

No. 854,281.

PATENTED MAY 21, 1907.

J. ERICSON.
TIME RECORDER.

APPLICATION FILED JULY 7, 1906.

4 SHEETS—SHEET 1.

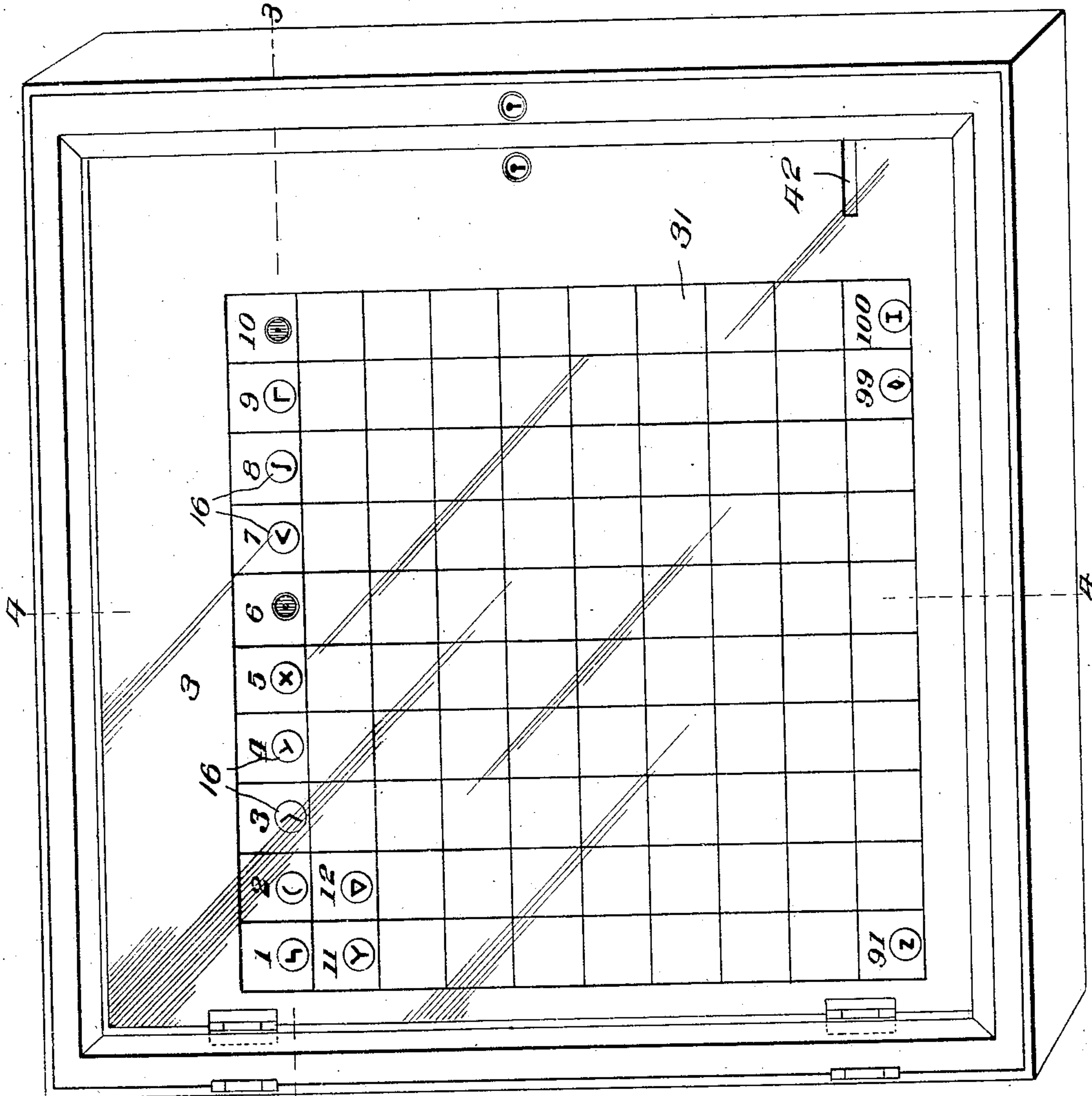
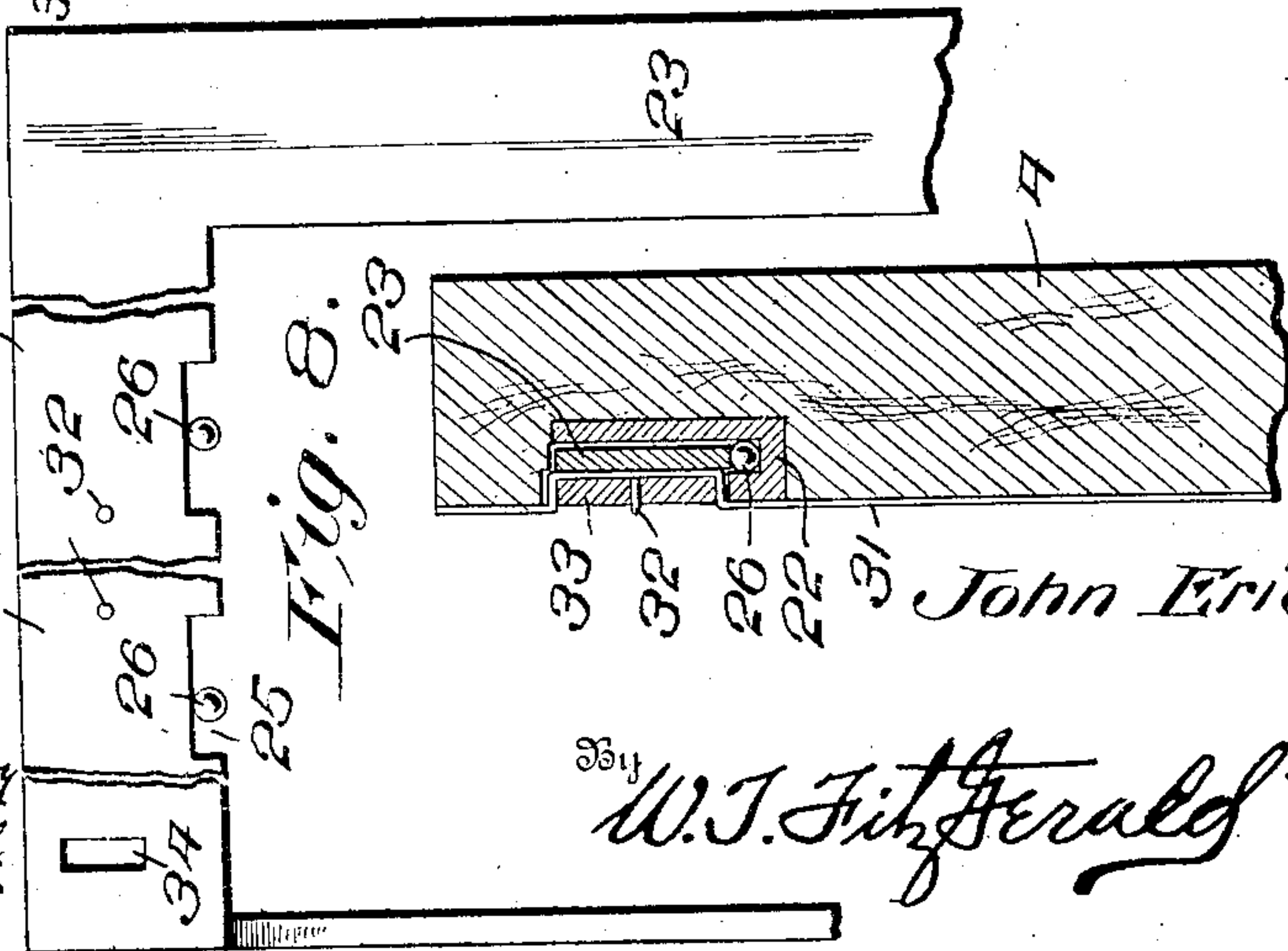


