

A. E. WAGGONER.

# WATCHMAN'S RECORDING AND ALARM SYSTEM.

APPLICATION FILED JULY 13, 1903.

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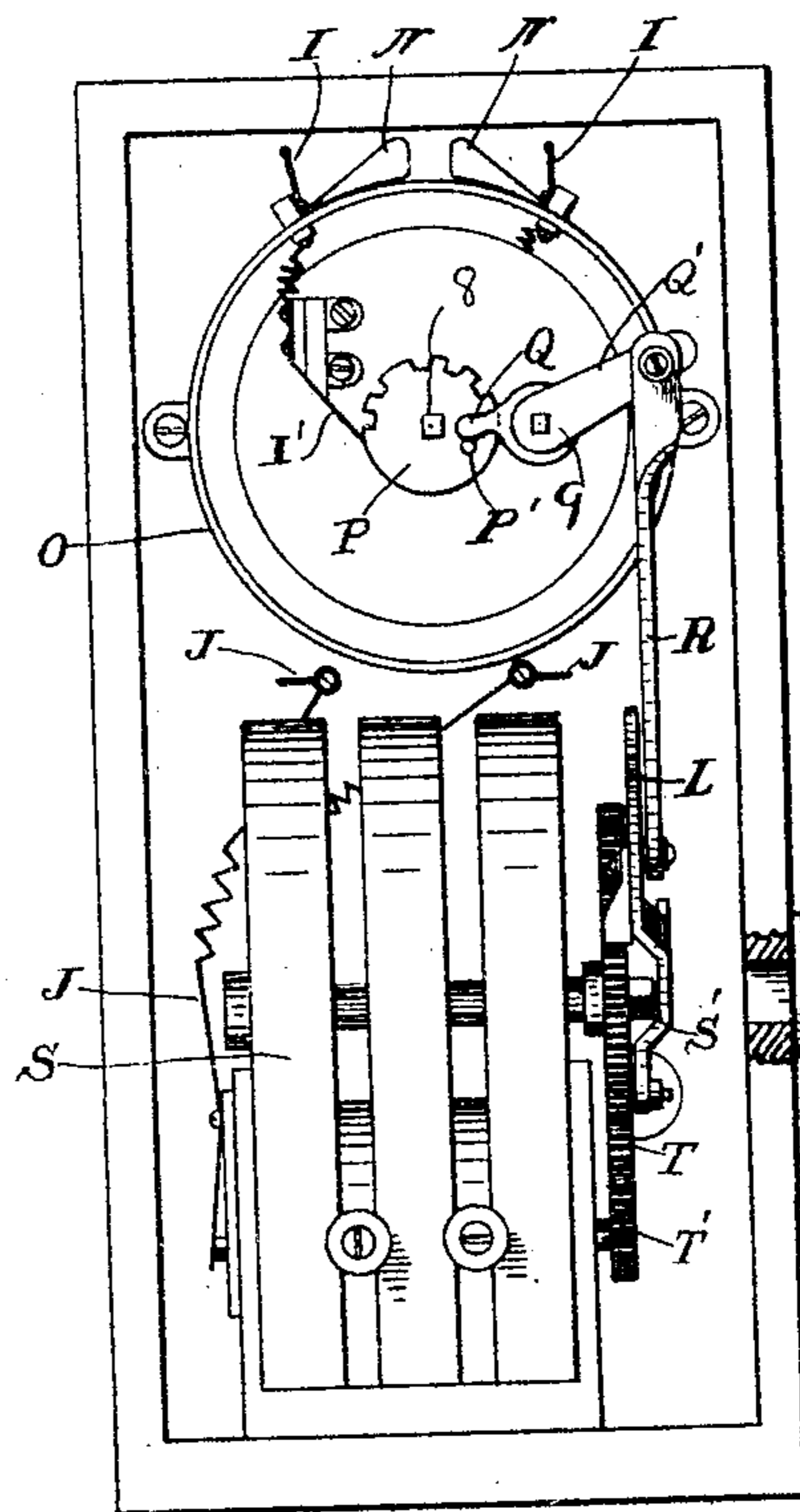
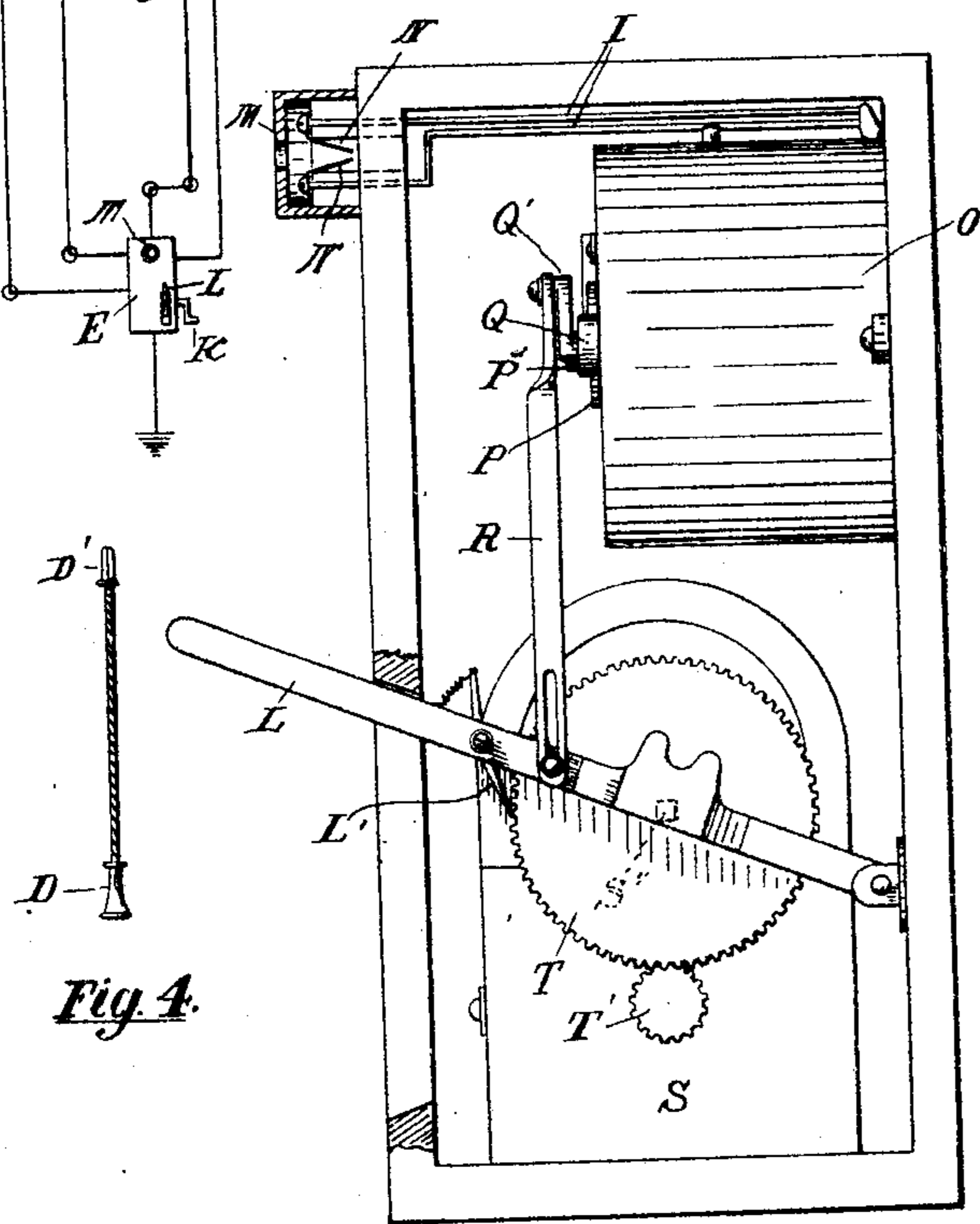
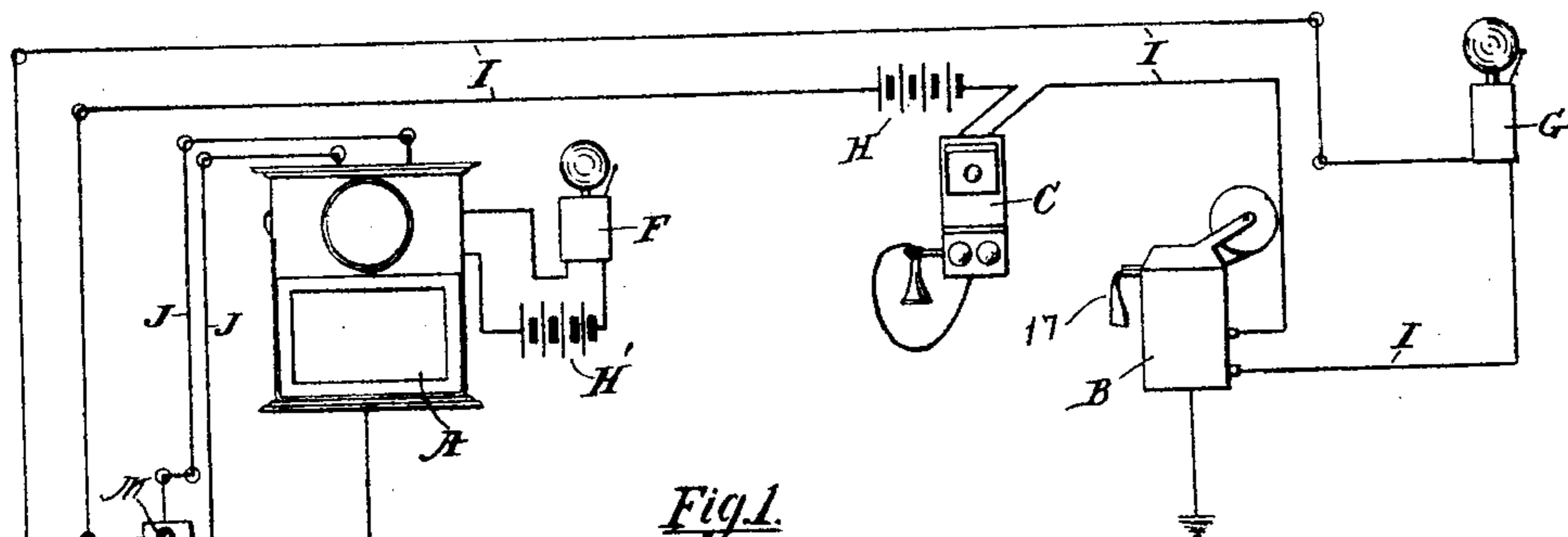


