

No. 646,757.

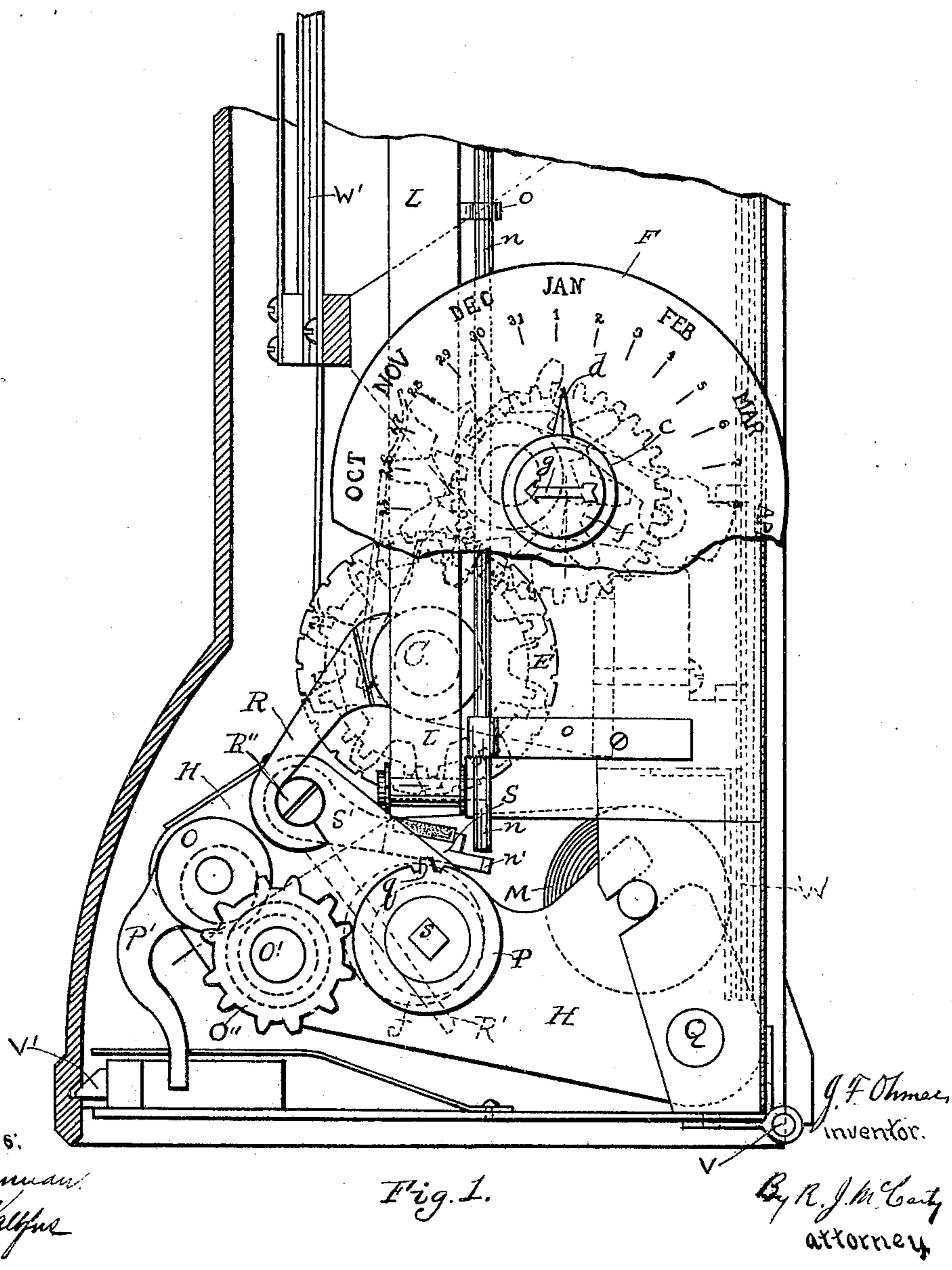
Patented Apr. 3, 1900.

J. F. OHMER.
FARE RECORDER.

(Application filed Nov. 7, 1899.)

(No Model.)

4 Sheets—Sheet 1.



No. 646,757.

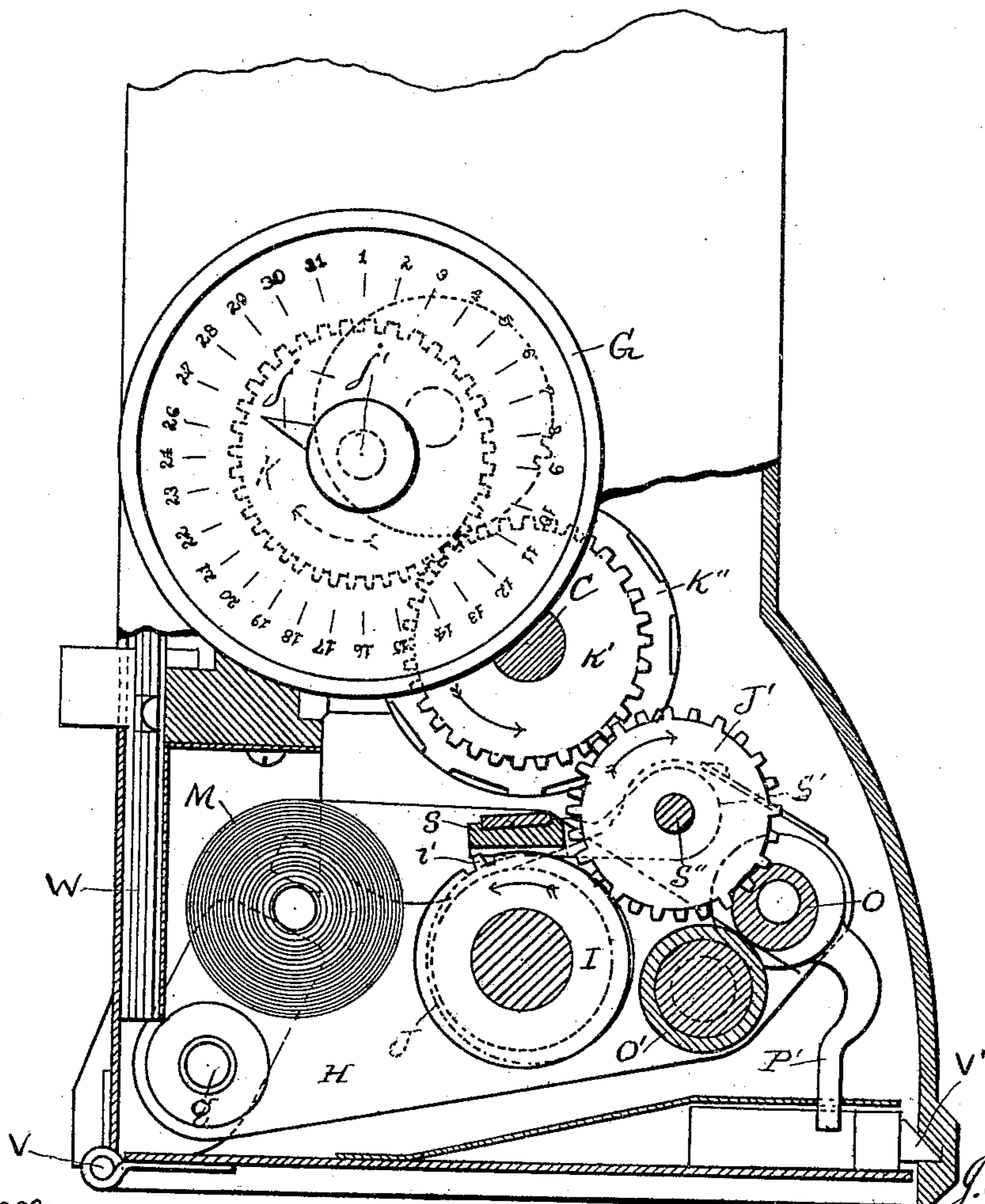
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(No Model.)

