

(No Model.)

2 Sheets—Sheet 1.

J. B. RHODES.  
WORKMAN'S TIME REGISTER.

No. 432,562.

Patented July 22, 1890.

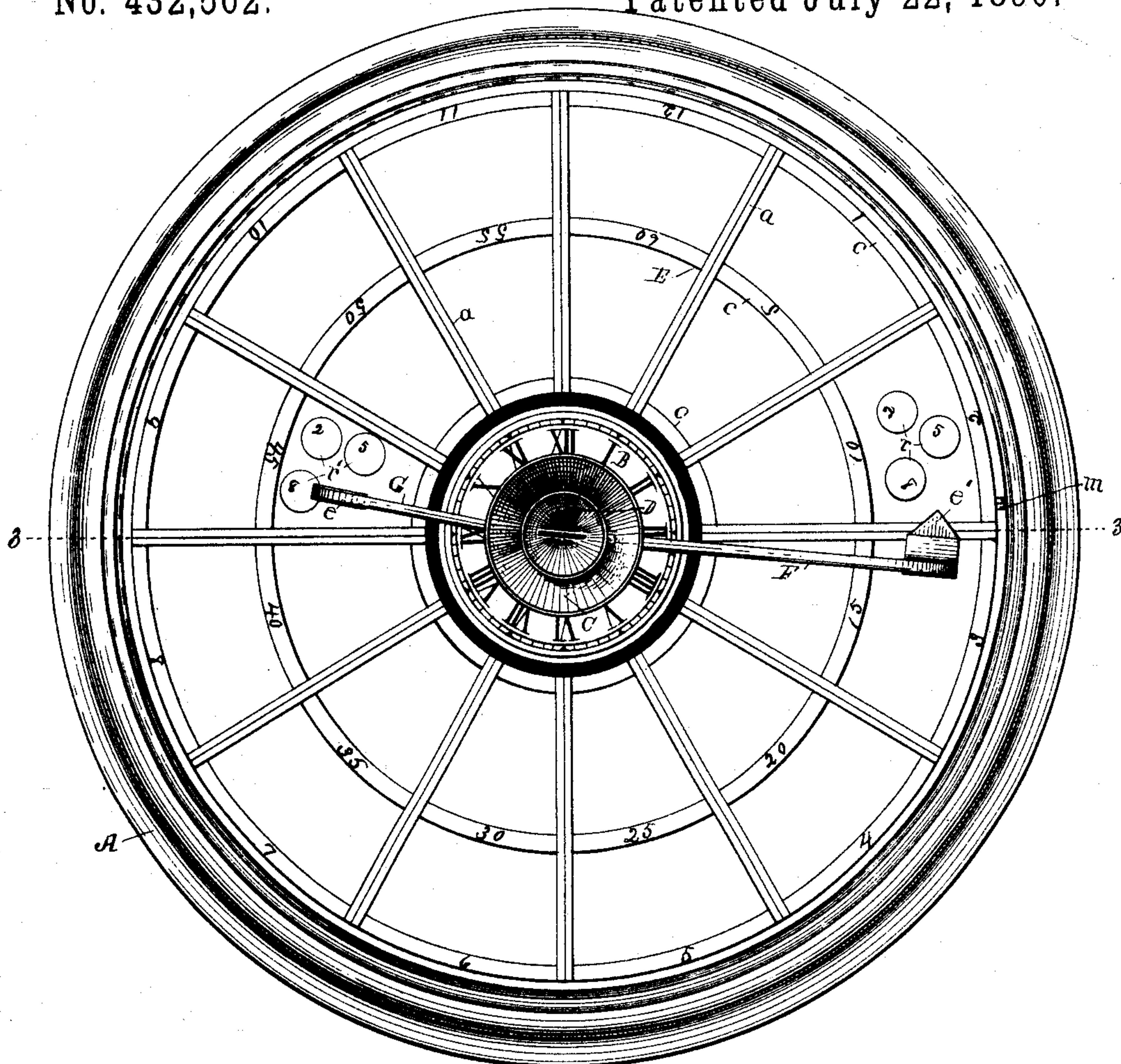