Fig. 1.

Fig. 7.

Fig. 8.



Witnesses

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4 SHEETS—SHEET 2.

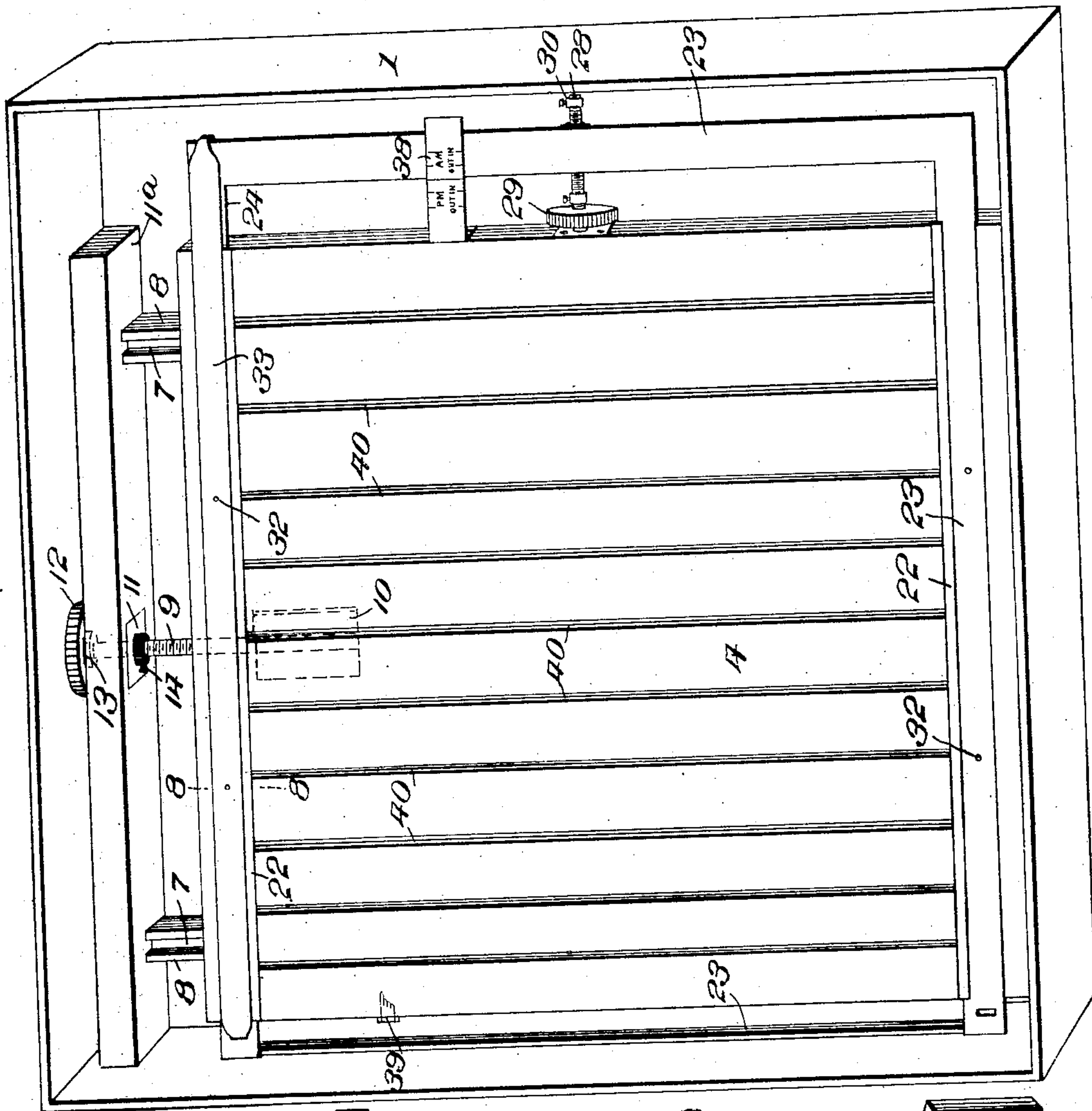


Fig. 2.

Fig. 5.

Fig. 6.

Fig. 9.

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4 SHEETS—SHEET 3.

Fig. 3.