4 Sheets—Sheet 2.



witnesses:

C. J. Brennan.
John W. Kallman

Fig. 2.

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4 Sheets—Sheet 3.

9	0332		0829	0332	SEP 24
8	0330	020	0590	0820	0331 SEP 24
7	0330	023	69	0587	0799 0330 SEP 24
6	0322	021	7	0580	0777 0329 SEP 23
5	0317	020		0574	0772 0312 SEP 23
4	0312	0197		0573	0771 0233 SEP 23

Fig. 11.

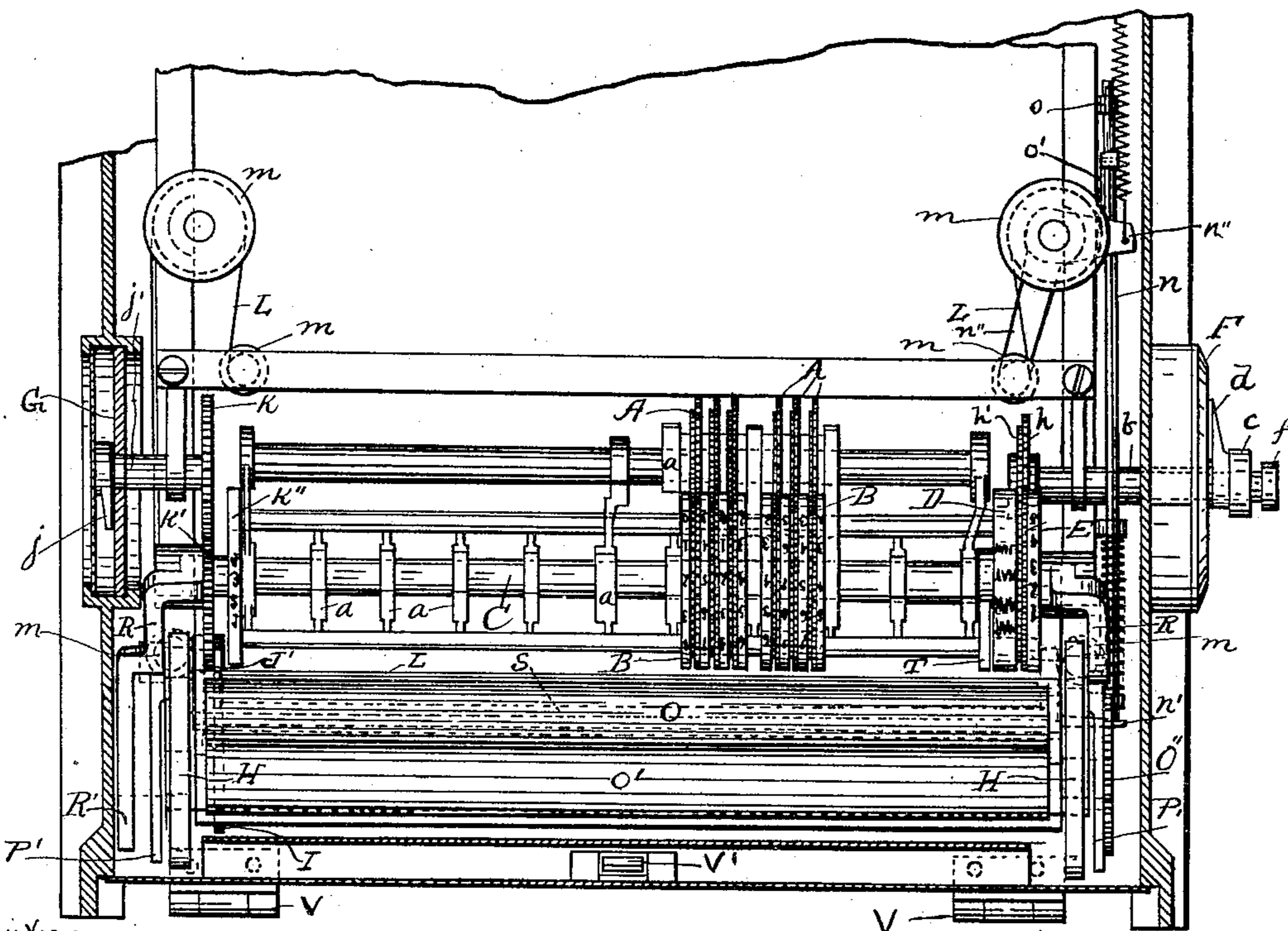


Fig. 3.

Witnesses:

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4 Sheets—Sheet 4.