Fig. 1

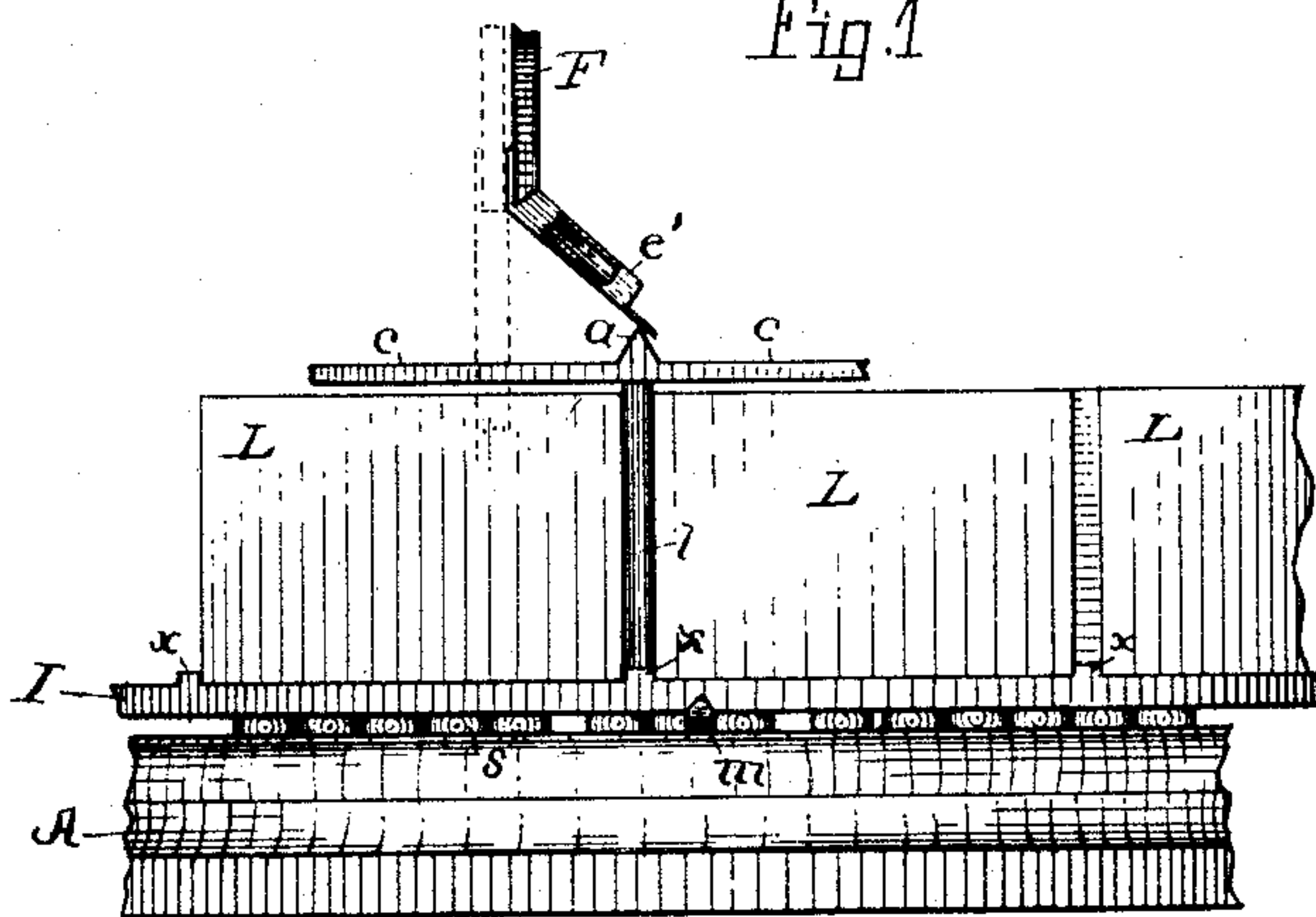


Fig. 3

Witnesses:

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Att'y.



