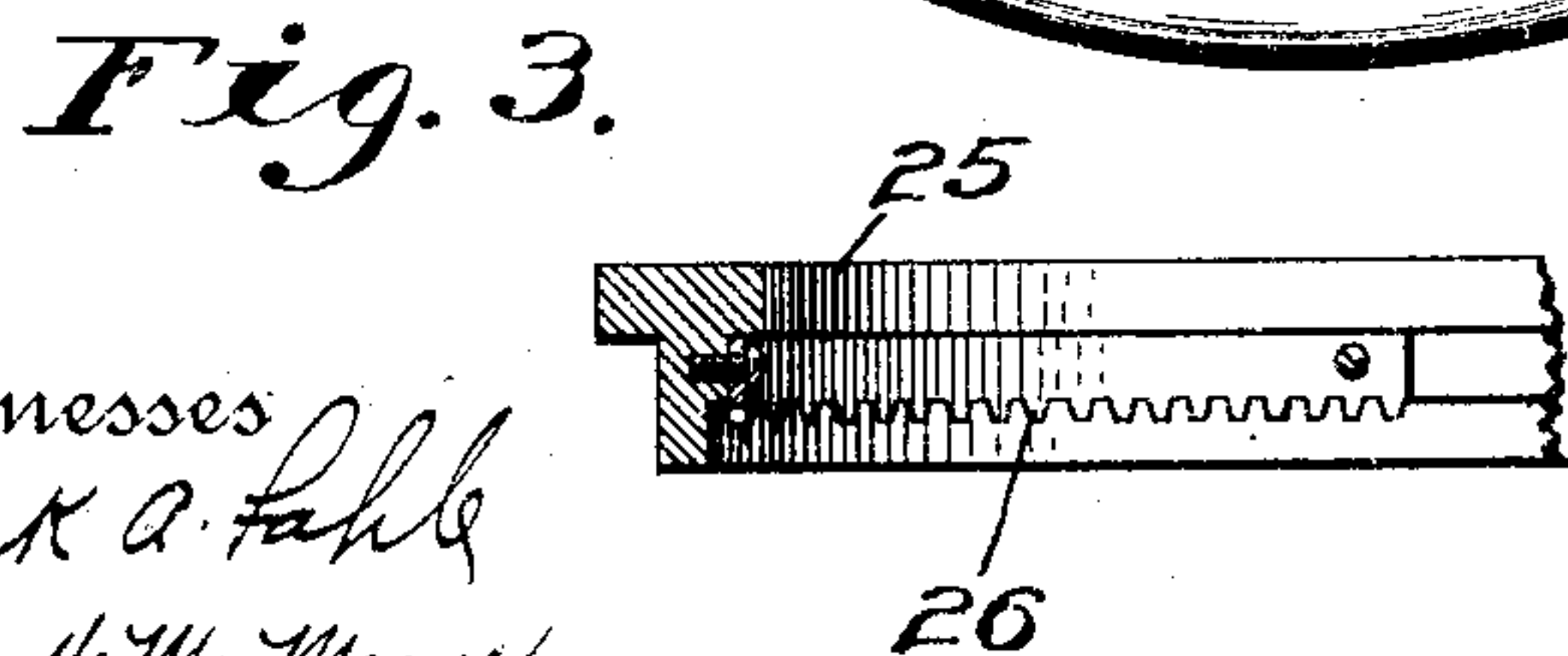
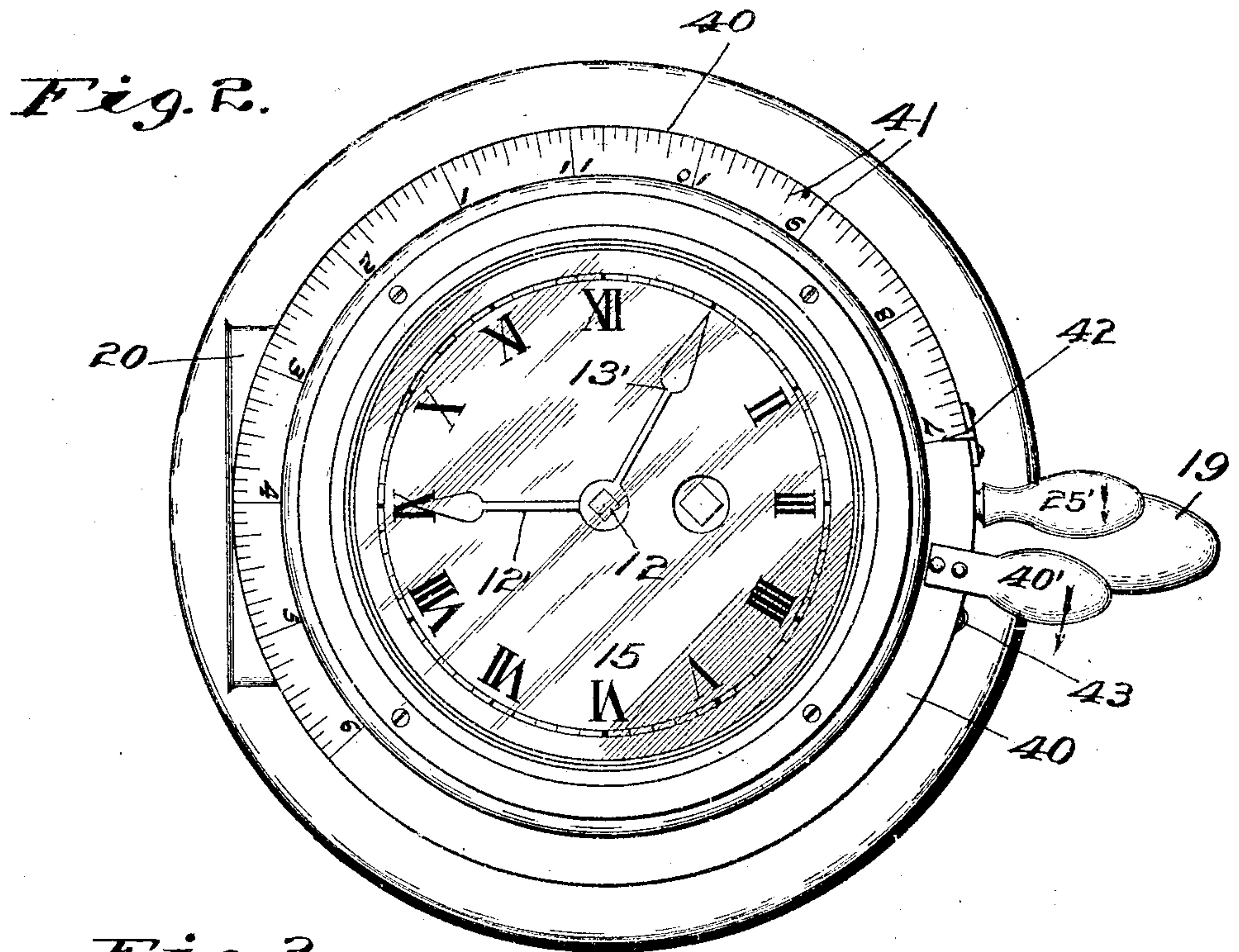