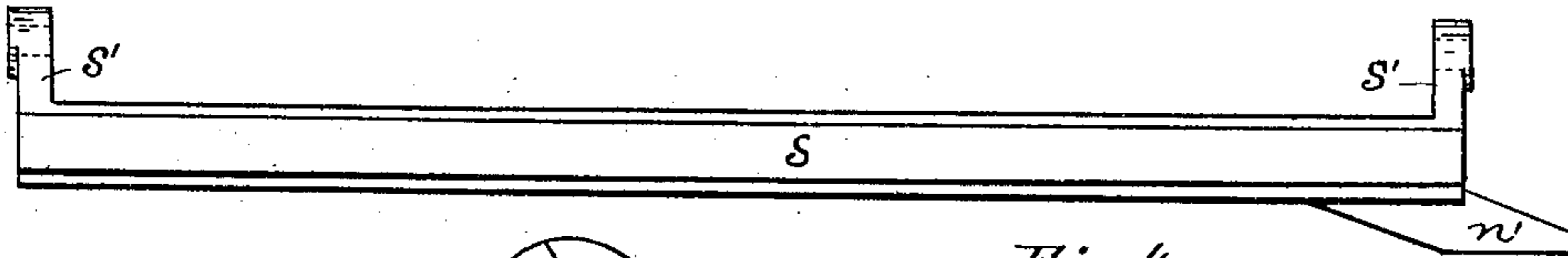


Fig. 4.

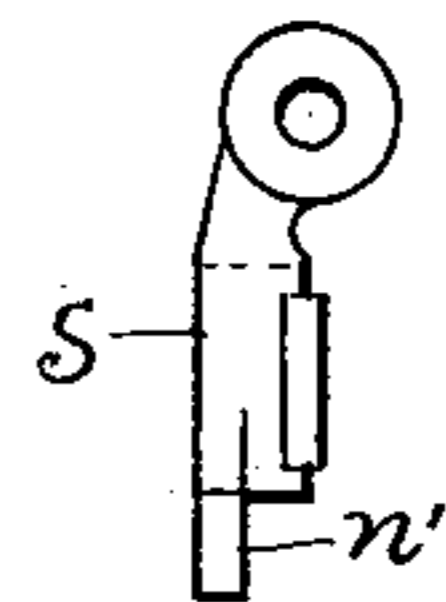


Fig. 5.

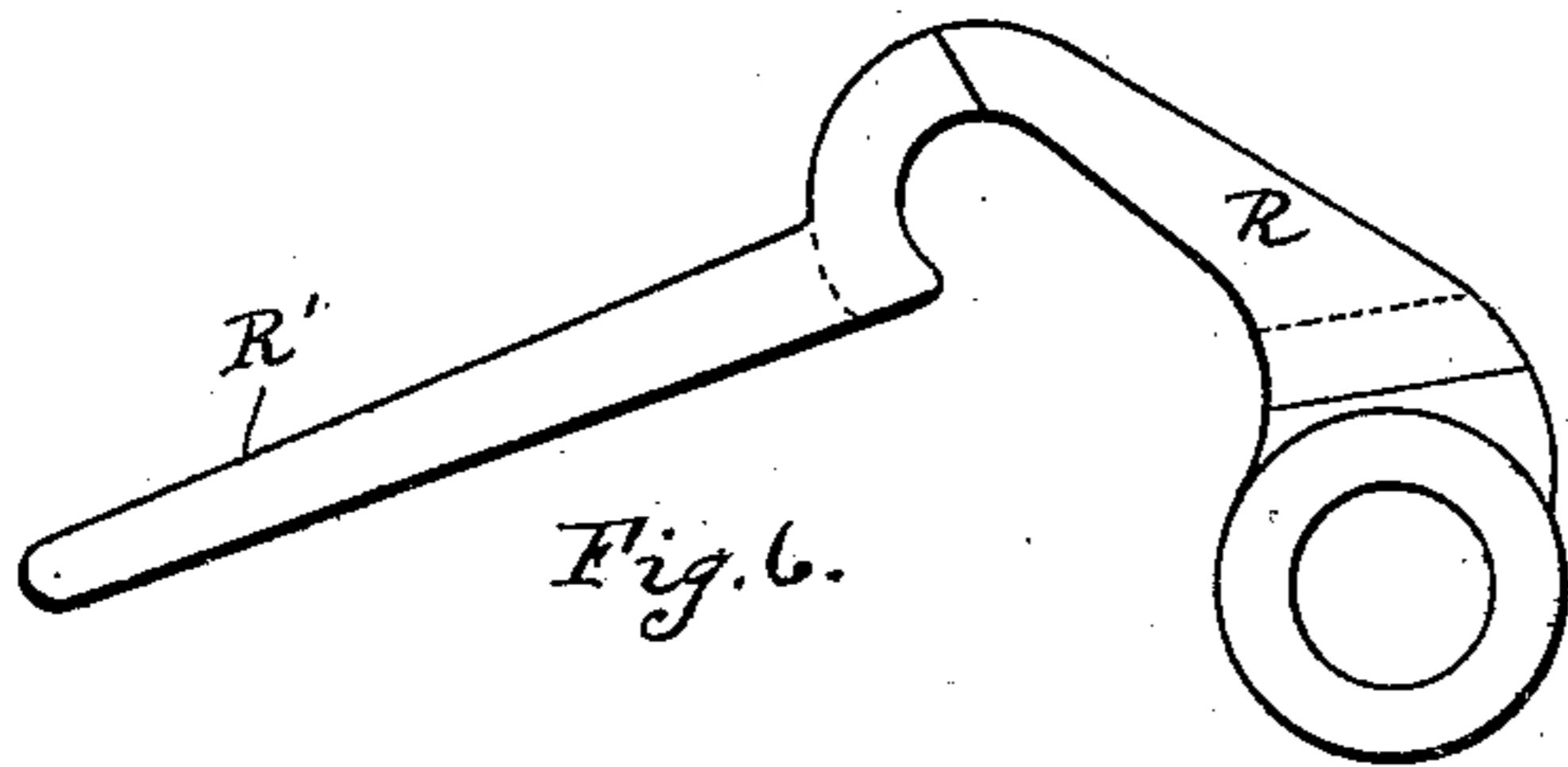


Fig. 6.