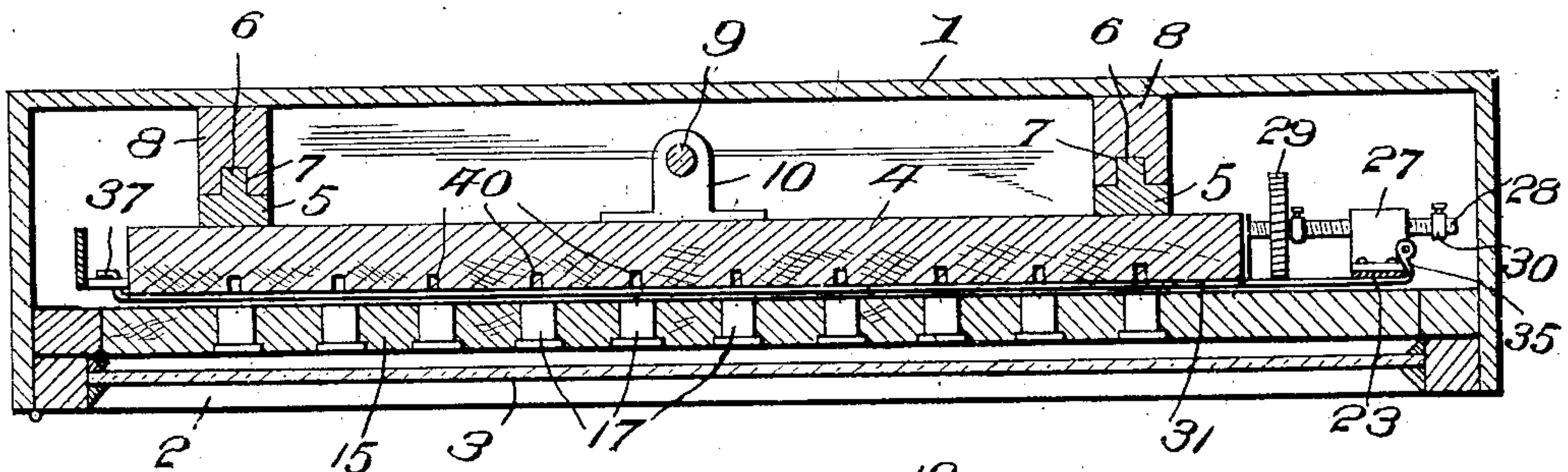


Fig. 10.

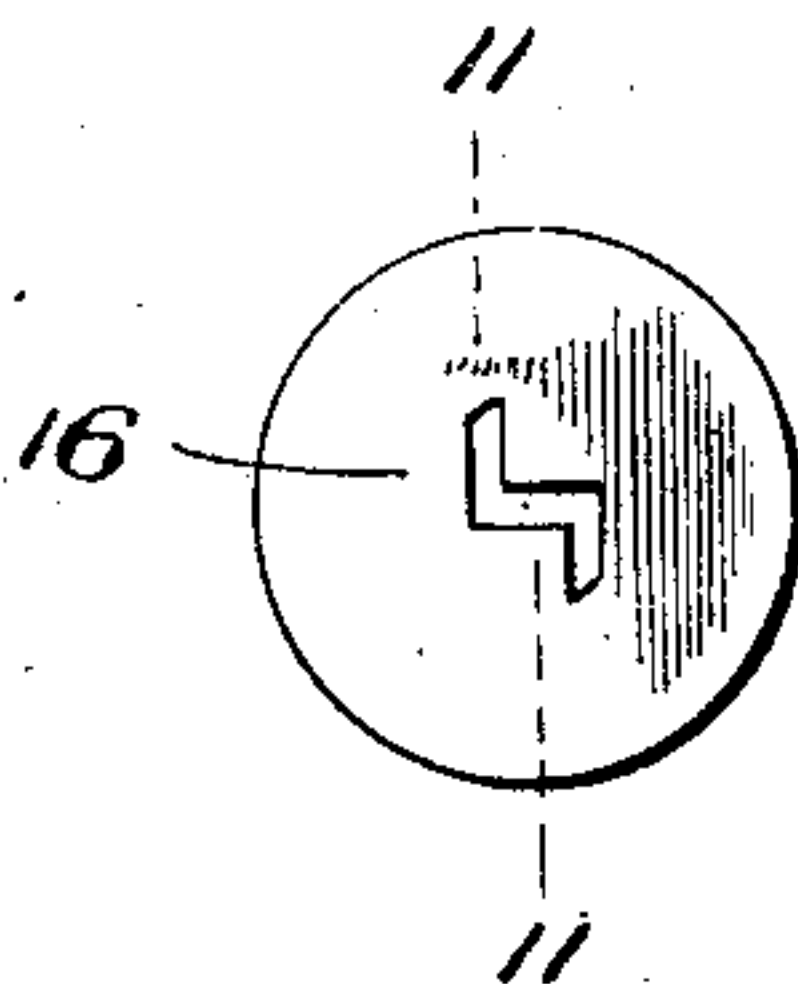


Fig. 11.