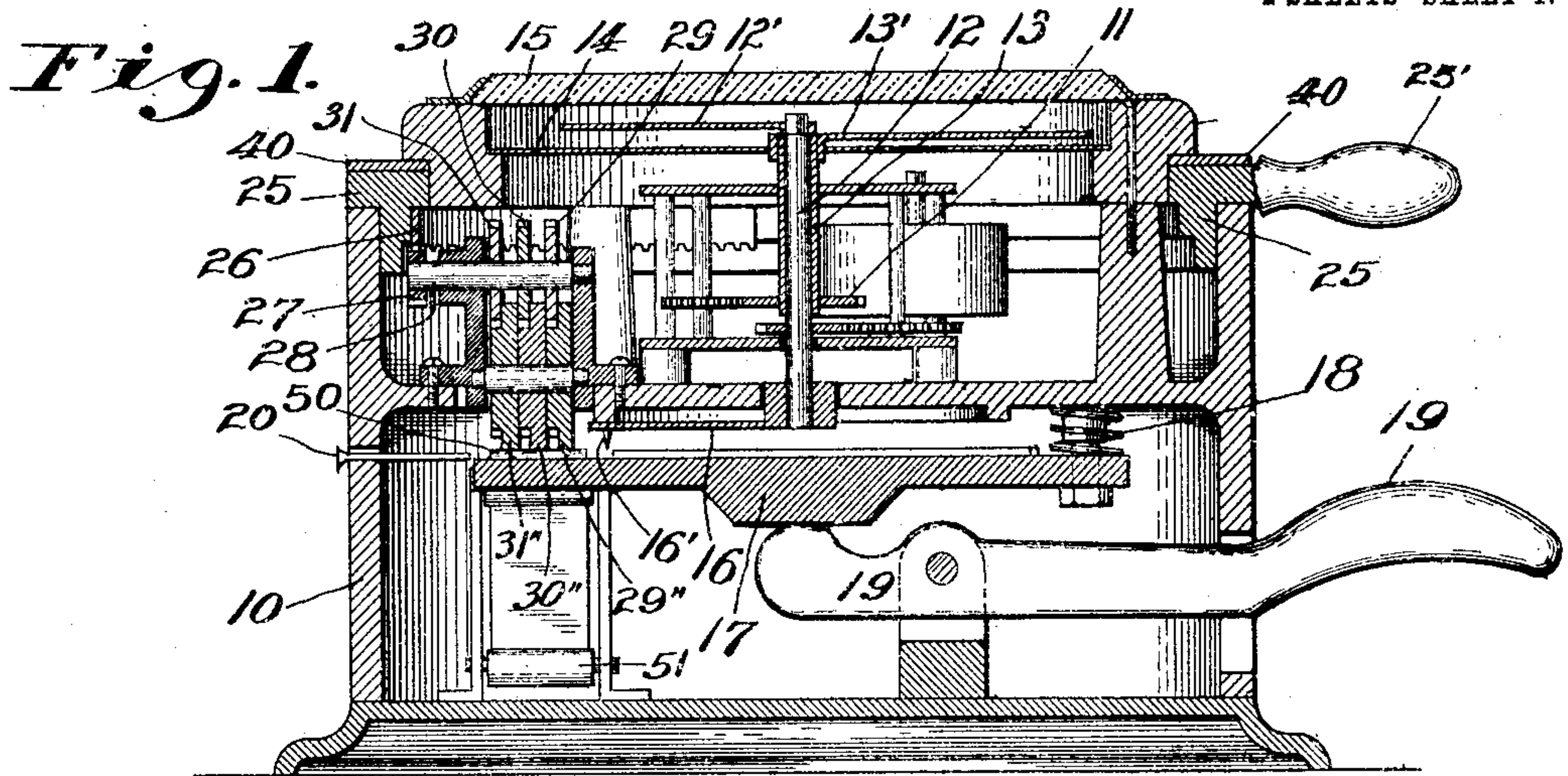


