

No. 611,733.

Patented Oct. 4, 1898.

F. GUNDORPH.
ALARM CLOCK.

(Application filed June 18, 1897.)

(No Model.)

Fig. 1.

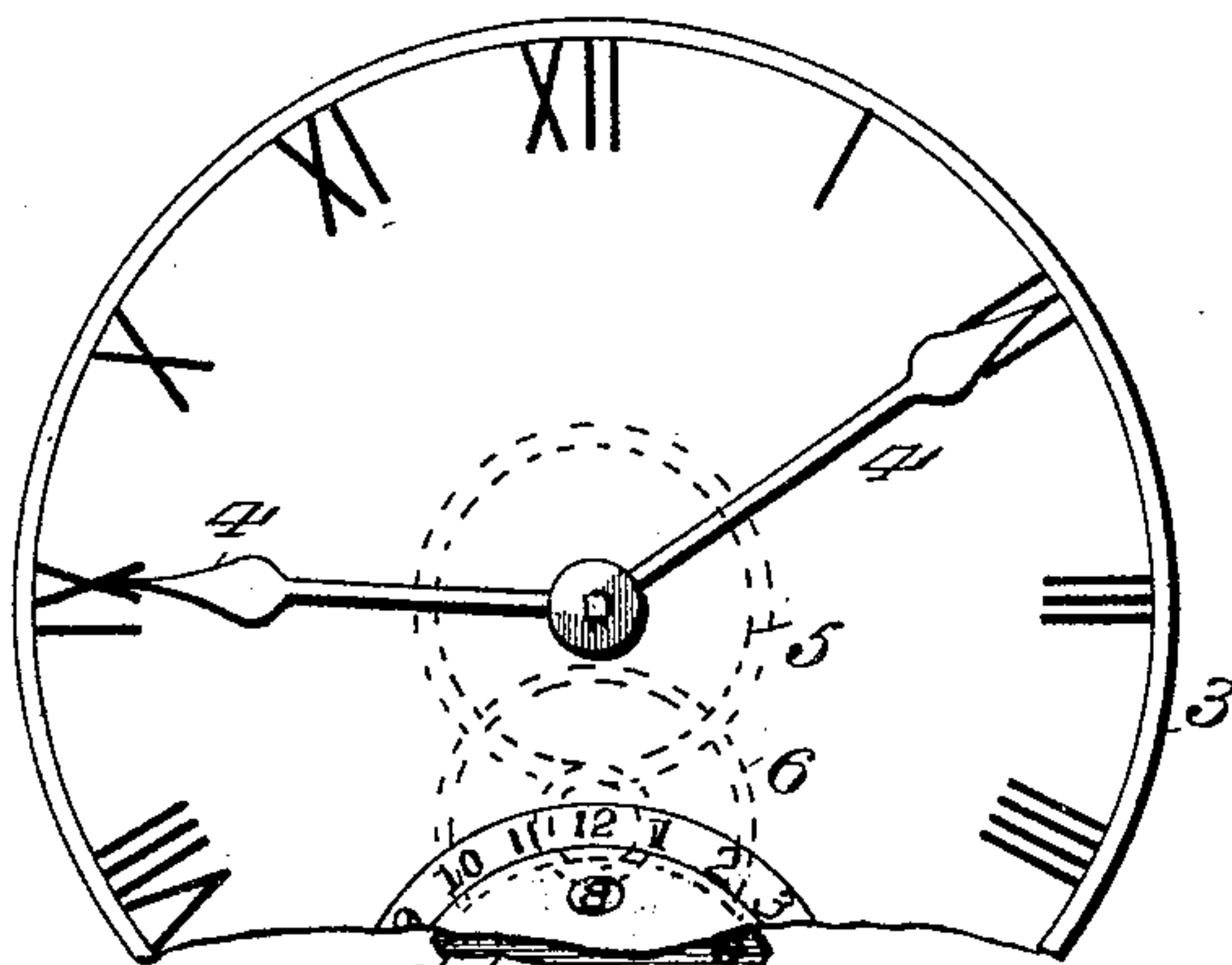


Fig. 3.