Fig. 2.

Fig. 3.

Witnesses

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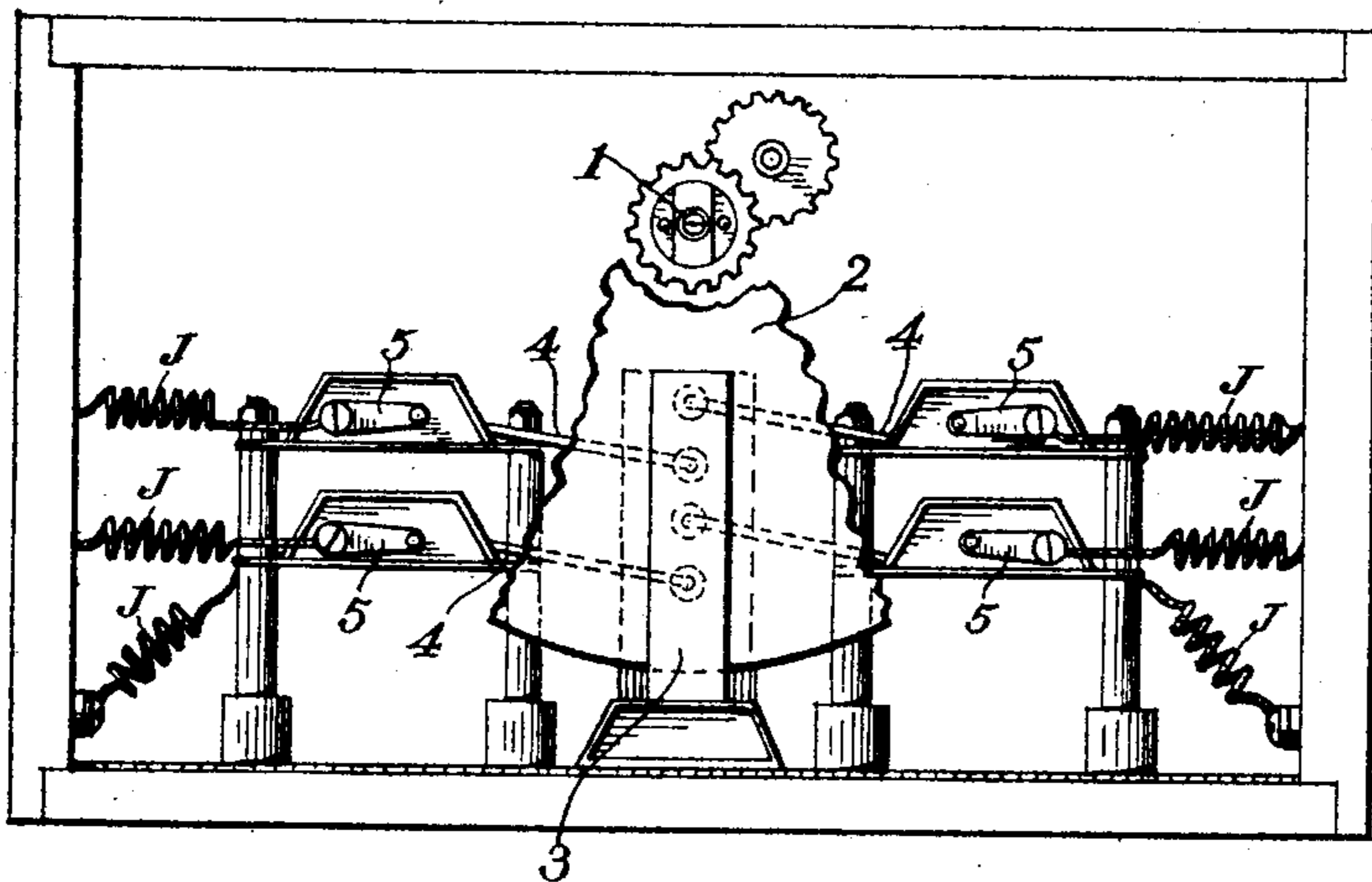


Fig. 5.