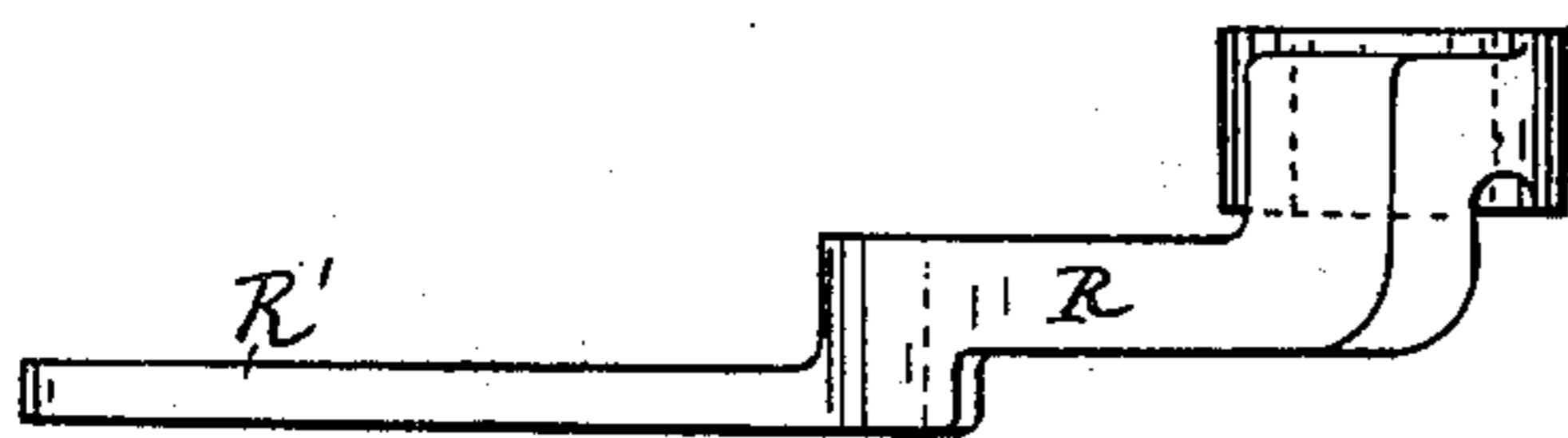


Fig. 7.

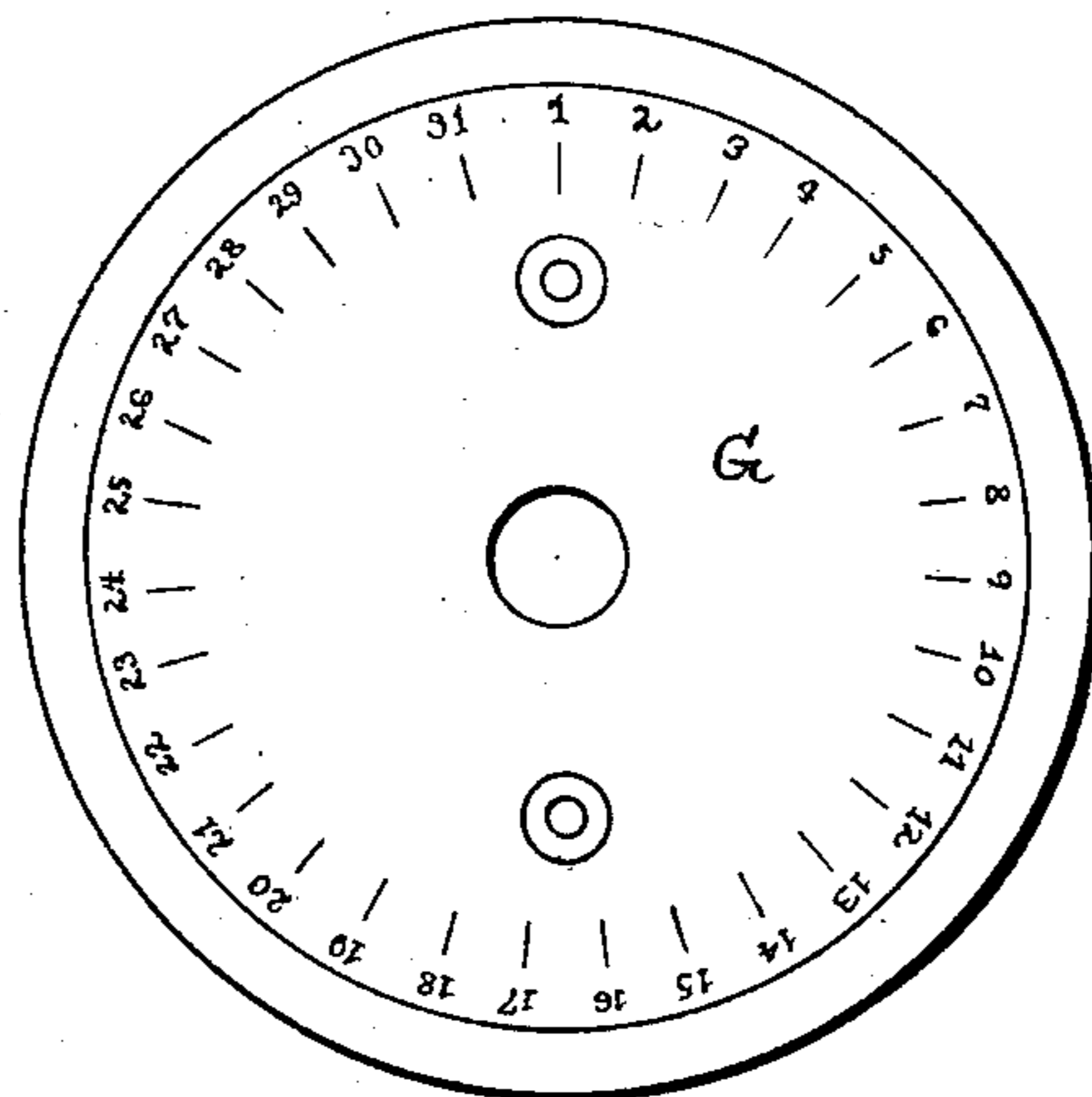


Fig. 8.