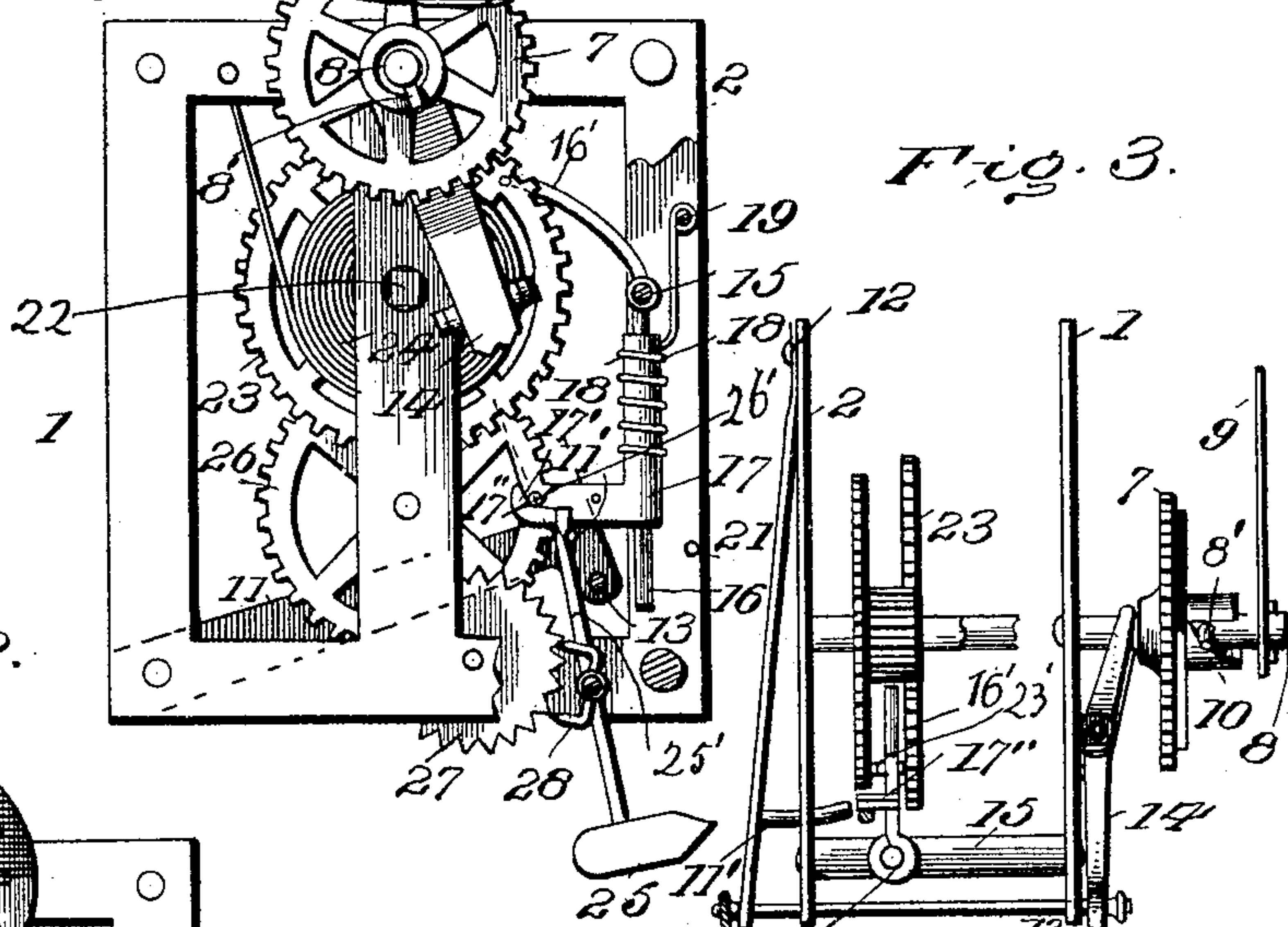


Fig. 2.