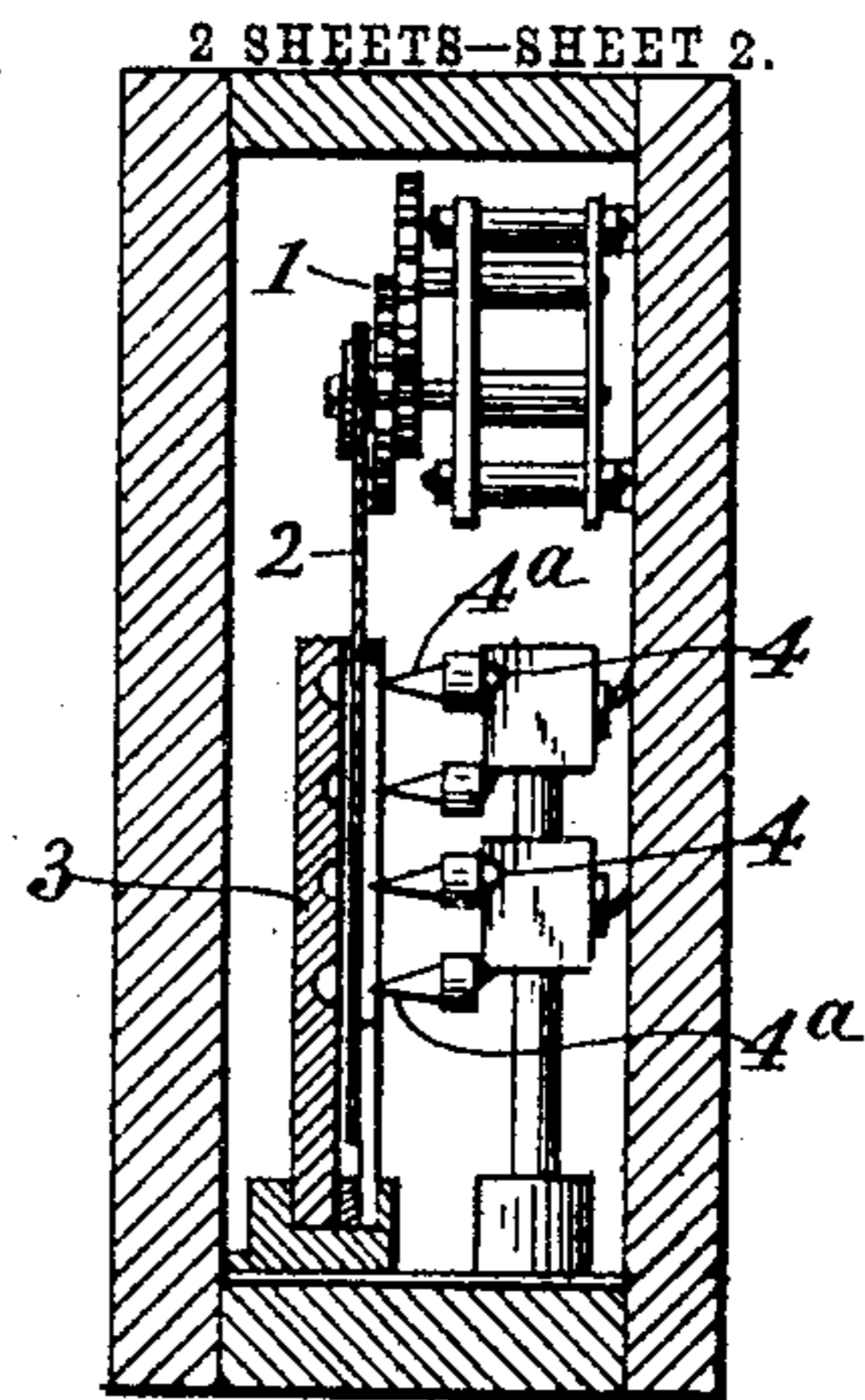


Fig. 6.