R. H. BOUSLOG.
 AUTOMATIC TIME COMPUTER.
 APPLICATION FILED JUNE 12, 1907.

958,584.

Patented May 17, 1910.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 4.

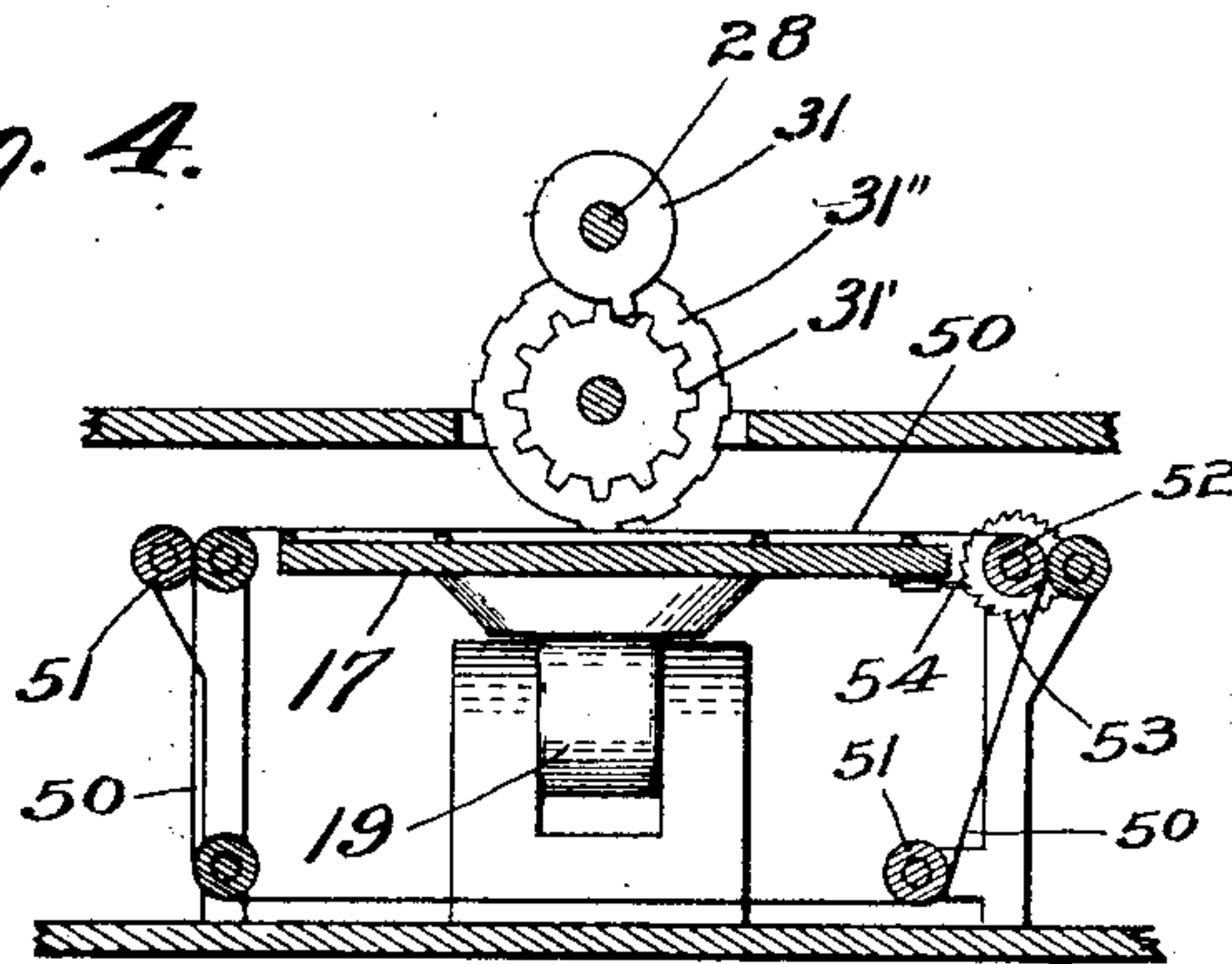


Fig. 5.