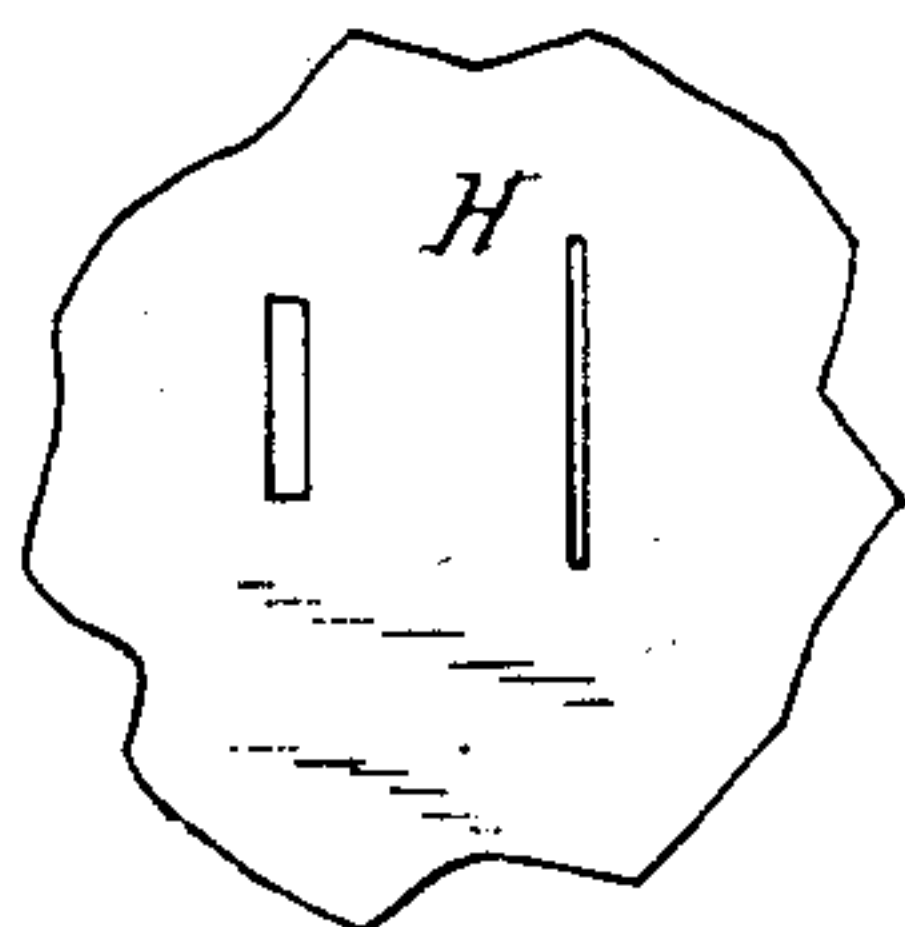
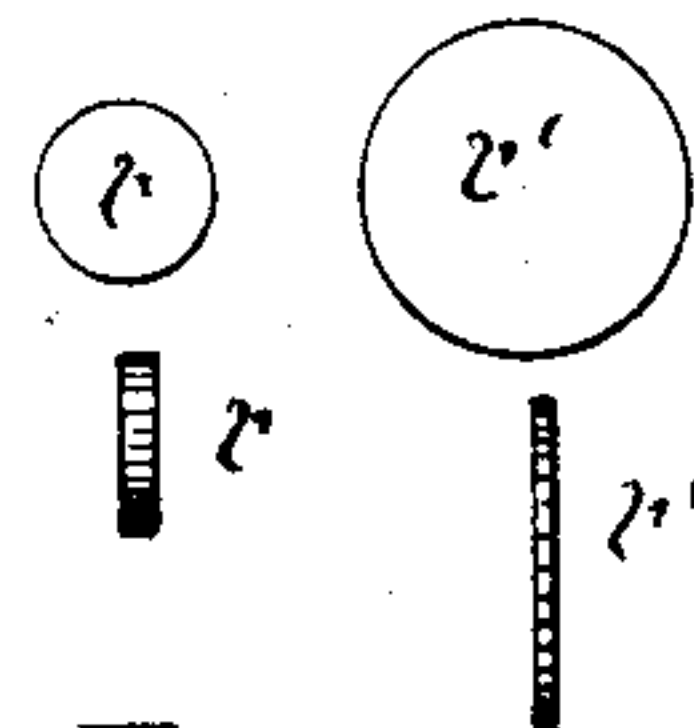
