTER L. M. WATSON.