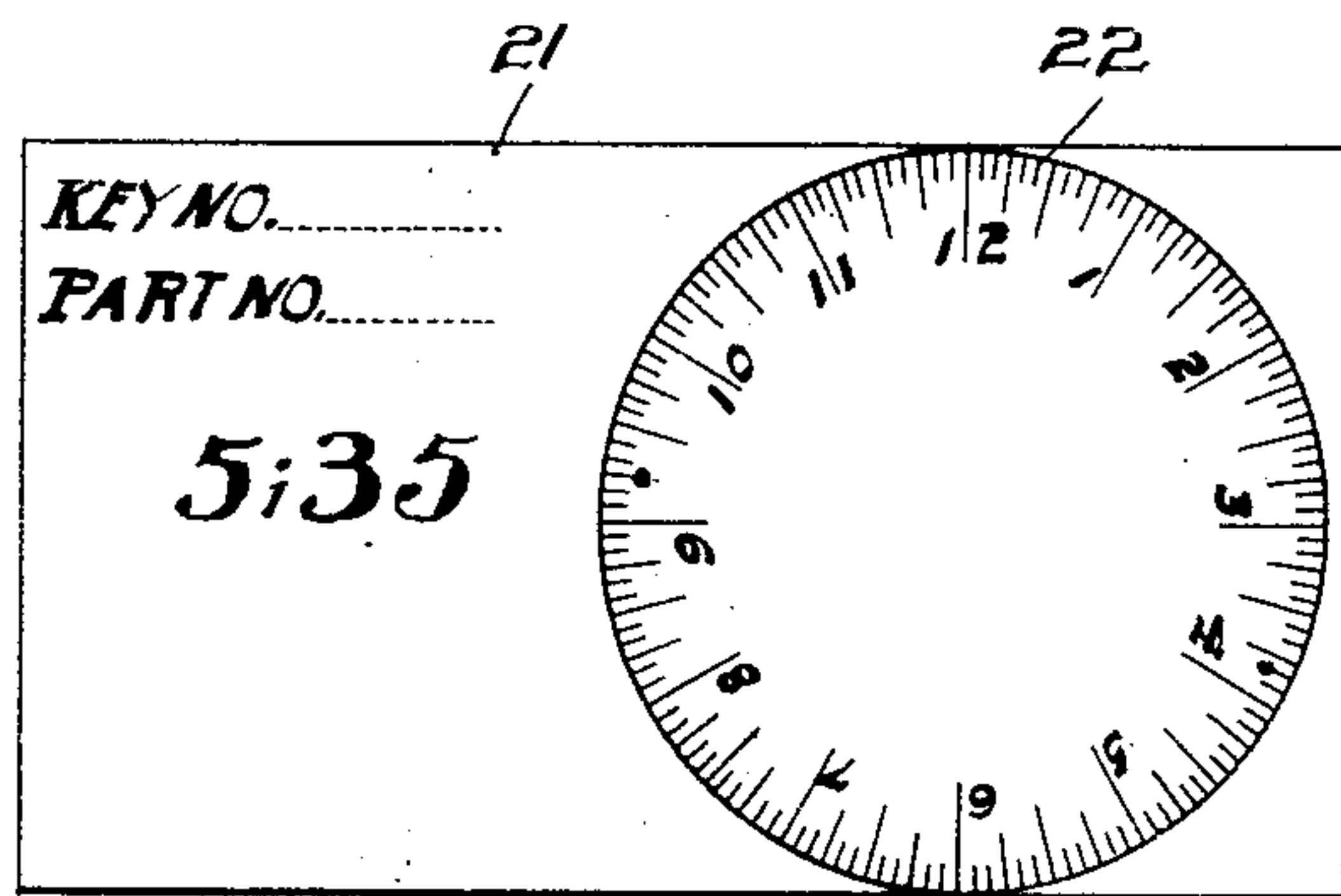


Fig. 6.

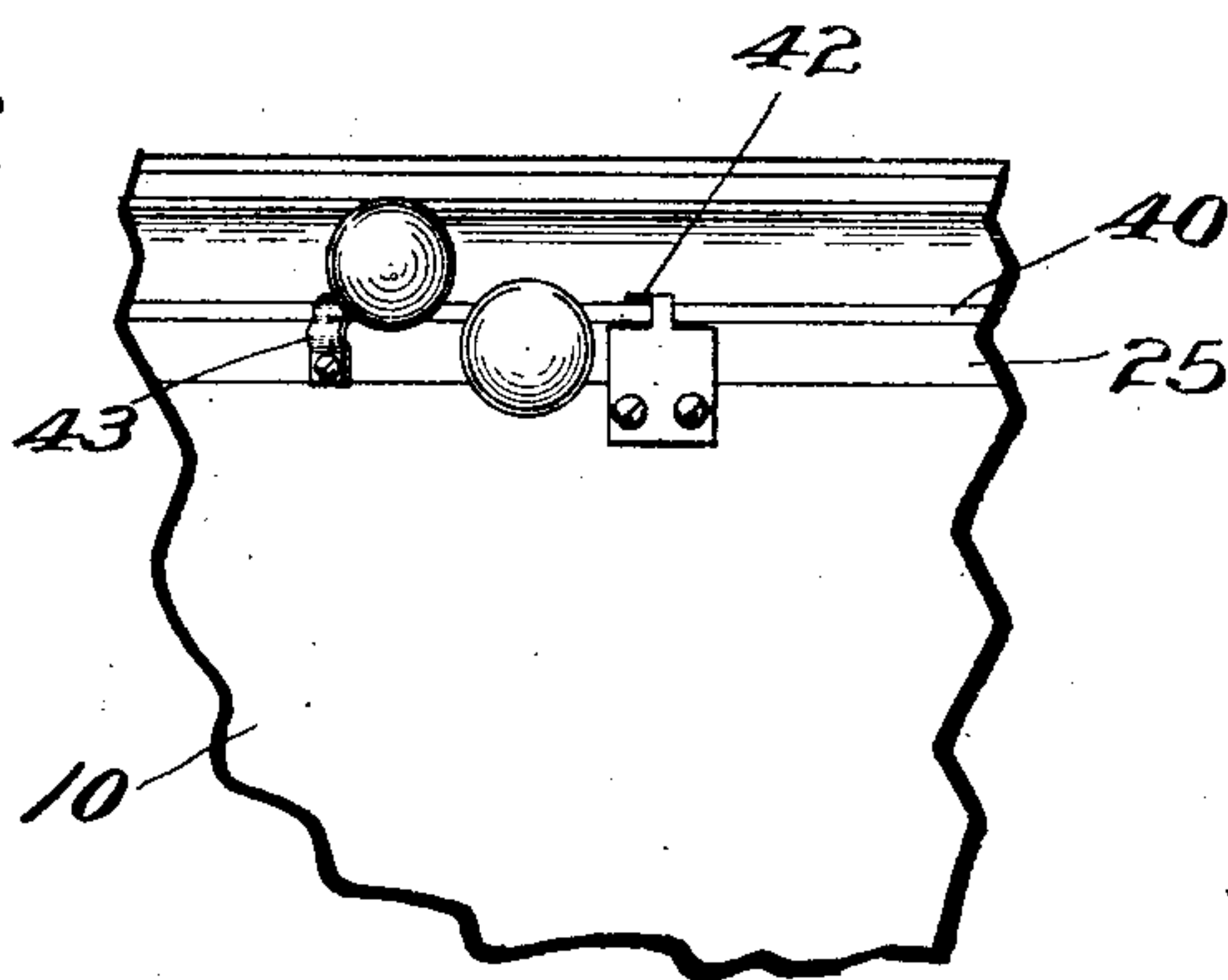


Fig. 7.