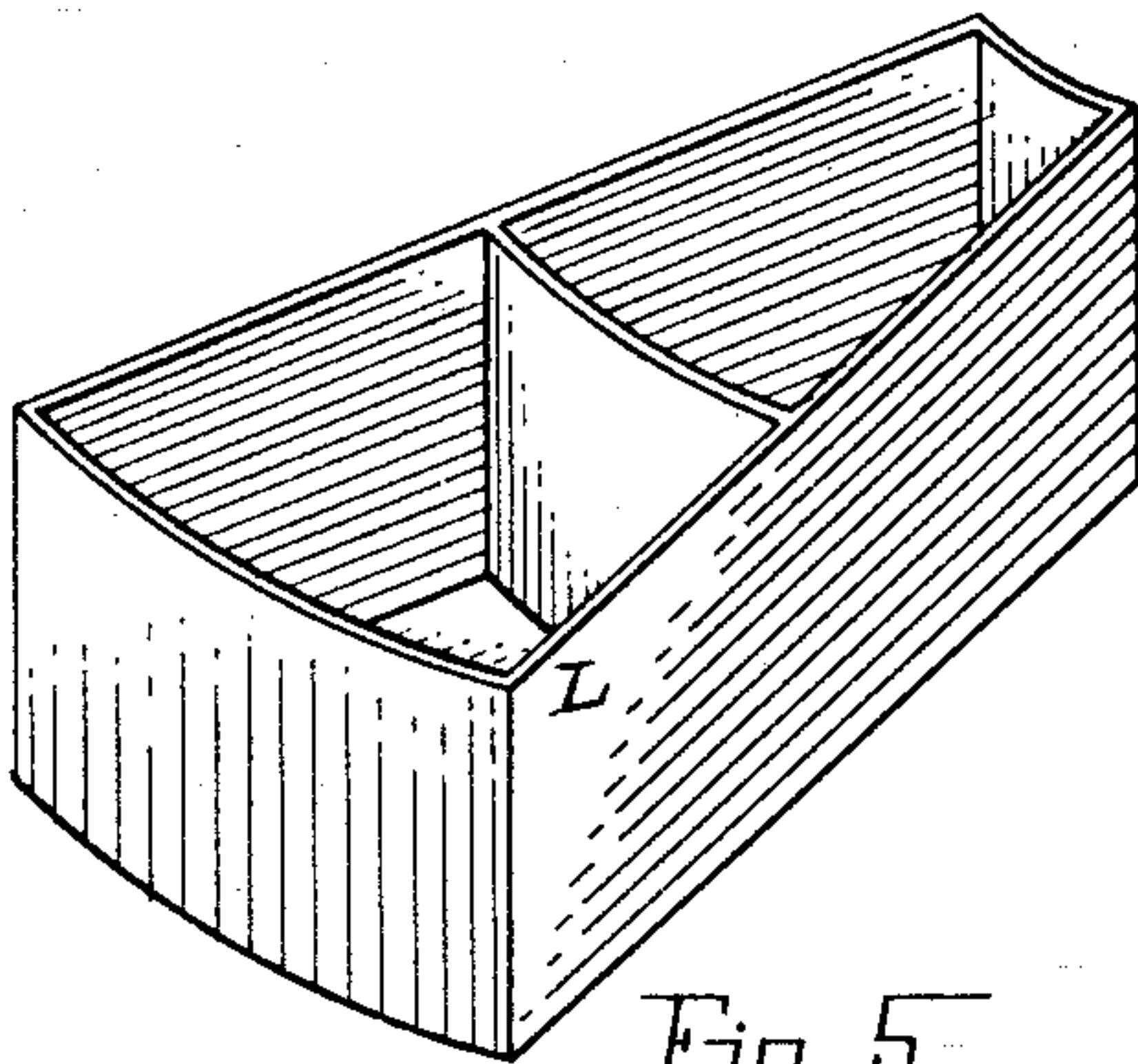
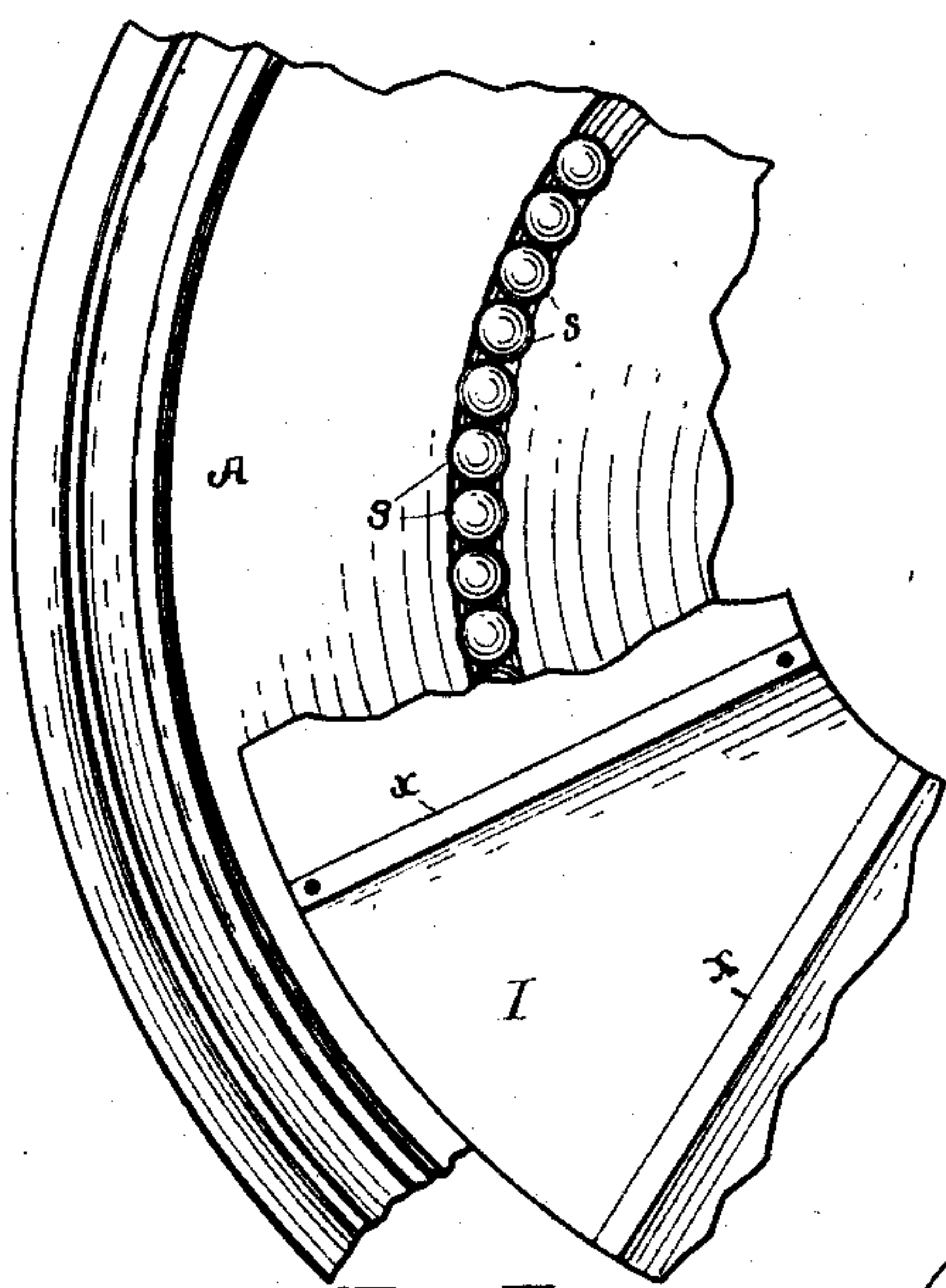
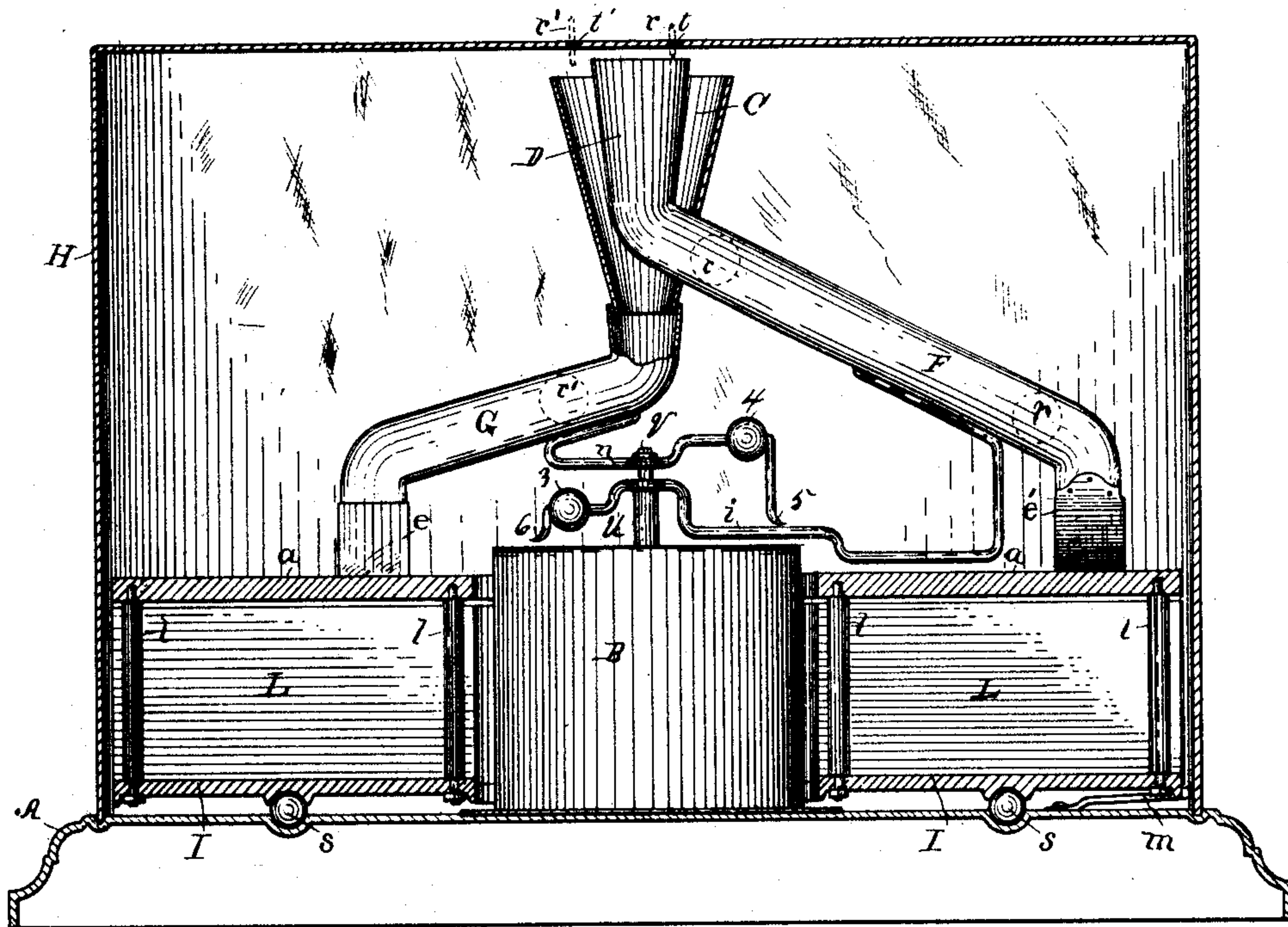
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2 Sheets—Sheet 2.