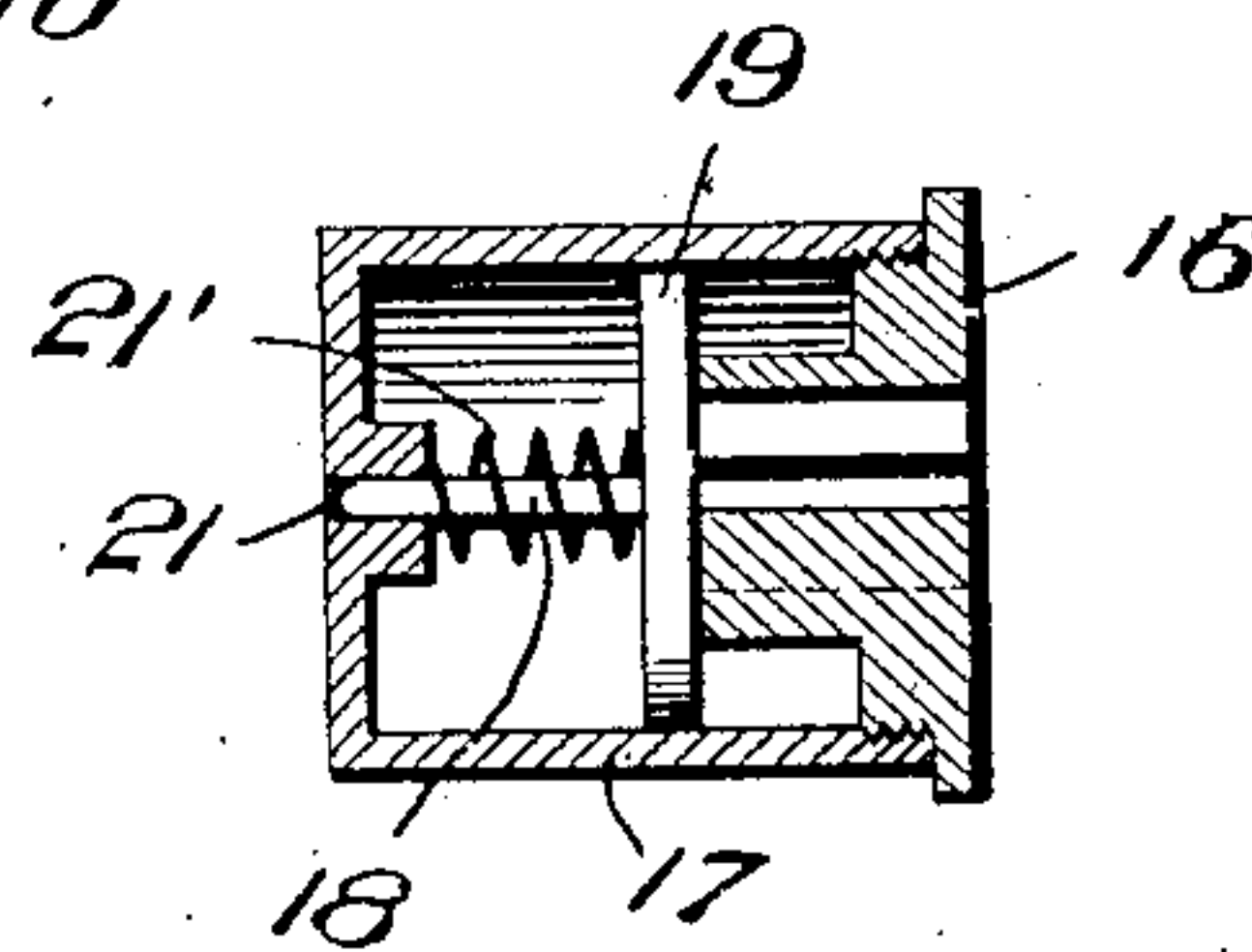
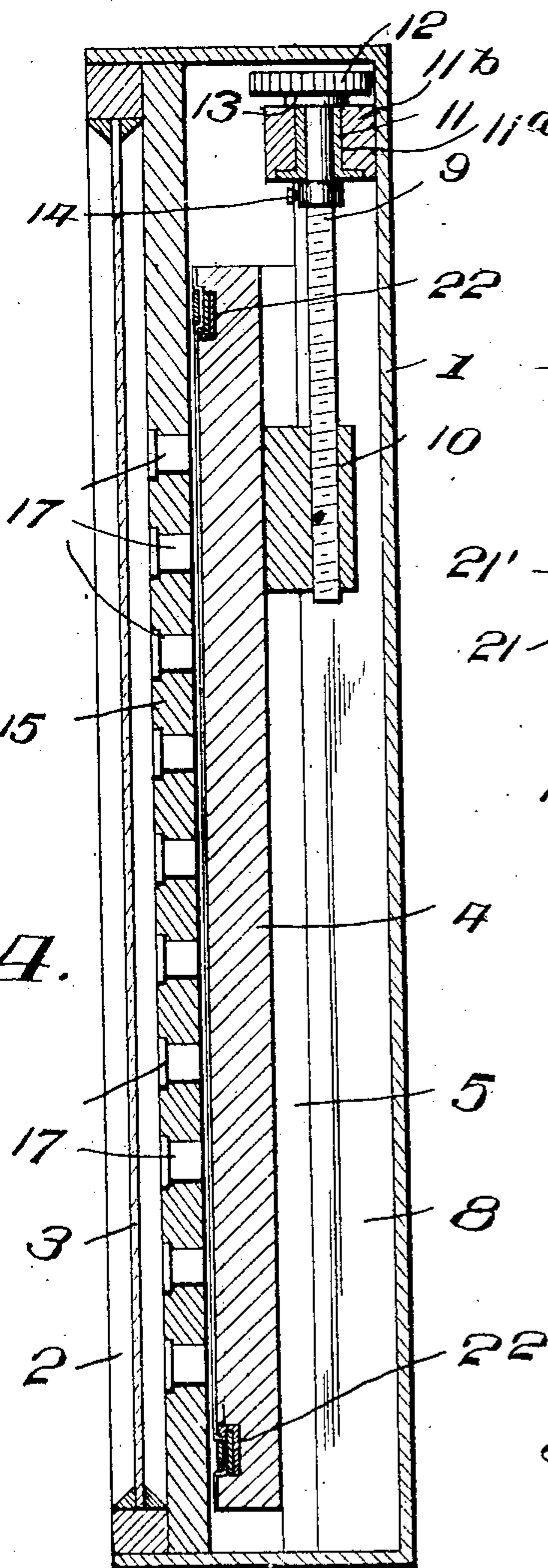