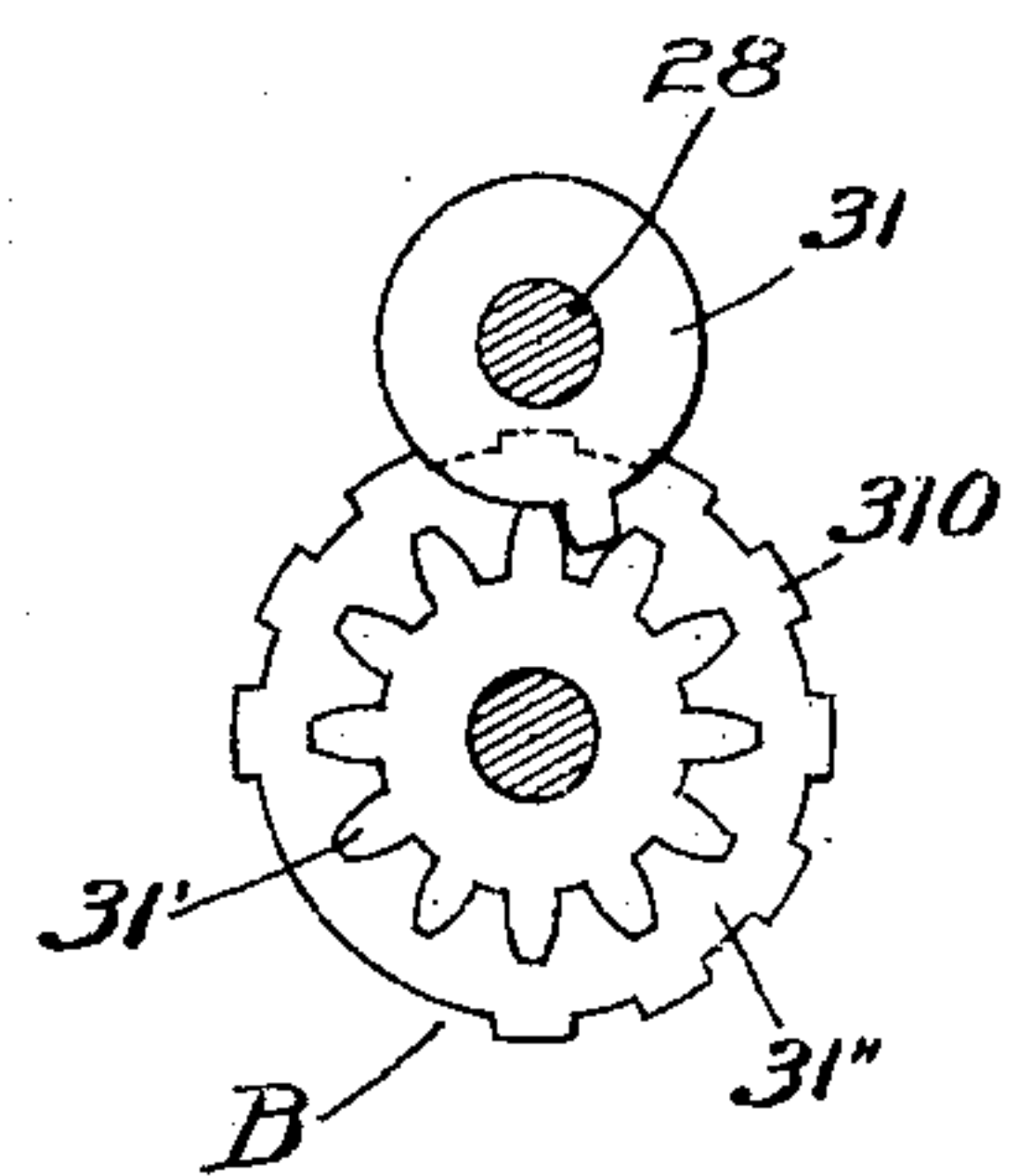


Fig. 8.