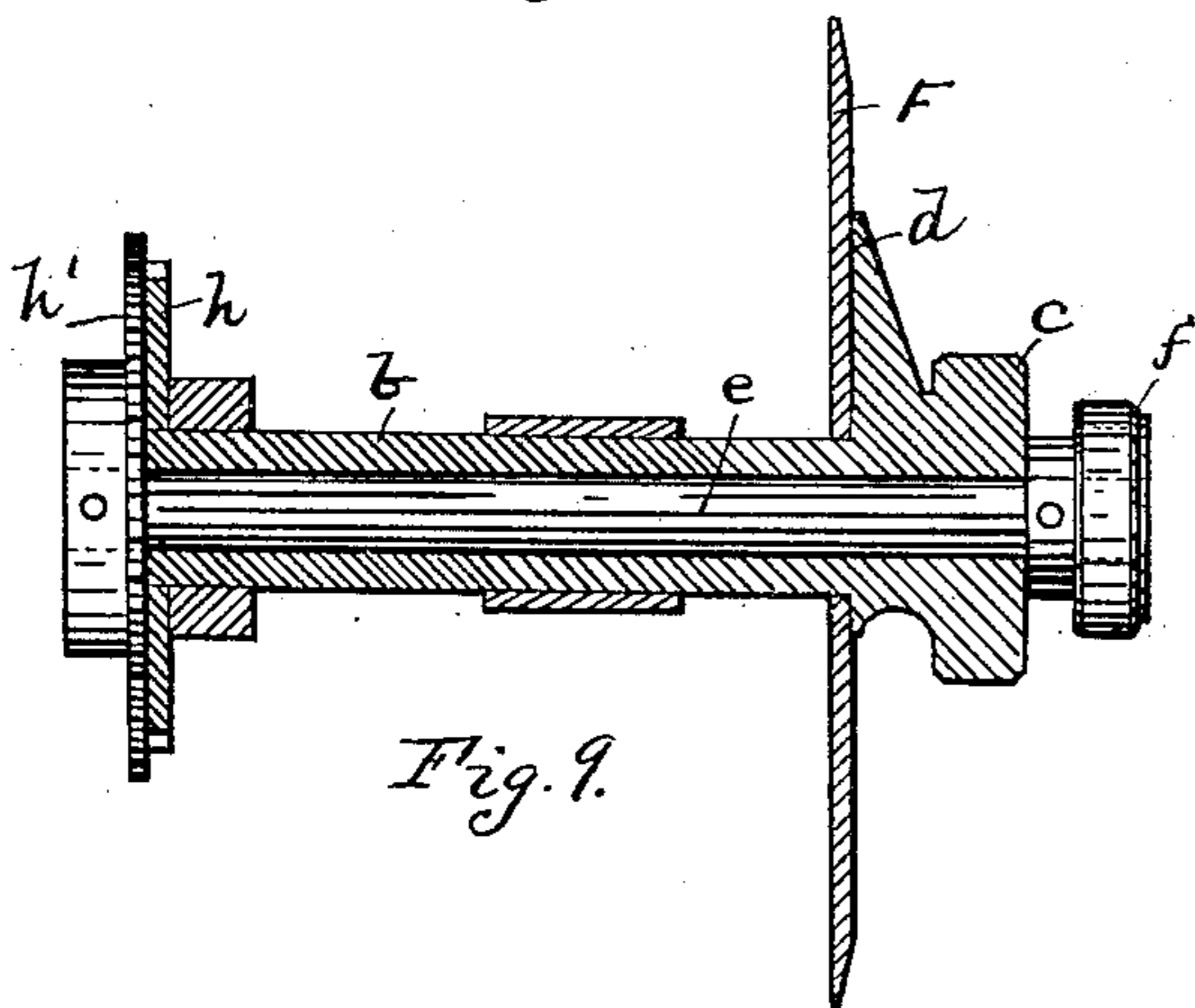


Fig. 9.

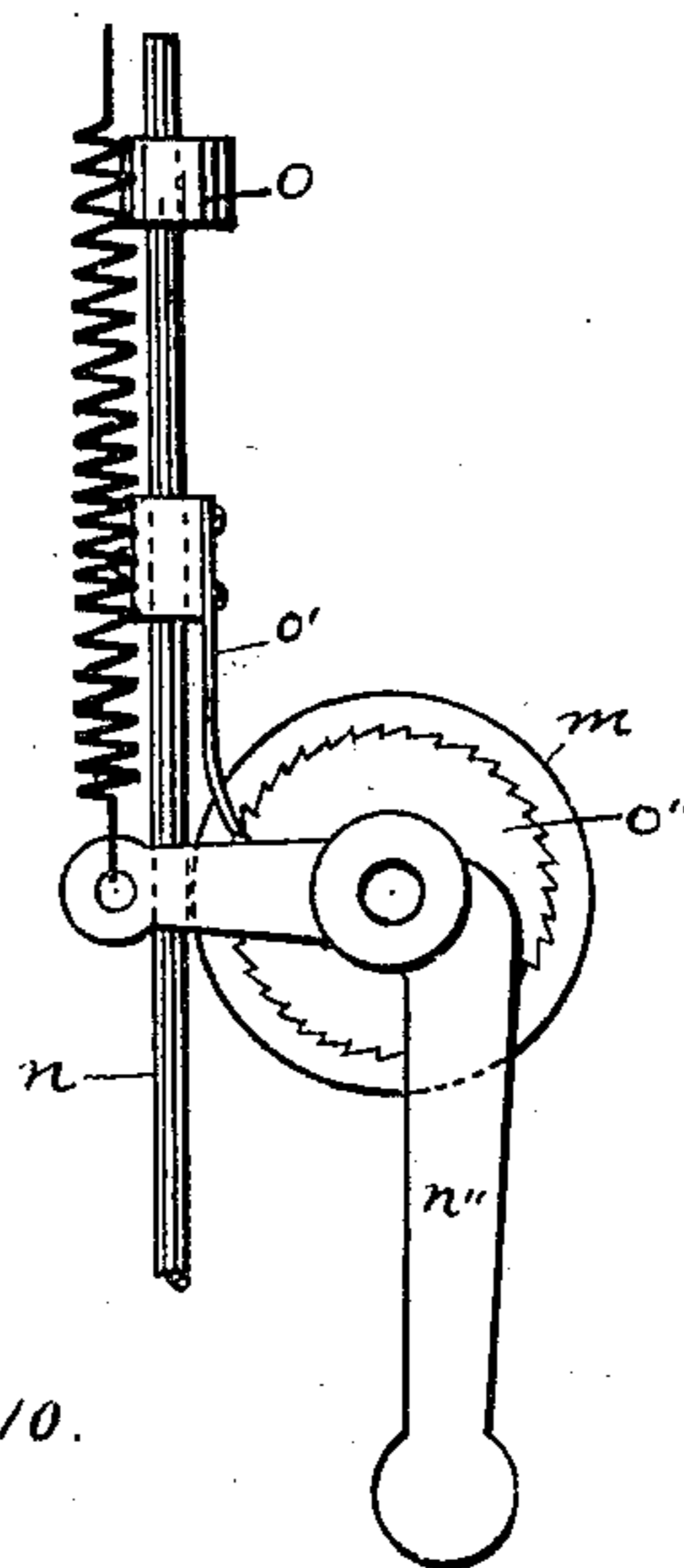


Fig. 10.