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN ERICSON, OF CHICAGO, ILLINOIS.

TIME-RECORDER.

No. 854,281.

Specification of Letters Patent.

Patented May 21, 1907.

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To all whom it may concern:

Be it known that I, JOHN ERICSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Time-Recorders; 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 time recorders and more particularly to that class adapted to be used in factories, shops or other places where a large number of persons are employed and my object is to provide a device of this class whereby each employee will record his own time as he arrives or departs from the place of business.

A further object is to so construct the recorder whereby a record of the entire week's work or even longer may be recorded without changing the record sheet.

It is also my object to provide means for shifting the record laterally and horizontally when desired.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a perspective view of my improved recorder complete. Fig. 2 is a perspective view with parts of the recorder removed. Fig. 3 is a horizontal sectional view as seen from line 3—3 Fig. 1. Fig. 4 is a vertical sectional view as seen from line 4—4 Fig. 1. Figs. 5, 6 and 7 are detail views on an enlarged scale of the record securing device removed from the casing. Fig. 8 is a detail sectional view on an enlarged scale as seen from line 8—8 Fig. 2. Fig. 9 is a detail perspective view of an indicator used in connection with my improved recorder. Fig. 10 is a plan view of one form of key socket used in connection with my improved recorder. Fig. 11 is a central sectional view thereof as seen from line 11—11 Fig. 10. Fig. 12 is a plan view of one form of record sheet employed in connection with the recorder. Fig. 13 is a detail view showing a portion of the record sheet on an enlarged scale, and, Fig. 14 is a plan view of one form of key employed in operating the recording device showing a designating tag secured thereto.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates a frame or housing to one side of which is hingedly secured a door 2, said door being preferably provided with a glass 3, through the medium of which the contents of the housing may be more readily observed. Located in the housing 1 is a board 4, said board having vertically disposed bars 5 on its rear side, the bars being provided with tongues 6, which are adapted to enter grooves 7 in the guide members 8, secured to the rear wall of the housing 1.

The board 4 is supported and held in position upon the guides 8 by means of an adjusting screw 9, said screw being threaded and disposed through a threaded socket 10 secured to the rear face of the board 4, the upper end of the adjusting screw being disposed through a bearing 11 at the upper edge of the housing 1 and is provided at its extreme upper end with a hand wheel 12, the screw being held against longitudinal movement in the bearing 11 by means of a shoulder 13 between the bearing and hand wheel and a collar 14 surrounding the screw at a point below the lower end of the bearing, thereby providing convenient means for raising and lowering the board 4 when desired. The bearing 11 is disposed through an opening 11^a in a supporting beam 11^b, said beam being disposed across the top of the guide members 8.

A plate 15 is disposed between the board 4 and the door 2, said plate being hinged at one edge to the housing 1 and a portion of the surface thereof is provided with a plurality of key sockets 16, each of said key sockets having a barrel 17 removably secured thereto. Disposed within the barrel 17 is a perforating stem 18, said stem having a head 19 at its inner end which snugly fits within the barrel 17 and is adapted to receive the inserted end of the key 20 and be directed outwardly thereby thus disposing the stem 18 through a circular opening 21 in the inner end of the barrel 17. After the head and stem have been depressed they are returned to their normally inward position by means of a spring 21' disposed around the stem between the head and end wall of the barrel.

The upper and lower edges of the board 4 are provided with substantially L-shaped track ways 22 in which is seated a frame 23,

the horizontal portions 24 of which are provided with ways 25 in which are located one or more steel balls 26, the balls being of sufficient diameter to extend below the edge of the horizontal portions 24 and engage the track ways 22 thereby forming bearings for the frame 23. One of the vertically disposed sections of the frame 23 is provided with a threaded head 27 through which takes a threaded bolt 28, the inner end of the bolt being secured to the board 4, so that when the bolt 28 is rotated, the frame 23 will be moved laterally, the bolt being rotated by means of a wheel 29 secured to the bolt and the longitudinal movement of the head 27 upon the bolt 28 is regulated by means of collars 30, one of which is disposed at either side of the head and adjusted upon the bolt as desired.