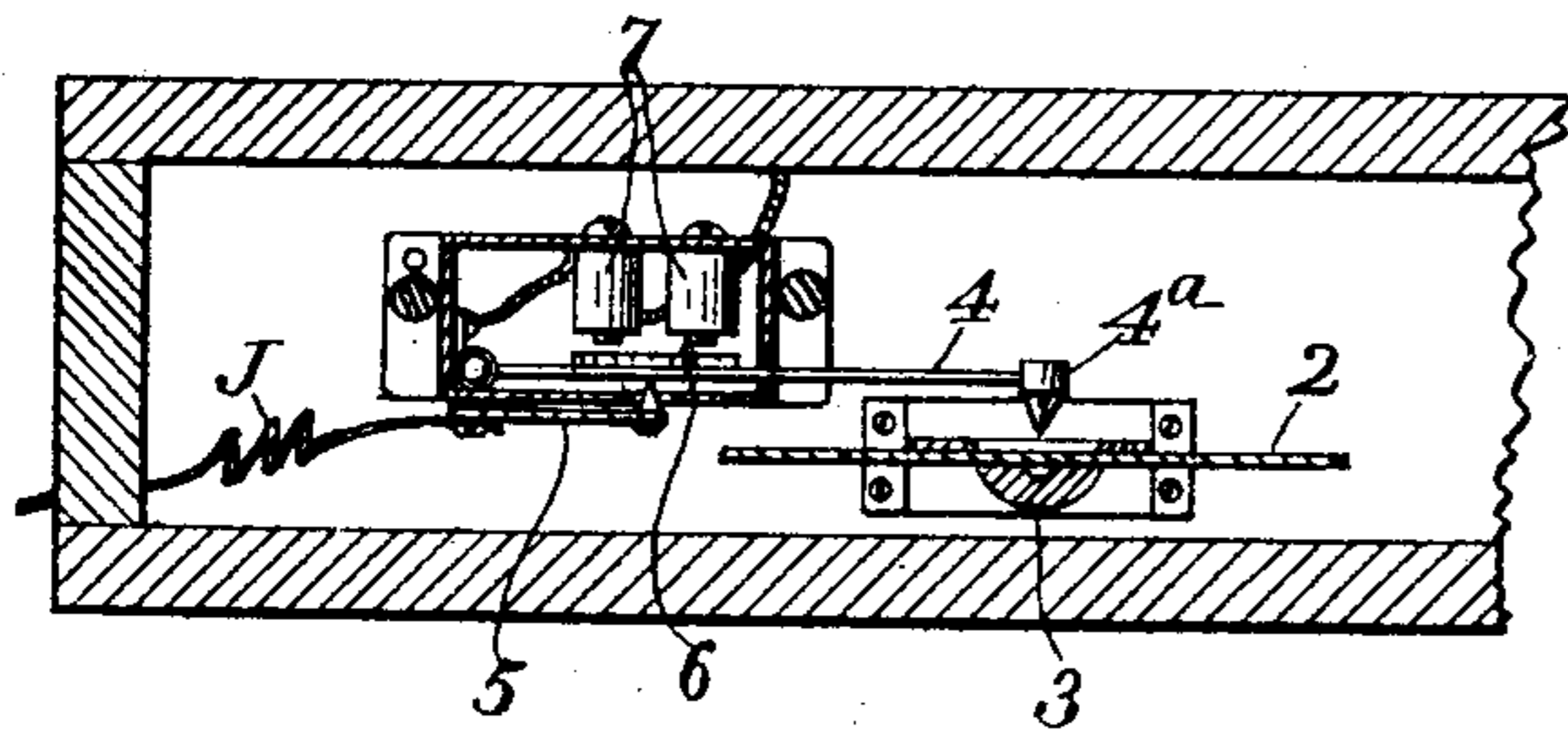


Fig. 7.