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Witnesses:

Walter S. Wood  
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Inventor.

By Jay B Rhodes  
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# UNITED STATES PATENT OFFICE.

JAY B. RHODES, OF KALAMAZOO, MICHIGAN, ASSIGNOR TO GEORGE R. SHEPARDSON, CHARLES D. HANSCOMB, AND BYRON W. SHEPARDSON, ALL OF SAME PLACE.

## WORKMAN'S TIME-REGISTER.

**SPECIFICATION** forming part of Letters Patent No. 432,562, dated July 22, 1890.

Application filed March 26, 1890. Serial No. 345,423. (No model.)

### *To all whom it may concern:*

Be it known that I, JAY B. RHODES, a citizen of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Workman's Time-Register, of which the following is a specification.

This invention relates to devices in which the workmen deposit their individual checks in the trays or boxes which bear characters indicating the hour and some subdivision of the hour at which they come to the factory in commencing their day's work.

The main object of this invention consists in a construction in which conveyers are attached to the posts of the minute-hand and post of the hour-hand of a clock, and in which are employed a series of trays having a compartment into which the checks registering the hours are deposited and a compartment into which the checks registering the fractional portions of the hours are deposited, and above the open tops of which trays the conveyers rotate around the central axis or hand-posts of the clock to which the conveyers are attached in a manner that at any time when the workman deposits his hour-check and minute-check into the mouths of said conveyers they will be conveyed into the proper compartments of the trays to register the time he entered the factory to engage in his labors of the day.

The design in this invention is, as herein illustrated, that the hour and the minutes within five minutes before and after the given hour will be registered; but the machine may be made to register a less number of minutes by employing a greater number of boxes into which the checks are deposited.

Other objects consist in the peculiar construction and combination of parts described and claimed below.