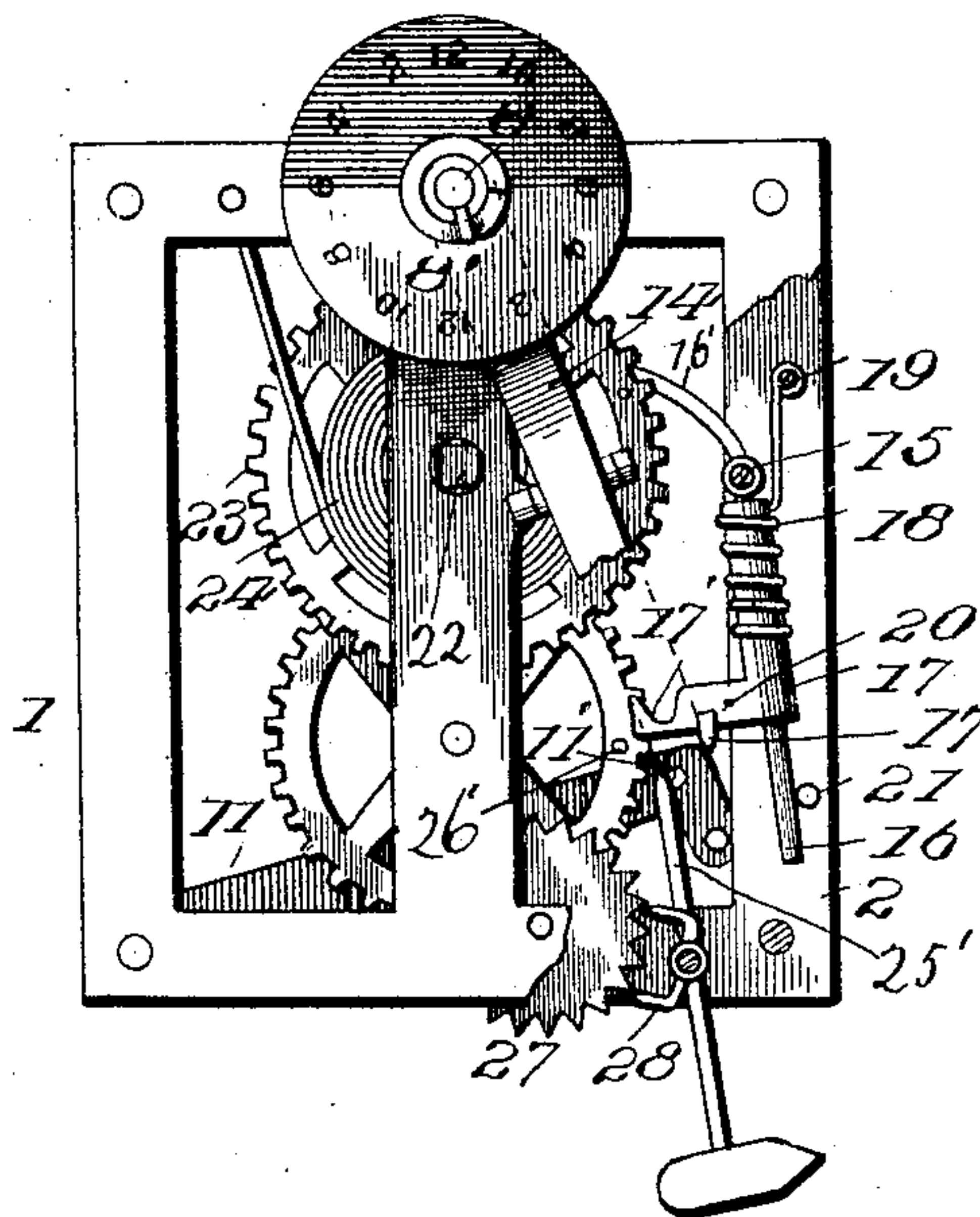
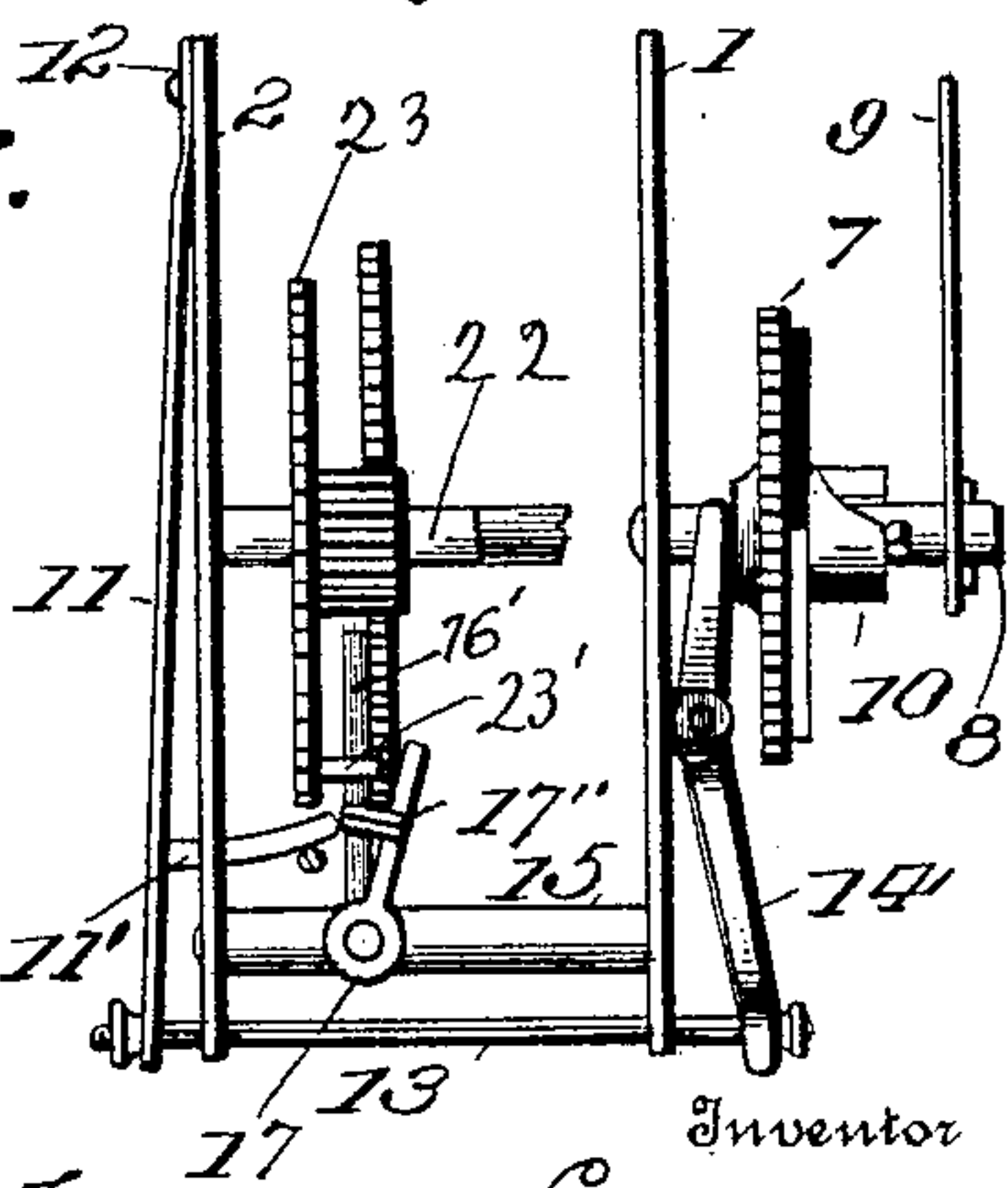