Disposed over the face of the board 4 is a record sheet 31, said sheet being divided into sections and numbered from one to any desired number wanted and in this instance I have shown the sheet divided into one-hundred sections and each section is subdivided to represent a. m. and p. m. time and also each day of the week. The spaces upon the record sheet representing the a. m. and p. m. time are also provided with spaces marked "In" and "Out" so that it can be readily detected whether the employee has reported on time to begin the day's work or departed from work at the proper time, it being clearly understood that the door 2 is opened at a certain time and closed at a certain time so that if the employee is not present to register it will be necessary for him to report to the person in charge of the register and obtain a slip showing that he is late, and how much time he has lost. The same rule also applies when the employee leaves before quitting time as he will be unable to gain access to the registering device before a certain time.

The sheet 31 is secured to the frame 23 by first forcing the sheet over the retaining pins 32 secured to the horizontal portions 24 of the frame, after which, clamping bars 33 are disposed parallel with the horizontal members of the frame 23 and are secured thereover by inserting one end of the bars through slotted openings 34 in the horizontal sections and disposing the opposite ends thereof into engagement with one of the vertical sections of the frame, this end of the bar having a right angled extension or keeper 35, which is adapted to engage the edge of the frame and hold the record sheet in place upon the pins 32, said pins taking through openings 36 in the bars, the opposite end of the clamping bar being reduced and provided with a stepped portion 37 which is adapted to engage the frame at one end and retain the clamping bar in position over the face of the register. The record sheet is therefore so arranged that it will travel laterally with the

frame 23 when the bolt 28 is rotated. A registering arm 38 is secured to one edge of the board and disposed into engagement with one of the vertically disposed sections of the frame 23 thereby regulating the lateral movement of the frame on the board and an indicator 39 is hinged to the opposite edge of the board 4, said indicator being preferably in the shape of a hand with one finger pointing to the numbers on the record sheet indicating the day of the week, thereby regulating the vertical movement of the board, the object in hinging the indicator to the board being to allow the indicator to be directed to one side when a new sheet is being placed upon the board.

In operation the record sheet 31 is placed over the board 4 and secured thereon by means of the bars 33 after which the bars carrying the record sheet are disposed in proper position through the medium of the adjusting screw 9 and bolt 28 and if it is in the a. m., the employee going to work inserts his key in that key socket having the same number as indicated on the check attached to his particular key, which action directs the perforating stem through the record sheet, the point of the stem passing entirely through the record sheet and entering the registering grooves 40 placed in the face of the board 4; the object of said grooves being to allow the pin to pass entirely through the sheet. If it is the first day of the week, the stem will make a perforation as seen at 41 in Fig. 13 of the drawings, the perforation showing that the employee is coming in or going to work, and this performance will be repeated by each party working, a separate key being provided for each employee and having a different number thereon so that by locating the section upon the record sheet corresponding with the number upon the key tag, he will readily know into which socket to insert the key. When the noon hour has arrived, the operator opens the door 2 and plate 15 and disposes the frame carrying the record sheet, laterally, until that portion of the sheet marked "Out" in the a. m. column registers with the perforating stem 18 after which the plate is again locked and each employee is then at liberty to approach and register. The door 2 is left open at this time a sufficient length of time to permit each and every one to register, after which, the same is closed and locked until the noon hour has passed when the door and plate are again opened and the frame carrying the record sheet disposed laterally until the "In" section of the p. m. column is disposed in line with the perforating stem, after which the plate 15 is closed and the registrations made, and likewise when the day's work is completed the record sheet is disposed laterally until the perforating stem registers with "Out" in the p. m. column. When the

sheet has been perforated as above described it will show that a day's labor has been performed. Should but a half-day's labor be performed it will be so shown by there being
 5 no perforations in either the a. m. or p. m. columns as shown in Fig. 13 of the drawings, the half-day's labor in the p. m. being indicated at 43, while the half-day's labor performed in the a. m. is shown at 44. When,
 10 however, the hour for commencing work (say for illustration 7 o'clock a. m.) has passed and the door 2 is closed and locked, anyone coming in after 7 o'clock will have to go to the time-keeper or attendant and get a
 15 slip showing thereon to whom it belongs, the date, day of the week and time after 7 o'clock whereupon the employee deposits the slip in the housing through the slot 42 provided for that purpose, and it will be understood that
 20 the same operation is to be performed in returning to work after the noon hour or at 1 o'clock. If the employee has registered and desires to leave before the regular stated time, he likewise visits the time-
 25 keeper and obtains a check upon which the date, day of the week, the hour of the day and to whom it belongs, is marked, after which he deposits the same in the slot 42.