In the drawings forming a part of this specification, Figure 1 is a plan view of parts in Fig. 2 with the outer casing removed. Fig. 2 is a section on line 3 3 in Fig. 1 with the outer casing attached. Fig. 3 is an elevation of lettered details in Fig. 1, looking from a point at

the left. Fig. 4 is a plan of broken details in Fig. 1. Fig. 5 is an enlarged perspective of one of the trays. Fig. 6 is a plan of a broken portion of the case in Fig. 1, and Fig. 7 is a plan and edge view of the different-sized checks employed by the workmen in registering their time.

Referring to the lettered parts of the drawings, A is the base upon which the register is mounted, and H shows a case upon said base and inclosing the mechanism. I employ an ordinary clock B, mounted upon the base A at the center—that is, a clock in which the ordinary subdivisions of time are arranged for twelve hours and for the sixty minutes for each hour. Around this clock are arranged a series of trays or boxes L, each box having a front and rear compartment, the front compartments bearing characters indicating the hours from one to twelve, as shown in Fig. 1, and the rear compartments bearing characters indicating one-twelfth of an hour each; hence there are twelve of these boxes, and they are made with the sides converging from the front end toward the clock and radiating from the latter.

Through the upper inclosure of the case H are made two slots differing in length and width, as shown in Fig. 6 and at  $t$  and  $t'$  in Fig. 2. Immediately beneath the slots are arranged the funnel-shaped mouths C D of the conveyers G F. The funnel-mouth C of the conveyer G is disconnected from said conveyer, but extends into it, like the base of a funnel, as shown in Fig. 2. The funnel-mouth D is smaller than the mouth C, the latter surrounding the mouth D and being attached to the conveyer F at the point where it passes through said funnel-mouth C. The object of this is in order to allow the conveyer F to pass from one of the hour-compartments to another, while the conveyer G makes one circuit around the register. The conveyer F is attached by a bar  $i$  to the hour-hand post  $u$  of the clock B. Thus the checks  $r$  which represent hours are deposited in the hour-compartment of the boxes L. The conveyer G is attached to the minute-hand post  $v$  of the



clock B, and thus the checks  $r'$  representing minutes are deposited in the minute-compartments of the boxes L. By this means the workman, by putting a check into each slot, (which checks of course will bear his own number, as indicated at 2 5 8 in Fig. 5,) will register the time within five minutes at which he entered the factory.

By changing the size of the minute-compartments the apparatus may be arranged to register a less portion of time than five minutes within the hour; but it is deemed for all practical purposes that a registering device made upon the plan as herein illustrated will register the time sufficiently accurate.

It is deemed very important that the checks  $r$   $r'$ , as shown in Figs. 2 and 7, should be of different diameter and of a different thickness. To illustrate, it is deemed the best plan to have the hour-checks smaller in diameter and greater in thickness than the minute-checks, one object being to deposit the lightest checks  $r$  through the longest conveyer; but of course the main object is to guard against any possibility of getting both checks in one slot. In Fig. 1 the conveyers are in such a position that the time registered by the checks is 15 minutes to 3 or 45 minutes past 2. Before the hour-conveyer has moved far enough to deposit checks into the three-o'clock hour-compartment the minute-conveyer will have passed over the fifty-minute compartment and the fifty-five-minute compartment, thus registering 2 o'clock and 50 minutes and 2 o'clock and 55 minutes, as the case may be, should checks be deposited at such times as the minute-conveyer is passing over said minute-compartments. When the hour-conveyer F is in position to deposit checks into the three-o'clock compartment, of course the minute-conveyer G will be in position to deposit checks into the sixty-minute compartment, thus operating on the same principle as the hands of a clock, supposing, for the sake of illustration, the conveyers G and F to represent said hands.

It will be observed in Figs. 1, 2, and 3 that the conveyers G F are provided at the lower end with flexible terminals  $e$  and  $e'$ , or they may not be flexible, so long as they are flexibly attached to said conveyers or hinged thereto in a manner to yield or tilt when coming in contact with anything. The object of these flexible terminals is to bridge over the space occupied by the contiguous side walls of the trays which separate the compartments of one tray from those of the next one. This prevents (to illustrate) the checks  $r$  (reference being now had to Figs. 1 and 3) from being deposited into the three-o'clock compartment until the conveyer G has reached the sixty-minute compartment, and of course, on the other hand, the terminals  $e$  will prevent an improper deposit of the checks  $r'$  in relation to the deposit of the other checks  $r$ , and this arrangement and operation of parts of course holds good in relation to all of the other time-registering compartments in a like

relation with the conveyers. Thus the time (within the space of five minutes) at which a workman comes to the factory can be ascertained by examining the checks and the trays at the end of the day's labor. The design is that this examination may be accomplished by either removing the case II, or a door may be made in one side of said case, through which the trays, one at a time, may be taken out and passed in.