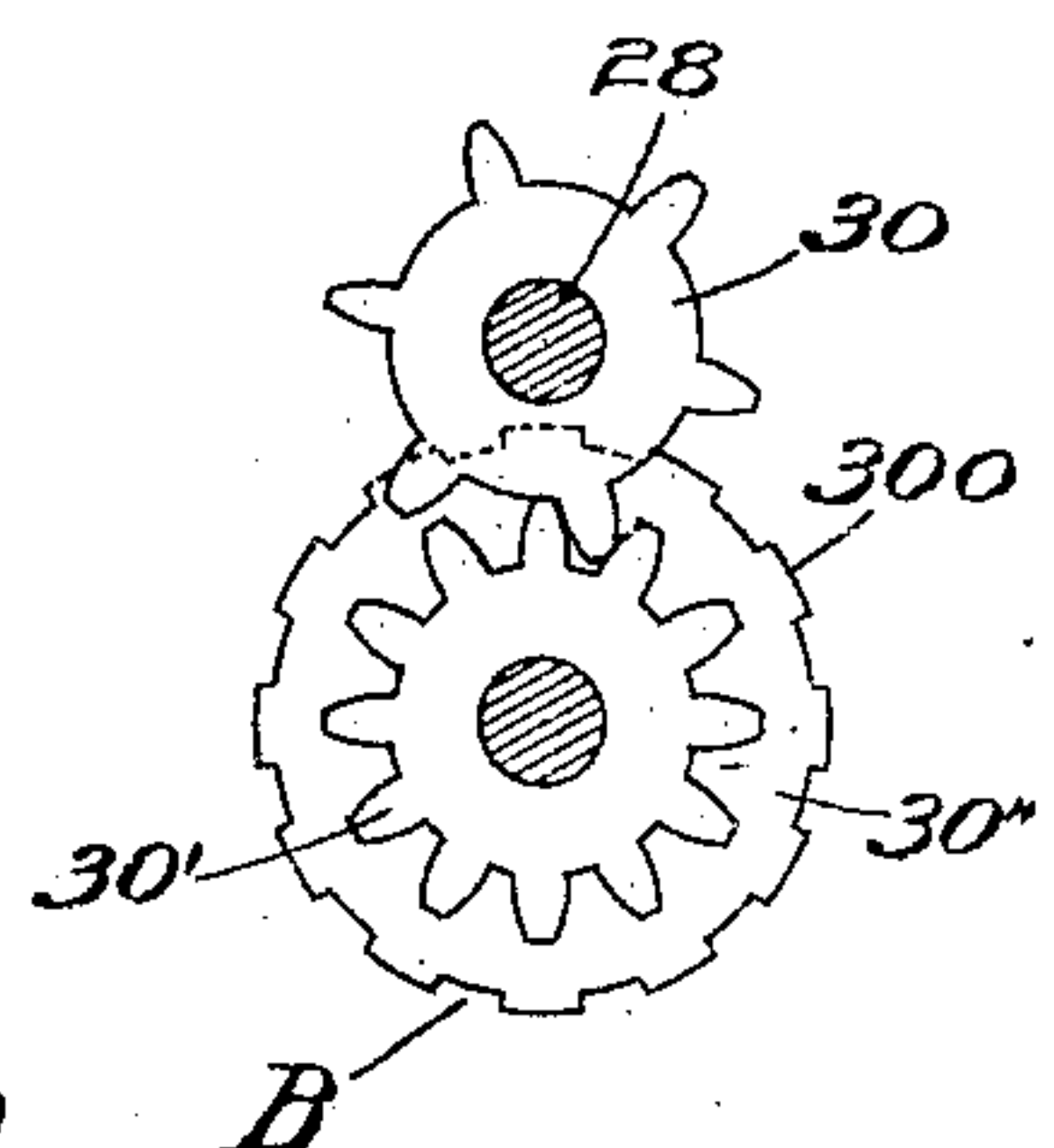
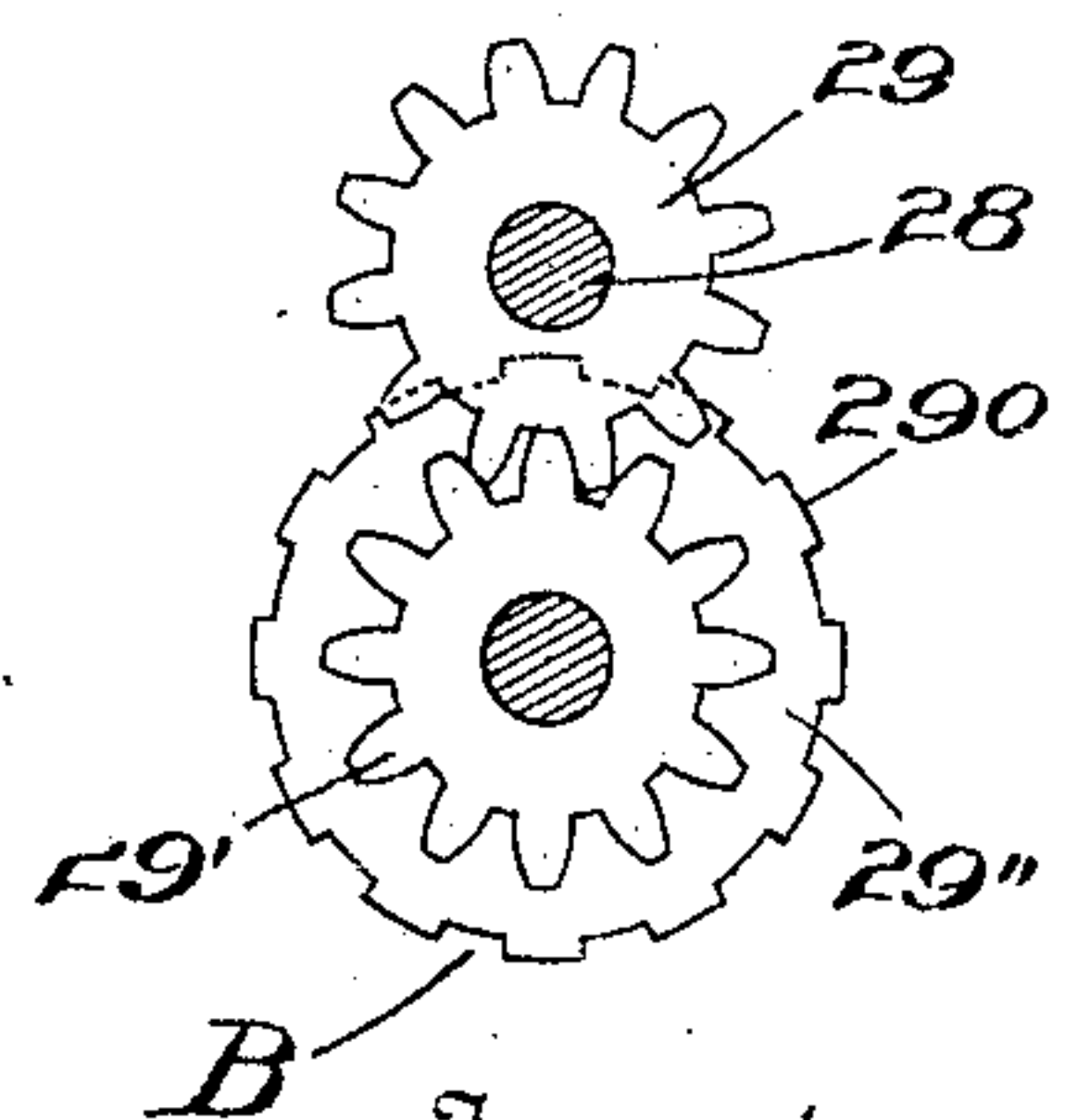


Fig. 9.