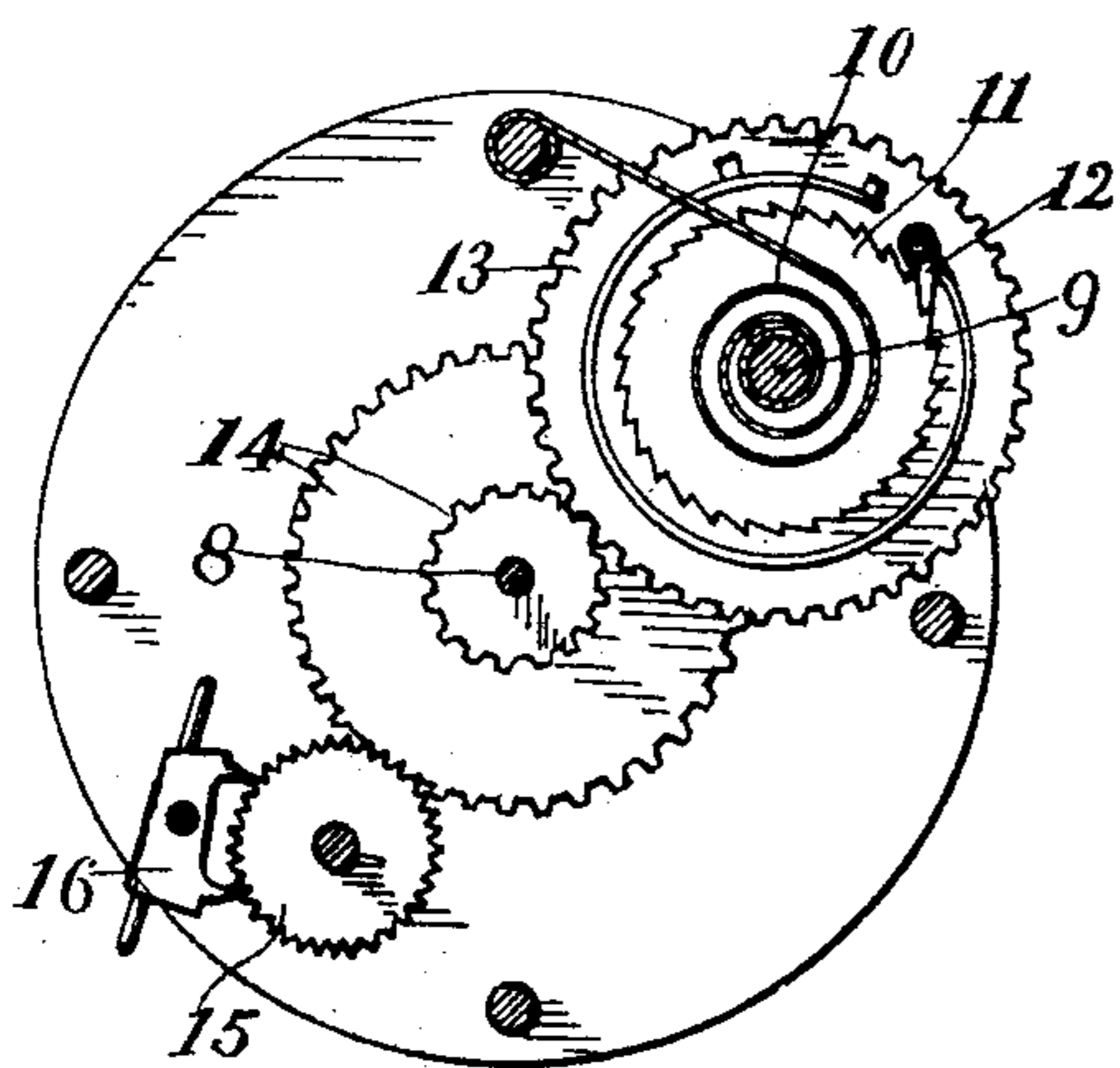


Fig. 8.

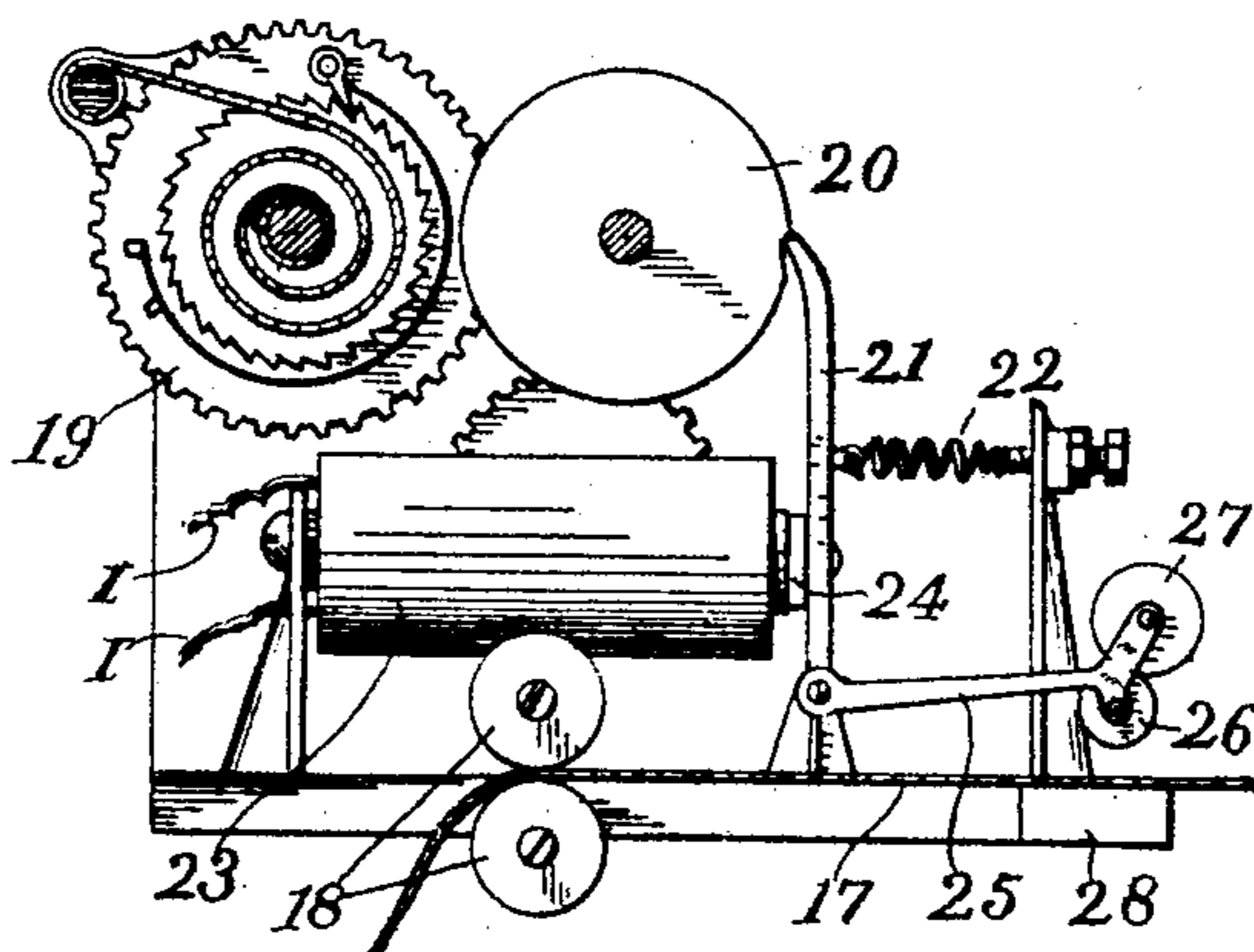


Fig. 9.