At I is a revoluble floor surrounding the clock B and mounted upon a series of rollers S, which rollers are in a circular groove in the upper side of the base A and the under side of the floor I, as indicated in Figs. 2, 3, and 4. This floor I has raised ribs  $x$  on its upper side, as shown in Figs. 3 and 4. These ribs converge from the outer end toward the clock, and the trays are inserted between them, as in Fig. 3.

Above the trays L and surrounding the clock B is a skeleton frame-work  $c$ , which has radiating bars which have an apex, as at  $a$ , Figs. 2 and 3, and which bars cover the space between the compartments of one tray and those of another. This skeleton frame is supported by posts  $l$ , which project upward from the floor I, at the outer and inner ends of the bars  $a$ , as clearly shown in Figs. 2 and 3. The object of having the bars  $a$  provided with the apex is to allow the terminal ends of the check-conveyers  $e$  and  $e'$  to readily pass over from one compartment into the other, as indicated in Fig. 3, in which figure the terminal  $e$  will so trip over into the next compartment. By means of thus constructing a revoluble support for the trays L the examiner can from a given point bring any and all the boxes around the said point when desiring to examine their contents.

At  $m$ , in Figs. 2 and 3, is a spring-catch, which catches up into a niche in the bottom of the floor I, beneath each tray, and thus holds the tray-support fixed in given positions while taking out and putting in said trays.

In order to counterbalance the weight of the conveyers attached to the posts  $v$   $u$ , I have extended the arms  $i$   $n$  to the rearward and attached thereto balancing-weights 3 4.

At 5 6 in Fig. 2, the rear extended ends of the arms  $n$   $i$  are provided with pointers, which may be employed by setting them at the proper points to point to the character representing given hours and minutes upon the dial-plate of the clock without any regard to having the conveyers G and F occupy the position that the hour and minute hands of a clock would occupy in their relation to the characters on the dial-plate.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of the clock, the minute-conveyer and the hour-conveyer attached to the minute-hand post and the hour-hand post of the clock, and the series of trays around the clock and radiating therefrom,



said trays having the minute-compartments and the hour-compartments, substantially as set forth.

2. The combination of the clock, the hour-conveyer and the minute-conveyer attached to the minute-hand post and to the hour-hand post of the clock, the trays having the minute-compartment and the hour-compartment, said trays being arranged around the clock, and a support for said trays surrounding the clock and mounted upon revoluble bearings, substantially as set forth.

3. The combination of the clock, the hour-conveyer and the minute-conveyer attached to the minute-hand post and the hour-hand post of the clock, the trays having the two compartments, the tray-support mounted upon revoluble bearings, the skeleton frame supported from said tray-support above the trays, said frame having the radial bars over the contiguous edges of the trays, and the flexible terminals at the lower end of the hour and minute conveyers, substantially as set forth.

4. The combination of the clock and the minute and the hour conveyer, the double-compartment trays, and a case covering said parts and having slots of different sizes, through which slots the time-checks are dropped into the conveyers, and time-checks of different thickness and diameter, substantially as set forth.

5. The combination of the clock, the conveyers attached one to the hour-hand post and the other to the minute-hand post of the clock, the series of double-compartment trays, a funnel-mouth for one of the conveyers and disconnected therefrom, the other conveyer having a funnel-mouth attached to and surrounded by the disconnected mouth, and a case inclosing said parts and having slots registering with the mouths of the conveyers, through which the checks are deposited, substantially as set forth.

6. The combination of the clock, the minute-conveyer and the hour-conveyer attached to the minute-hand post of the clock, said conveyers being attached to said parts by arms which extend beyond said posts, and counterbalancing-weights on said extending arms, and the series of trays around the clock and radiating therefrom, said trays having the minute-compartments and the hour-compartments, substantially as set forth.

In testimony of the foregoing I have hereunto subscribed my name in presence of two witnesses.

JAY B. RHODES.

Witnesses:

CHARLES D. HANSCOMB,  
BYRON W. SHEPARDSON.