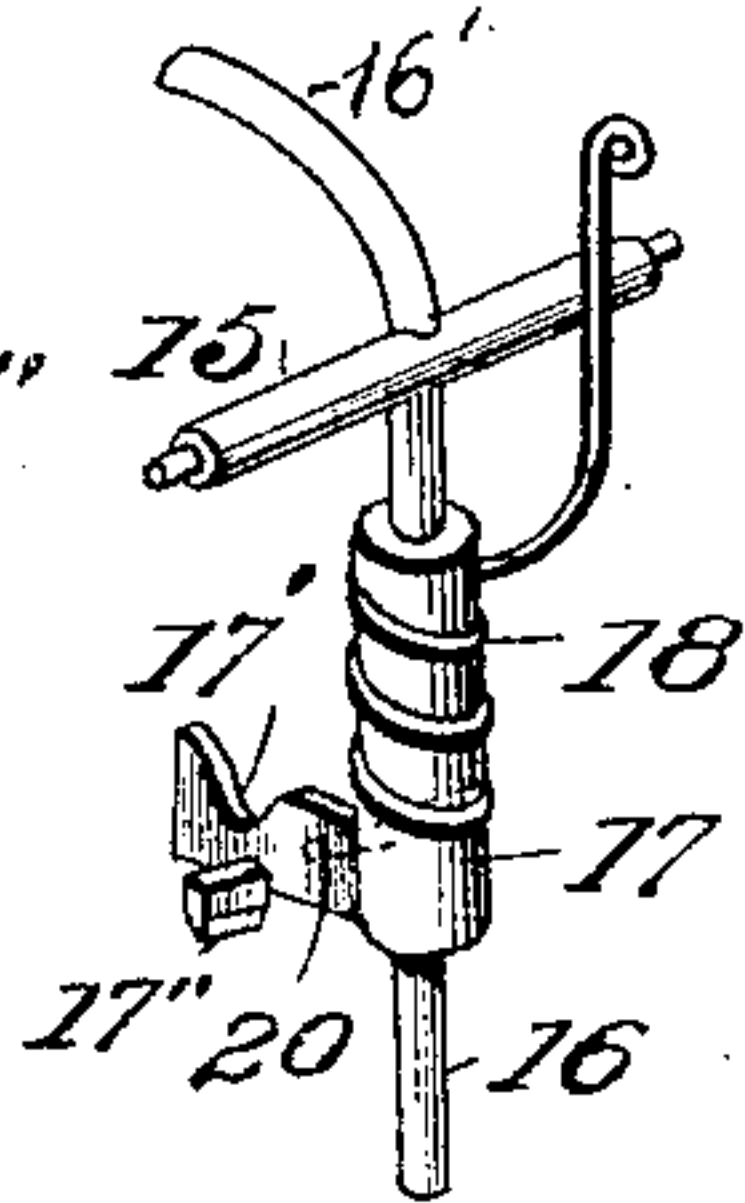