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# UNITED STATES PATENT OFFICE.

ALBERT E. WAGGONER, OF GRAND RAPIDS, MICHIGAN.

## WATCHMAN'S RECORDING AND ALARM SYSTEM.

No. 799,422.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed July 13, 1903. Serial No. 165,221.

*To all whom it may concern:*

Be it known that I, ALBERT E. WAGGONER, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Watchmen's Recording and Alarm Systems; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved watchman's recording and alarm system; and its object is to provide means whereby any neglect of duty on the part of the watchman will be readily detected, to provide the same with means for communicating by telephone between any one of the various stations and the central station, and to provide the device with various other new and useful features hereinafter more fully described, and particularly pointed out in the claims.

My invention consists, essentially, in the combination and arrangement of a watchman's clock, an operating-circuit therefor, a recording device, a circuit to operate the same, and a series of stations at each of which is provided mechanism whereby both circuits will be operated simultaneously by the watchman, means for changing the rate of operation of the said mechanism to indicate a telephone-call, a telephone at the central office and in the recording-circuit, and means for cutting a portable telephone into the circuit of the same, whereby telephone communication may be temporarily established between any call-box and the office, as occasion requires, and in the combination and arrangement of said mechanism, as will more fully appear by reference to the accompanying drawings, in which—

Figure 1 is a diagram of a watchman's recording and alarm system embodying my invention; Fig. 2, a detail in side elevation of one of the station-boxes and contents, shown on an enlarged scale and with parts removed; Fig. 3, a front elevation of the same with parts removed in like manner; Fig. 4, a detail of a portable telephone for use by the watchman in communicating with the office; Fig. 5, an enlarged detail, in front elevation, of the recording mechanism of the clock; Fig. 6 an elevation of the same at right angles to Fig. 5 with parts in section; Fig. 7, the lower part of the same in plan view; Fig. 8, a detail in front elevation of the internal mechanism of

the call-box, and Fig. 9 a detail of the recording means of the "ticker."

Like letters and numbers refer to like parts in all of the figures.

A represents any suitable watchman's clock for recording the various operations of the station-boxes by the watchman in making his rounds.

B is a recording instrument of the type known as the "ticker," which records upon a suitable tape 17 the numbers of the call-boxes in the order in which they are operated by the watchman in making his rounds.

C is a telephone, and G is an electric bell operated by the circuit which operates the recorder B.

D is a portable telephone having a suitable plug D', adapted to be inserted in the said circuit at any one of the station-boxes.

E represents any suitable number of station-boxes containing the mechanism to be operated by the watchman in making his rounds, as hereinafter described.

F is an alarm-bell operated by a battery H and connected to the clock A to sound an alarm in the event that the watchman neglects to manipulate the clock beyond a certain predetermined time.

I is the circuit for operating the recorder B, bell G, and telephone C, and J is the circuit for operating the recording mechanism of the clock A.

For the recording mechanism of this clock I prefer to use a device such as shown in a patent issued to me June 9, 1903, and numbered 730,420 and illustrated in Figs. 5, 6, and 7 of this application, in which 1 represents the clock mechanism, 2 a paper dial rotated by the same, 3 a post in front of and near the dial and having a groove in its side next the dial and opposite the points of the markers 4<sup>a</sup>, which markers are mounted on pivoted arms 4, each arm being vibrated by an electromagnet 7 and armature 6, and provided with a circuit-breaker 5, the magnet and circuit-breaker being arranged in the circuit J of one of the call-boxes E. To operate this marker, I provide a magneto-generator in each call-box E, connected to one of the markers by the respective circuit J and operated by a pinion T' and gear T, the latter being engaged by a pawl L' on a pivoted lever L, extending outside the box E. Thus whenever the lever is pulled down the armature of the generator revolves and a current is produced in the circuit J, which causes the marker to vibrate and