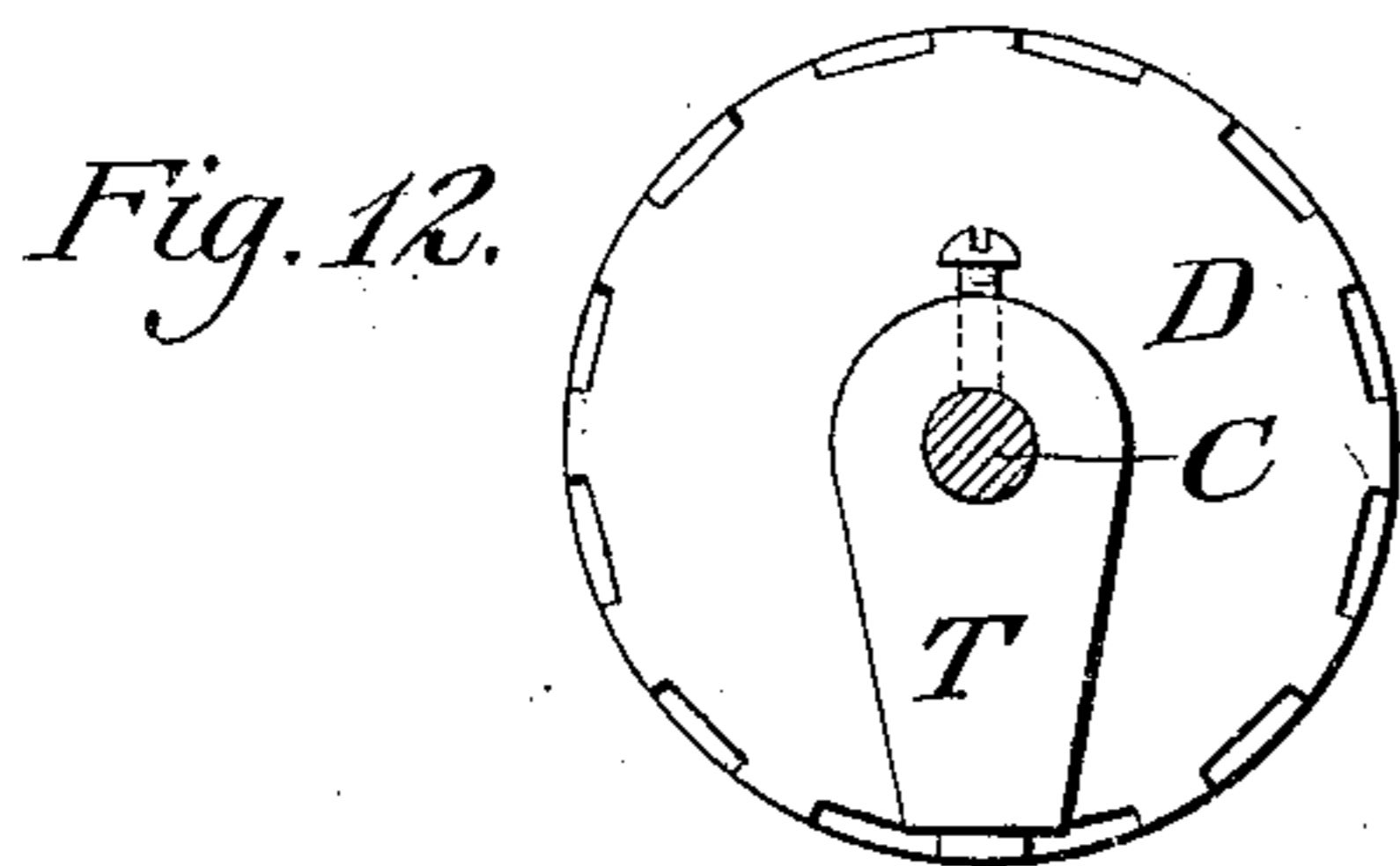


Fig. 12.

witnesses:
C. J. Brennan.
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UNITED STATES PATENT OFFICE.

JOHN F. OHMER, OF DAYTON, OHIO, ASSIGNOR TO THE OHMER CAR REGISTER COMPANY, OF ROCHESTER, NEW YORK.

FARE-RECORDER.

SPECIFICATION forming part of Letters Patent No. 646,757, dated April 3, 1900.

Application filed November 7, 1899. Serial No. 736,115. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. OHMER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Fare-Recorders; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in fare-recorders for public conveyances where different denominations or characters of fares are collected—such conveyances, for example, as street-cars and traction-line cars.

In a broad sense the improvements comprise mechanism by means of which printed statements, impressions, or records of the different classifications of fares, of the month and day of the different trips, and of the number of the register may be taken on a single sheet and by a single operation.

The object of the invention is to provide means for obtaining the above results whereby there may be taken from a register at the beginning or ending of each trip or at any other time—for example, when there is a change in conductors—a statement giving all necessary details to enable an accurate account of each register and of each conductor to be had.

The improvements are especially adapted for a fare-register that has a capacity for recording in a classified manner or by means of separate groups of registering or recording wheels the different kinds of fares—such a machine, for example, as that shown and described in Reissue Patent No. 11,681, of July 19, 1898.

In connection with a description of the invention attention is directed to the accompanying drawings, of which—

Figures 1 and 2 are elevations of opposite sides, showing the interior mechanism comprising the invention, the upper portion of the case being broken away; Fig. 3, a front elevation; Figs. 4 and 5, longitudinal and end elevations, respectively, of the pressure-bar; Figs. 6 and 7, side and top views, respectively,

of one of the hangers which support the side plates; Fig. 8, a view of the trip-indicating dial; Fig. 9, a sectional view of the date-dial; Fig. 10, a detail view of the ribbon-feeding devices; Fig. 11, a view of a sheet taken from the machine and setting forth the record of the machine at the time when such statement was taken. Fig. 12 is a side elevation of the type-bar and one of the adjacent type-wheels.

The drawings omit some of the register mechanisms which have no bearing on the present invention and which are therefore not essential to a correct understanding of said invention.

In the specification similar reference characters indicate corresponding parts in the several views of the drawings.