Fig. 5.



Witnesses

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FERDINAND GUNDORPH, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF
ONE-HALF TO JOSEPH SCHWEITZER, OF SAME PLACE.

ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 611,733, dated October 4, 1898.

Application filed June 18, 1897. Serial No. 641,388. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND GUNDORPH, a citizen of the United States of America, residing at the city of San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Alarm-Clocks; and I do hereby declare that the following is a full and exact description thereof.

10 This improvement relates to that class of alarm-clocks which will only trip the alarm once a day, although the alarm-movement may be arranged to give an alarm for several days in succession by one winding; and its object
15 is to provide a clock of this class which while cheaply made will be reliable in use and not likely to get out of order.

To these ends the invention consists in the peculiar construction hereinafter more
20 particularly described and then definitely claimed at the end hereof.

In the accompanying drawings, Figure 1 is an elevation, with parts represented as broken away, of an alarm-movement constructed according to my improvement with a small part
25 of an ordinary time-movement and the dial and hands. Fig. 2 is a similar view of the alarm-movement with parts in a different position. Figs. 3 and 4 are bottom plans of part
30 of the alarm mechanism with the parts in different positions. Fig. 5 is a perspective detail which will be more fully explained hereinafter.

Referring now to the details of the drawings by numerals, 1 2 indicate the front and
35 back plates of the frame of the alarm-movement, respectively; 3, the dial of the time-movement, and 4 the hands thereof. The circular dotted lines 5 and 6 indicate the ordinary wheels for giving the proper motion to
40 the hour-hand by a connection with the arbor of the minute-hand and which gives motion to a twenty-four-hour wheel 7, revolving on a stationary stud 8, carrying a pin 8' and
45 a pointer 9. This wheel 7 carries a cam 10, the face of which is kept in contact with said pin 8' by means of a spring 11, carrying a trigger 11' and fastened to the plate 2 at 12 and connected by a wire 13 and a lever 14,
50 pivoted in suitable bearings on the front plate 1.

Pivottally mounted between the plates is a

rocking arbor 15, forming the fulcrum of a lever 16, on which slides and swings an L-shaped catch 17, having a notch 17' and a de-
55 tent 17". Around the body of the catch is a helical spring 18, one of whose ends is attached to a pin 19, projecting from the plate 2, and the other end is passed through a hole 20 in the catch. This spring is so arranged
60 as to effect three objects, one of which is to move the catch 17 slightly around the lever 16, as on a center, a second is to pull said catch toward the arbor 15, and a third is to
65 press the short end of the lever 16 against a fixed pin 21, as shown in Fig. 2.

At 22 is an arbor carrying a wheel 23 and a spring 24, which gives motion to the bell-hammer 25 through the medium of the wheels
70 26 and 27 and the escapement 28 in a manner well understood.