After the day's labor is performed or at the
 30 end of the first day of the week, the adjusting screw 9 is operated to elevate the board and carries with it the frame 23 and the record sheet secured thereto until the indicator 39 points at 2, the bolt 28 having been oper-
 35 ated to dispose the sheet laterally so that the perforating stems will register with the a. m. column.

At the end of the week or at such other time as desired the time keeper removes the
 40 record sheet and the specially prepared slips from the frame and by scanning the record sheet he can ascertain whether the employee has worked a full day or only a part of a day and when a single perforation appears in either
 45 the a. m. or p. m. column the slips are consulted and the number of hours which the employee has labored, placed in that column containing the single perforation.

As an illustration of the above, I wish to
 50 call attention to Fig. 13 in which it will be seen that the employee has labored the entire day on Monday, has labored in the afternoon, only, on Tuesday, the forenoon only, on Wednesday. On Thursday he arrived at
 55 seven-thirty which is noted on a slip obtained from the time-keeper, on Friday he arrived in time to register before 7 o'clock but is excused at 10.30 and accordingly receives a slip from the time-keeper showing
 60 this fact and on Saturday he leaves at 4 o'clock which is likewise noted on a slip and deposited in the slot 42. In ascertaining the actual number of hours the employee labored during the week is readily and accurately
 65 obtained by placing at the end of each

space the number of hours employed each day, that is to say at the end of the column numbered 1 or Monday, he labors all day or 10 hours, therefore, place the figure 10 at the
 70 end of that column, and likewise five at the end of columns 2 and 3 or Tuesday and Wednesday, nine and one-half hours on Thursday, three and one-half hours on Friday and eight hours on Saturday, the fractional parts of the days other than the half
 75 days being obtained from the specially prepared slips. It will now be seen that by adding up the columns of figures that the result will be the number of hours the employee has labored during the week which is forty-one
 80 hours.

When any one of the key sockets is not in use the said socket is removed from the plate 15 and inserted from the opposite side of the plate thereby disposing the end of the barrel
 85 17 through to the front of the plate and by a casual glance indicating that that particular socket is not being used. It will be readily understood that the record sheet may be
 90 made to accommodate any number of employees and when the sheet has been in use for one week the same is removed from the recorder and the sheet filed away for future reference.

What I claim is:

1. The combination with a housing having
 95 guides therein; of a board slidably mounted on said guides, means to raise and lower the board, a frame laterally adjustable on said board, bars extending over said frame
 100 to secure a record sheet to the frame and over the face of said board, one end of said bars entering slots in the frame and means to perforate said sheet whereby a record will be
 105 made thereon.

2. A device of the class described comprising a housing having guides therein, a board
 110 vertically movable on said guides, a vertically disposed screw at the upper end of the housing, a threaded socket on said board to receive the lower end of the screw, means to rotate said screw whereby the board will be
 115 vertically adjusted, a frame carried by said board, bearings in said board to receive the frame, bars to hold a record sheet on the frame, a plurality of perforating devices disposed in front of said record sheet and means to laterally adjust said frame and sheet relative to said perforating device.

3. A device of the class described comprising
 120 the combination with a housing having guides therein and a door hinged to one side thereof, of a board vertically slidable on said guides, said board having a plurality of vertically disposed grooves in one face thereof,
 125 means to raise and lower said board, a plate hingedly secured to said housing and extending over the face of said board, a plurality of perforating devices disposed through said plate and means to operate said perforating
 130

device whereby a record sheet disposed over the face of said board will be punctured and a record made thereon.

4. A device of the class described comprising the combination with a housing having a grooved board slidably mounted therein and means to raise and lower said board; of a frame laterally movable on said board, L-shaped track ways in the board to receive the horizontal portions of the frame, means to secure a record sheet in place on said frame and means to adjustably move said frame comprising a threaded head carried by said frame, a threaded bolt extending through said head and having one of its ends rotatably secured to the board, means on the bolt to limit the movement of the frame and additional means to rotate the bolt.

5. A device of the class described comprising the combination with a housing and a movable board mounted therein; of a frame adjustably secured to said board, means to secure a record sheet to said frame, said means comprising bars, said bars having one of their ends stepped and adapted to enter slots in the frame and keepers at the opposite ends of the bars adapted to engage the frame and hold the bars in position thereon.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN ERICSON.

Witnesses:

FRANK O. SHOW,
ALBERT NORFZIGER.