The primary and secondary recording-wheels A and B, a portion only of which is shown in Fig. 3, are arranged in separate groups, each of which is separated by flanges *a* and each of which groups is confined to a specific class of fares. The lower or secondary wheels B bear on their peripheries numerals from "0" to "9," and each adjacent wheel represents a progressive numerical order—to wit, units, tens, hundreds, &c. The construction and operation of these wheels are well understood and need no further description. Loose upon the shaft C, upon which the wheels B are similarly mounted, are two adjacent and independently-movable type-wheels D and E, on the respective peripheries of which are the names of the months and numerals indicating the dates of the months. Corresponding with these wheels and working synchronously therewith is a date-dial F, which is located in an exposed position on one side of the machine. Referring to Fig. 9, *b* designates a hollow shaft which passes through the axis of this dial and has suitable bearing in the framework of casing of the machine. The outer end of this hollow shaft terminates in a finger-piece *c* and has a pointer *d*, which may be turned to positions to indicate the dates on the dial. Passing through said shaft *b* is a shaft *e*, which has upon its outer end a finger-piece *f* and a pointer *g*, which may be turned by the hand to positions to indicate the months on said dial F. These shafts *b* and *e* have fixed to their inner ends gear-wheels *h* and *h'*, the

former of which engages with a wheel attached to the date type-wheel E, and wheel h' gears with the month type-wheel D. It will therefore be seen that by turning the shafts b and e the pointers d and g may be brought to proper positions to indicate the date and month on the dial, and the type-wheels D and E may be likewise and at the same time moved to positions to bring a similar month and date in the proper place to print the same. On the opposite side of the casing there is another dial G, which bears numerals representing the trips of the car in which the register is placed from "1" to "31" or any greater number. The pointer j is fixed to a shaft j' , which has suitable bearings in the framework of the machine. On the inner end of said shaft j' there is a gear-wheel k , that meshes with a similar wheel k' , the latter wheel being joined to a type-wheel k'' . Wheels k and k' should have the same number of teeth to insure the proper movement being imparted to wheel k'' and the dial-hand. These wheels k' and k'' move together and are loose on shaft C, upon which shaft the other type-wheels B, D, and E are also mounted, as hereinbefore stated. The dial G may be provided with a finger-piece projecting from the shaft j' through the axis of the dial and be operated by the hand in a manner similar to the operation of dial F, which operation will move the type-wheel k'' to a position to bring the proper figure thereon in position to be printed, or the said dial G and wheel k'' may be operated automatically by the following means: I designates a wheel having a single tooth i' . This wheel is rigidly mounted on an eccentric shaft J, of which further mention will be made. J' is an adjacent gear-wheel, with which the tooth i' engages to move said wheel J' the extent of one tooth upon each complete rotation of wheel I. Wheel J' meshes with wheel k' , which turns the trip type-wheel k'' . It will be seen that when the eccentric shaft J is turned the above-described train of gearing will be actuated. The result will be that the trip-wheel k'' and hand j will move the extent of one tooth on wheel J'. Either of the above ways of operating the trip type-wheel k'' and the dial-hand j are effective for bringing the pointer j to a proper position to indicate the trip and the wheel k'' to a proper position to print the number of said trip.

L designates a continuous ink-ribbon which lies below the type-wheels. This ribbon passes around a series of spools m , which are mounted on the framework, and is kept taut by a spring-controlled lever n'' , which controls one of said spools.

n is a vertically-movable feed-rod which is inclosed in guides o in the side of the casing. It has a spring-ratchet o' , which lies in the teeth of a ratchet-wheel o'' , fast on the shaft of one of the spools m . (See Fig. 10.) This catch o' engages said ratchet-wheel to turn it

when the feed-rod n is moved down by the coil-spring that surrounds its lower portion.

M is a roll of paper mounted in the side plates H, the free end of this roll passing beneath the type-wheels, below the ink-ribbon, and through feed-rollers O O', the former of which is eccentrically mounted. Roller O' has a toothed wheel O'', which is moved by a single tooth q on wheel P, the latter wheel being fast on the eccentrically-mounted shaft J. The eccentric feed-roller O has a handle P', that projects down within easy reach of the hand. In removing a printed or impressed sheet from the machine this handle is taken hold of and drawn outwardly, and the eccentric roller is thus turned sufficiently to feed the edge of the sheet out to within convenient reach of the hand, by which it is severed.

S is a transverse pressure-bar having two arms S', by means of which it is pivotally mounted on shaft S''. This bar carries a pressure-pad upon its upper side, which occupies a position between the type-wheels and the parallel eccentric shaft J. This eccentric shaft has a key-lug s , by which it is turned. Upon each continued rotation thereof the following operations take place: The pressure-bar S is elevated to press the paper and ink-ribbon against the type-wheels, and simultaneously therewith the feed-rod n is lifted by the projecting end n' of said pressure-bar to shift the ribbon. This impact of the pressure-bar with the type-wheels occurs when the highest surface of the eccentric shaft J has reached an uppermost position. In completing the rotation of said eccentric shaft the feed-roller O' is actuated to unwind the paper by tooth q on wheel P. During this period in the movement of said feed-roller the pressure-bar S moves down by gravity away from the type-wheels. During such continued movement of the eccentric shaft the single-tooth wheel I turns wheel J' one tooth. A similar extent of movement is imparted to wheel k'' and the dial-hand j . This movement of the type-wheel k'' presents the proper figure in a position to print upon the next operation of the eccentric shaft J, and thus an accurate impression or print of each trip is taken with each impression of the recording-wheels B and date-wheels D and E.

T designates a type-bar upon which the number of the register is designated. In the present case the number is "B 7." This type-bar is fixed in its position on shaft C. Therefore it does not require any movement. An impression of type-bar T is also made on the sheet at the same time the wheels B, D, E, and k'' are printed. Side plates H provide supports for the eccentric shaft J, paper-roll M, feed-rollers O and O', and the shaft S''. Said plates are hinged at Q in the rear part of the case and are held up at their front ends by hangers or hooks R. These hangers are fixed to shaft C. To lower the plates H and the mechanism supported thereon, the hooks or hangers R are moved out from engagement

with the pins R'' on said plates. As is shown in Figs. 6 and 7, one of said hooks has an extended end R', by means of which access may be had thereto to turn the shaft C the desired extent to release the engagement of said hooks. The bottom of the casing is hinged at V and is closed by a spring-catch V'. The same may be lowered to gain access to the machine.

W designates the vertical slides through which the various mechanisms, including the recording-wheels B of the register, are operated. These parts belong to the register mechanism proper, and therefore are not involved in the present invention.

It will be seen that the month and date, also the trip, are at all times visible on the dials and can be observed by the conductor. It may be further remarked that the figures on the type-wheels B, D, E, and k'', respectively, may be observed independently of the impressed statement simply by opening the register-casing. This observation, however, cannot be made except by one having access to the register.

It is possible that some variations might be made in some of the details described in the foregoing specification and the same results be obtained—to wit, the obtainment of a statement or record from a register, showing the various data above referred to, which is taken on a sheet over which the conductor has no control. I therefore do not limit myself to the identical construction and arrangement herein shown and described, but desire to claim, broadly, means for obtaining such statement.