The wheel 23 is provided with a projecting pin 23', arranged to come in contact with and act upon the short end 16' of the lever 16, and the wheel 26 has a similar pin 26', which en-
75 gages with the catch 17, as shown in Fig. 1.

The front of the wheel 7 has the twenty-four hours of the day indicated thereon and preferably with one half of it colored dark to indicate the night-hours from six p. m. to six
80 a. m. and the other half light to indicate the day-hours from six a. m. to six p. m. In front of this a small hole is made in the dial, so that the hours thereof may be seen in succession as the wheel 7 revolves. Instead of
85 marking the wheel 7 a separate disk similarly marked may be set in front of said wheel 7, if preferred.

The operation is as follows: The clock and alarm movement being wound up and the
90 parts as indicated in Figs. 1 and 2, when the former is set in motion the wheel 7 is made to revolve as the time-movement goes on, carrying with it the cam 10, which as it turns is caused by the pin 8' to slide to the rear,
95 thereby causing the parts to assume the position shown in Fig. 4, for the lever 14 pulls on the spring 11, causing the trigger 11' to push the horizontal arm of the catch 17 slightly
100 to one side and off of the pin 26', as shown in Fig. 4. The alarm is now set ready to go off, but is prevented from doing so by the hammer-tail 25' coming in contact with the trigger 11, and thus holding the alarm-

movement from operating. As the wheel 7 continues to revolve the notch on the cam 10 comes around to the pin 8', which allows the cam to move forward, and as the lever 14 and spring 11 moves with it the trigger 11' moves from the hammer-tail 32, thus allowing the alarm-movement to operate, which it will continue to do until it is stopped by the following means: As the wheel 23 revolves by the power of the spring 24 the spring 23' comes in contact with the short arm 16' of the lever 16 and causes it and the catch 17 to assume the position shown in Fig. 1, and when the pin 26' on the wheel 26 comes around it engages in the notch 17' of the catch 17 and is thus prevented from moving until after the catch is again pushed off the said pin 26', as before described. As the pin 26' bears against the catch 17 it carries it slightly downward, bringing the detent 17'' into the path of the hammer-tail 32, which would also stop the motion of the alarm.

From the above it will be seen that although the spring of the alarm-movement may be strong enough to ring an alarm every day for a week, yet it will not run down at one alarm, but will stop as soon as the pin 26' acts on the catch 17, and thus the alarm may be made to ring once a day for a series of days in succession with only one winding.

I have referred to the stud 8 as being stationary, but it is so set in the plate that it may be adjusted to let the alarm go off at any desired hour. This is accomplished by turning the stud around with the pointer until the latter points to the appropriate hour on the dial.

What I claim as new is—

1. The combination in an alarm-clock, of a lever provided with a sliding and swinging catch, a wheel connected with the alarm-movement carrying a projecting pin engag-

ing with the catch, and mechanism connected with the time-movement for moving said catch off the pin, to set the alarm-movement, substantially as described.

2. The combination in an alarm-clock, of a pivoted lever provided with a swinging and sliding catch, a wheel connected with the alarm-movement carrying a projecting pin engaging with said catch, mechanism connected with the time-movement for moving the catch off of said projecting pin, and means connected with the alarm-movement for bringing the catch again into the path of said pin, substantially as described.

3. The combination in an alarm-clock, of a stud 8 having a pin 8', a disk 7 mounted on said stud and carrying a cam 10, with a lever 14 having one end bearing against the disk 7, a spring 11 connected to the other end of said lever, a trigger 11' on said spring, a lever 16, a catch 17 mounted on said lever having a detent 17'' engaging with the trigger and hammer-tail 25', and spring 18 for keeping the catch in its proper position, substantially as described.

4. The combination in an alarm-clock, of a stud 8 having a pin 8', a disk 7 mounted on said stud and carrying cam 10, a lever 14, wire 13, spring 11 having trigger 11', wheels 23 and 26 connected by intermediate mechanism with the time-movement and having pins 23' and 26', the lever 16, the catch 17 having a detent 17'' engaging with the trigger 11', and the hammer-tail 25', all substantially as described.

In testimony whereof I have hereunto affixed my signature, in presence of two witnesses, this 29th day of May, 1897.

FERDINAND GUNDORPIL.

Witnesses:

JAMES M. ELLIS,
HENRY WILSON.