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RAWLEY H. BOUSLOG, OF PERU, INDIANA.

AUTOMATIC TIME-COMPUTER.

958,584.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed June 12, 1907. Serial No. 378,569.

To all whom it may concern:

Be it known that I, RAWLEY H. BOUSLOG, a citizen of the United States, residing at Peru, in the county of Miami and State of Indiana, have invented certain new and useful Improvements in Automatic Time-Computers, of which the following is a specification.

The object of my invention is to produce a compact and efficient device for recording employees' time and for automatically computing and recording the actual working time elapsed between the beginning and the end of any particular work.

The accompanying drawings illustrate my invention: Figure 1 is a central vertical section of an apparatus, about full size, embodying my invention; Fig. 2 a plan; Fig. 3 a sectional detail of the computing ring; Fig. 4 a sectional detail of the ribbon mechanism; Fig. 5 a plan of the workman's card with a machine record thereon; Fig. 6 a detail of the stationary indicator and adjacent parts, and Figs. 7, 8 and 9 details of the computing gearing.

In the drawings, 10 indicates a suitable inclosing casing within which is mounted an ordinary clock movement 11 having an hour arbor 12 and a minute sleeve 13, the arbor 12 carrying an hour hand 12' and the minute sleeve carrying a minute hand 13', said hands traversing an ordinary clock face 14 protected by a glass 15. Said parts are of well known construction except that I find it desirable and convenient to reverse the usual order of hour and minute shaft so that the hour arbor 12 may be projected below the movement 11 and provided at its lower end with an arm 16 carrying a prick-point 16' near its outer end on its lower face in order to cooperate with a platen 17 vertically reciprocable in the casing 10 and normally held in its lower position by a light spring 18. The platen 17 may be reciprocated by means of an operating lever 19 the outer end of which is projected through casing 10. Leading into casing 10 in a horizontal plane, just above the upper face of platen 17, is a card guide 20 adapted to receive the workman's card 21 and guide the same upon the platen 17 beneath the plane of movement of the prick-point 16.

Printed or otherwise formed on the face of card 21 is a dial face 22 divided into suitable divisions and corresponding to the block face 14. The remainder of the face of card

21 may also carry such additional indications as may be desired.

In order to automatically compute and record the working time elapsed between the beginning and completion of any particular job, I provide the following mechanism: Rotatably mounted in the upper end of casing 10 is a computing ring 25 provided with a segmental rack 26 adapted to engage a pinion 27 attached to the primary shaft 28 of the computing mechanism. The shaft 28 carries three gears—29, 30 and 31—which mesh respectively with gears 29', 30' and 31' of a series of printing wheels 29'', 30'' and 31'', respectively. Wheel 29'' carries a series of type 290 which are alternately "0" or "5"; the wheel 30'' carries type 300 which run: "0, 1, 2, 3, 4, 5, 0, 1, 2, 3, 4, 5," and wheel 31'' carries type 310 which run from "0" to "9," type 310 thus serving to indicate hours, while types 300 and 290, taken together, indicate five minute periods of an hour, and the arrangement being such that, by rotating ring 25 in casing 10 through a proper arc of movement, the computing wheels may be properly actuated so as to gage the measurement of that arc in hours and minutes of the elapsed working time. Each type wheel will have the space adjacent the ribbon for the zero position, so that there will be no printing when the rings 25 and 40 are at the zero position. In order to serve as a gage for the desired arc of movement of the computing ring 25 I provide a gage ring 40 which is mounted upon ring 25 and capable of movement therewith as well as movement independently thereof. Ring 40 is provided on its face with an indicator scale 41 of such dimensions as to indicate in angles the elapsed working time, and for this purpose the scale begins at "7" (to indicate 7 a. m.) and ends at "6" (to indicate 6 p. m.), but there are only ten major divisions between the beginning and end of the scale, thus omitting the noon hour. There are also minor divisions of the scale to indicate five-minute periods, as shown. It will be readily understood that the scale 41 will be to suit the working requirements in the place in which the device is to be used; for instance, if work begins at 8 a. m. and ends at 5 p. m., with only a half hour intermission at noon, the angle between the beginning and end of the scale will be one and one-half hours shorter than the scale shown in Fig. 2,

and there will be a major division, in the middle, of one-half hour. In order to serve as a guide for the movement of the rings 25 and 40 I provide a stationary indicator finger 42, and in order to cause movement of ring 41 when ring 25 is moved, while at the same time permitting independent movement of ring 40, I secure to ring 25 a spring finger 43 adapted to engage the periphery of ring 40. In order to facilitate the manipulation of the two rings 25 and 40 I provide operating handles 25' and 40'.