Having described my invention, I claim—

1. In a fare-recorder, the combination with type-wheels assembled in groups each group denoting a definite kind of fare, of a type-wheel denoting the trips, a dial indicating the trips as per said wheel, mechanism interposed between said trip type-wheel and dial whereby movement may be imparted simultaneously to said type-wheel and the dial-hand to indicate the same trip on both the wheel and dial.

2. In a fare-recorder, the combination with type-wheels assembled in groups each group denoting a definite kind of fare, of a type-wheel denoting the trips, a dial indicating the trips, mechanism interposed between said trip type-wheel and dial whereby movement may be imparted simultaneously to said type-wheel and the dial-hand to indicate the same trip on both the wheel and dial, and means for taking an impression of the type-wheels showing the number of fares collected up to the time of taking such impression, and the trip upon which such statement was taken.

3. In a fare-recorder, the combination with type-wheels assembled in groups each group denoting a definite kind of fare, of type-wheels denoting the months and the dates thereof, a dial indicating the months and the dates thereof, mechanism interposed between

said date type-wheels and dial whereby movement may be imparted simultaneously to said date type-wheels and the dial-hand to indicate the same date on both the wheels and the dial.

4. In a fare-recorder, the combination with type-wheels assembled in groups each group denoting a definite kind of fare, of type-wheels denoting the months and the dates thereof, a dial indicating the months and the dates thereof, mechanism interposed between said date type-wheels and dial whereby movement may be imparted simultaneously to said type-wheels and the dial-hand to indicate the same date on both the wheels and dial, and means for taking an impression of the type-wheels showing the number of fares collected up to the time of taking such impression, and the date upon which such statement was taken.

5. In a fare-recorder, the combination with type-wheels assembled in groups each group denoting a specific class of fares, of a fixed type-bar indicating the number of the register, type-wheels denoting the months and the dates thereof, a dial indicating the months and the dates thereof, mechanism interposed between the dial-hand and said type-wheels whereby a corresponding movement may be imparted to the dial-hand and to said type-wheels.

6. In a fare-recorder, the combination with type-wheels assembled in groups each group denoting a specific class of fares, of a fixed bar indicating the number of the register, type-wheels denoting the months and the dates thereof, a dial indicating the months and the dates thereof, mechanism interposed between the dial-hand and said date type-wheels whereby a corresponding movement may be imparted to the dial-hand and to said date type-wheels, and impression devices for taking statements from said type wheels and bar setting forth the fares collected, in classified arrangement, the dates upon which such statements were taken, and the number of the register from which such statements were taken.

7. In a fare-recorder, the combination with type-wheels assembled in groups each group denoting a definite class of fares, of type-wheels denoting the months and the dates thereof, a dial indicating the months and the dates thereof, mechanism interposed between said date type-wheels and the hand of the dial by means of which said dial-hand and date-wheels may be correspondingly moved to present the type-wheels in positions to print the date, and the dial-hand to indicate the same date on the dial, a type-wheel denoting the trips, means for actuating said trip type-wheel to move it to proper positions to print each trip, and impression devices for taking a print or impression setting forth a statement of the different fares collected up to the time of taking such statement, the date and the trip upon which such statement was taken.

8. In a fare-recorder, the combination with type-wheels assembled in groups each group denoting a definite class of fares, of a type-bar denoting the number of the register, a type-wheel denoting the trips, a dial also denoting and indicating the trips, mechanism between said trip type-wheels and the hand of the dial, means for actuating said mechanism to simultaneously move said trip type-wheel and the dial-hand, the former to a position to print the trip, and the latter to a position to indicate the same trip, and impression devices for taking statements from said type wheels and bar.

9. In a fare-recorder, the combination with type-wheels assembled in groups each group denoting a specific class of fares, of type-wheels denoting the months and the dates thereof, a dial also denoting the months and the dates thereof, mechanism interposed between said date type-wheels and the hand of the dial whereby said wheels and hand are simultaneously movable to indicate a given date on the dial and wheels, a type-wheel denoting the trips, mechanism interposed between said trip type-wheel and the hand on the trip-dial whereby said wheel and hand are simultaneously movable to indicate the same trip on the dial and wheel, and impression devices for taking a statement from said type-wheels setting forth the different fares collected up to the time of taking such statement, the date and the trip on which such statement was taken.

10. In a fare-recorder, the combination with a platen or pressure-bar, an eccentric shaft to actuate the same, and type-wheels assembled in groups each group denoting a definite class of fares, a type-wheel denoting the trips, a dial upon which said trips are indicated, mechanism for actuating said trip type-wheel from the eccentric shaft and for transmitting movement from said trip type-wheel to the dial-hand to indicate the same trip on both the dial and trip-wheel upon each operation of the eccentric shaft in elevating the pressure-bar.

11. In a fare-recorder, the combination with a platen or pressure-bar, an eccentric shaft to actuate said bar, and type-wheels assembled in groups each group denoting a definite class

of fares, a type-bar denoting the number of the register or other mark by which the register is designated, a type-wheel denoting the trips, a dial upon which said trips are also indicated, the said trip-wheel being geared to the eccentric shaft and the dial-hand being geared to said trip-wheel whereby upon each operation of the eccentric shaft the dial-hand and the trip-wheel will be correspondingly actuated to indicate the same trip, and means for taking statements from the type-wheels upon each operation of the eccentric shaft.

12. In a fare-register, the combination of type-wheels denoting the fares, type-wheels denoting the trips, and a fixed type-bar indicating the specific register.

13. In a fare-register, the combination of type-wheels denoting fares, type-wheels denoting the trips, a fixed type-bar indicating the specific register, and impression devices for taking statements from said type wheels and bar.

14. In a register, the combination of type-wheels denoting the total registrations made, a type wheel or wheels denoting the number of each statement taken from said first-named type-wheels, and impression devices for taking such statements.

15. In a fare-register, the combination of register-wheels for recording the fares, a pressure-bar for taking an impression of the fares from said wheels, feed-rollers for spacing the paper upon which such statements are made, and an eccentric shaft which actuates said pressure-bar and feed-rollers upon each movement thereof.

16. In a fare-register, the combination of register-wheels for recording the different fares, a pressure-bar for taking an impression of the fares from said wheels, inking devices, an eccentric shaft for simultaneously actuating said pressure-bar and the inking devices.

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

JOHN F. OHMER.

Witnesses:

JOHN W. KALBFUS,
R. J. McCARTY.