puncture the dial, and thus record the time that the particular lever is pulled. I also provide a key K to engage the square end S' of the shaft on which the gear T is mounted, and thus operate the magneto-generator, in which event the lever is so placed as to normally cover the shaft, so that it must first be pulled down, and thus operate the call-box to which it is attached by a rod R. This call-box is in circuit with the ticker B and bell G. This circuit is normally closed and a current maintained therein by the battery H. On the shaft 8 is mounted a recessed circuit-breaking wheel P, engaged by the brush I' in the circuit I. This wheel is rotated by a spring 10, connected to a shaft 9, on which is mounted a ratchet 11, engaged by a pawl 12 on a gear 13, journaled on the shaft 9 and connected to the shaft 8 by a train of gears 14 and governed by an escapement-wheel 15 and escapement 16. On the shaft 9 is fixed a lever Q' and a stop Q, which stop normally engages a pin P' in the wheel P and holds the same from rotating and with the circuit closed. When the lever Q' is pulled down, the spring 10 is wound up and the stop Q moves out of the path of the pin, and thus permits the wheel to rotate and break the circuit at intervals conformable to the recesses in the wheel. By means of the rod R this occurs simultaneously with the operation of the magneto-generator and recording of the time on the clock-dial 2. If the key K is used to operate the magneto, the same movement of the levers is necessary to engage the key with the magneto-shaft. At each break of the circuit the bell G is struck and the ticker marks the tape 17, so that the same has a record of the number of the particular call-box that has been pulled. The record of the ticker I prefer to produce by the means shown in Fig. 9, in which 19 indicates any suitable spring-motor, which is connected to and rotates a stop-wheel 20, having a single notch in its periphery engaged by a pawl 21 to hold the motor from running. The motor 19 is also connected to a pair of rolls 18, which rolls engage the tape 17 and move the same longitudinally over a bed-plate 28, above which is an arm 25, attached to the pawl 21 and movable therewith. This arm carries at its movable end and opposite the bed-plate 28 a marking-roll 26, engaged by an ink-roll 27, whereby the tape is marked whenever the pawl 21 is disengaged from the wheel 20 and the arm 25 descends. A spring 22 draws the pawl 21 away from the wheel and allows the motor to run and holds the marker 26 in contact with the tape, thus making a continuous mark as long as the circuit is open. An armature 24 on the pawl 21 is attracted by an electromagnet 23 in the circuit I whenever the circuit is closed, and thus engages the pawl with the wheel 20 and holds the motor from running when the pawl is in the notch in said wheel. This wheel 20 and

the wheel P are timed to rotate in unison, whereby when the call-box is pulled each wheel will make one revolution and then stop, thus recording on the tape the number of the box pulled, the same number being also rung on the bell G and the time record made on the clock-dial 2. In the circuit I is also provided means for inserting the portable telephone, which means consists of a suitable opening M in the case of each box E, in which opening is inserted the plug D', which will engage suitable terminals N, and thus cut in the telephone. To indicate a telephone-call or any other emergency, as may be agreed upon, the lever L is manually urged back to elevated position. This accelerates the motion of the call-box by adding manual power to that of the spring 10, and thus gives a quicker record on the tape and quicker strokes of the bell G.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a watchman's clock having means for recording various times, a ticker having means for recording marks to indicate the various stations, a series of stations, separate means for operating the clock and ticker located at each station, and means at each station for simultaneously operating said means.

2. The combination of a watchman's clock having a dial and electrically-operated means for recording time on the dial, a ticker having electrically-operated means for recording numbers, a series of stations, a magneto-generator and a call-box at each station to respectively operate the clock and ticker, and means for simultaneously operating the generator and call-box.

3. The combination of a magneto-generator, a watchman's clock having time-recording means operated thereby, a ticker adapted to record numbers, a call-box connected to the ticker to operate the same, a lever to operate the generator, a lever to operate the call-box, and a rod connecting said levers.

4. The combination of a watchman's clock having time-recording means, a magneto-generator to operate the time-recording means of the clock, a ticker to record numbers, a bell, a battery and a call-box in closed circuit with the ticker, a lever to operate the magneto-generator, a lever to operate the call-box, and a rod connecting said levers.

5. The combination of a watchman's clock, a ticker, a magneto-generator to operate the clock and having a shaft, operated by a key, a key to operate the generator, a call-box to operate the ticker, a lever connected to the call-box to operate the same and normally located to cover the end of the said shaft.

6. The combination of a ticker adapted to record numbers, an electric bell, a telephone, a call-box, a battery, an electric circuit connecting all of the same, a portable telephone,

means for detachably inserting the portable telephone in the circuit, and means for manually accelerating the operation of the call-box.

5 7. The combination of a watchman's clock having a series of electrically-operated means for recording time, a ticker having electrically-operated means for recording numbers, a series of stations each having a magneto-generator and a call-box, a separate electric circuit connecting each generator with a single time-recorder of the clock, a single closed circuit connecting all of the call-boxes and the  
10 ticker, a battery in said circuit, a lever to operate each generator, a lever to operate each call-box, and a rod at each station connecting said levers.

8. The combination of a watchman's clock having electrically-operated means for re-

20 cording time, a ticker having electrically-operated means for recording numbers, an electric bell, a telephone, a battery, a series of stations, a magneto-generator at each station, a separate circuit connecting each generator with separate recording means of the clock, a  
25 call-box having a recessed wheel and brush, a closed circuit connecting all of the call-boxes the battery the ticker the bell and the telephone, a portable telephone, means at each station for cutting the portable telephone into  
30 the closed circuit, and means for operating the generators and call-boxes.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT E. WAGGONER.

Witnesses:

LUTHER V. MOULTON,  
GEORGIANA CHACE.