Any suitable inking mechanism for the type wheel may be provided, but I find a convenient structure to be substantially as follows: The inked ribbon 50, for instance, like a typewriter ribbon, is supported on suitable rollers 51 mounted in the casing 10. I also provide a feed roller 52 which engages the ribbon and carries a ratchet wheel 53 adapted to be engaged by a spring pawl 54 carried by the platen 17, the arrangement being such that the ribbon passes between the type wheels and the platen and will be automatically advanced each time the platen 17 moves downward to its normal position.

The operation is as follows: The workman, at the beginning of the job, takes one of the cards 21 and, after identifying it in any desired manner, inserts the dial end thereof into guide 20 so that it will lie upon platen 17 immediately beneath the prick-punch 16'. He then depresses lever 19 so as to raise platen 17 and cause the prick-punch 16' to make a punch mark in the card on the dial 22 at the particular point in said dial to indicate the time of the operation, the prick-punch 16' being revolved by the hour arbor 12 by the clock movement. No imprint from the type wheels is produced at this action because said type wheels are at a zero position intermediate between the initial type. When the job is completed, or when quitting time for the day arrives, the workman again presents his card to the machine. He first grasps handle 40' and swings the same, in the direction indicated by the arrow, until scale 41 is brought to a point beneath indicator 42 to indicate the time indicated by the initial prick mark on dial 22 of his card, ring 25 in the meantime remaining, or being held, stationary. As soon as scale 41 has been brought beneath indicator 42 to indicate the beginning time, the operator then releases handle 40', and, by grasping handle 25', shifts ring 25, in the direction indicated by the arrow, until scale 41 is brought beneath indicator 42 to indicate the then time of operation, thus causing a setting of the type wheels to indicate, in hours and minutes, the elapsed working time between the time of beginning and the time of second operation. Thereupon a depression of lever 19 will again move platen

17 upward so as to produce a second punch mark with prick-punch 16' and at the same time print upon the card, in hours and minutes, a record of the elapsed working time. For instance, suppose that the job was begun at 9:15 and ended at 3:50, the initial punch mark on the workman's card would show 9:15. When the job was completed he would first turn ring 40 until the 9:15 mark on scale 41 was brought beneath the indicator 42. Ring 25, carrying with it ring 40, would then be turned until the mark 3:50 of scale 41 was brought beneath indicator 42, this movement causing rack 26 to turn shaft 28 so that wheel 31' would present its type "5", wheel 30' would present its type "3", and wheel "29" would present a type "52" in printing position and there would, therefore, be printed upon the card "5:35", indicating the elapsed working time of five hours and thirty-five minutes, while, as a matter of fact, the actual elapsed time, including the noon hour, would have been six hours and thirty-five minutes. At the same time a punch mark will be made by prick-punch 16' on dial 22 at the point 3:50.

I claim as my invention:

1. In a time recorder, the combination, with a time train, recording mechanism carried thereby, and a time indicator cooperating with the time train, of a working-time integrating recorder associated with said time indicator, means for manipulating said integrating recorder independent of the time train, and means for associating a record sheet with the two recorders to receive records therefrom.

2. In a time computer, the combination of a time train and time indicator associated therewith, a movable member associated with said indicator and movable relative thereto to indicate successive units of working-time, means for gaging the movement of said member, and a time integrating indicator associated with said movable member for reducing the movement of the movable member into terms of working-time.

3. In a time computer, the combination of a time train, a time train indicator associated with said train, a working-time integrating train, an operating member therefor independent of the time train, a gage associated with said operating member and time indicator and divided into spaces indicating successive units of working-time, and means for co-relating said operating member and gage to indicate the starting point at any position in the gage and an ending point at another position of the gage.

4. In a time computer, the combination of a time-computing train, a rotatable ring having a rotatable engagement with said train, a gage ring associated with the first

mentioned ring and carrying a gage indicating angles on said ring in terms of time, said gage ring being independently movable on the operating ring and also movable therewith.

5. In a time computer, the combination of a time-computing train, a rotatable ring having a rotatable engagement with said train, a gage ring associated with the first mentioned ring and carrying a gage indicating angles on said ring in terms of time, said gage ring being independently movable on the operating ring and also movable therewith, and means associated with the time-computing train for producing a record therefrom.

6. In a time computer, the combination of a time-computing train, a rotatable ring having a rotatable engagement with said train, a gage ring associated with the first mentioned ring and carrying a gage indicating angles on said ring in terms of time, said gage ring being independently movable on the operating ring and also movable therewith, and a time train and indicator associated therewith.

7. In a time computer, the combination of a time-computing train, a rotatable ring having a rotatable engagement with said train, a gage ring associated with the first mentioned ring and carrying a gage indicating angles on said ring in terms of time, said gage ring being independently movable on the operating ring and also movable therewith, a time train and indicator, a recorder associated with said time train and

operated thereby, and means for associating a record sheet with the time computer and with the recorder of the time train to receive records therefrom.

8. In an elapsed time recorder, the combination of means to record any two units of time, printing wheels adapted to print the elapsed time between any two such units, manual controlling means for said wheels, a scale divided into time units, and means whereby when the said controlling means is adjusted on the scale to the point corresponding with the first unit of time, the device will be in position to record the second unit of time and the elapsed time.

9. A computing machine including elapsed time printing mechanism, a stationary pointer, two members movable in respect to said pointer, the first member being a circular scale divided into time intervals representing hours and fractions thereof, the second number being adapted through gearing to cause the said printing mechanism to be positioned to print elapsed time in accordance with the relative movements of the two said members, as compared with the said pointer.

In witness whereof, I, have hereunto set my hand and seal at Indianapolis, Indiana, this tenth day of June, A. D. one thousand nine hundred and seven.

RAWLEY H. BOUSLOG. [L. s.]

Witnesses:

ARTHUR M. HOOD,
THOMAS W. McMEANS.