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J. & A. DEY.

MEANS FOR DETECTING FALSE REGISTRATION IN TIME RECORDERS.

APPLICATION FILED JAN. 13, 1903.

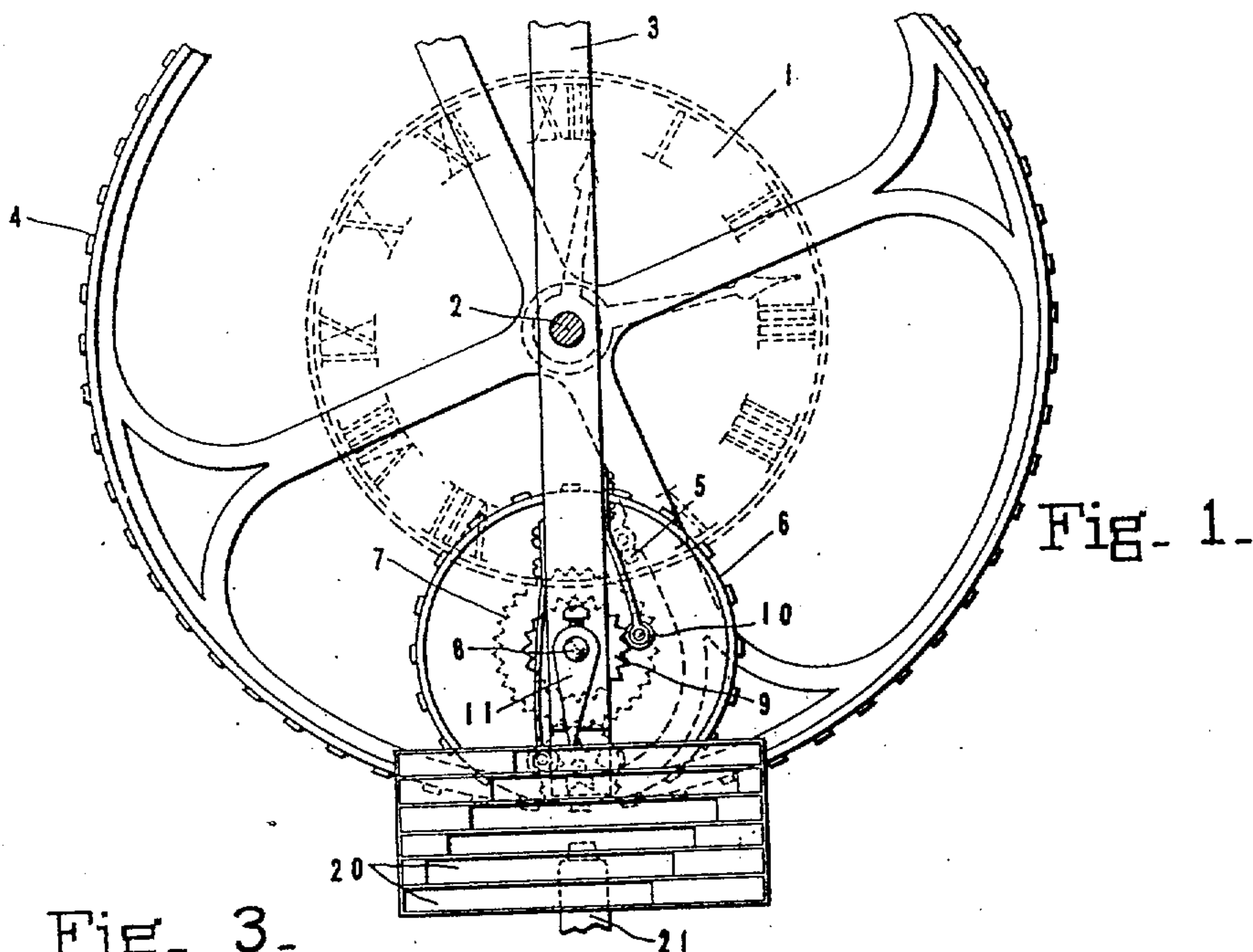


Fig. 1.

Fig. 3.

| SUN | SAT | FRI | THUR | WED | TUES | MON | |
|--------|------|------|------|------|------|------|------|
| 7 655 | 6 55 | 6 55 | 6 55 | 6 55 | 6 55 | 6 55 | 1st. |
| 7 1202 | 1202 | 1202 | 1202 | 1202 | 1202 | 1202 | 2nd. |
| 7 -02 | -02 | -02 | -02 | -02 | -02 | -02 | 3rd. |
| 7 002 | 002 | 002 | 002 | 002 | 002 | 002 | 4th. |
| 7 01 | 01 | 01 | 01 | 01 | 01 | 02 | 5th. |
| 7 004 | 004 | 004 | 004 | 004 | 004 | 004 | 6th. |

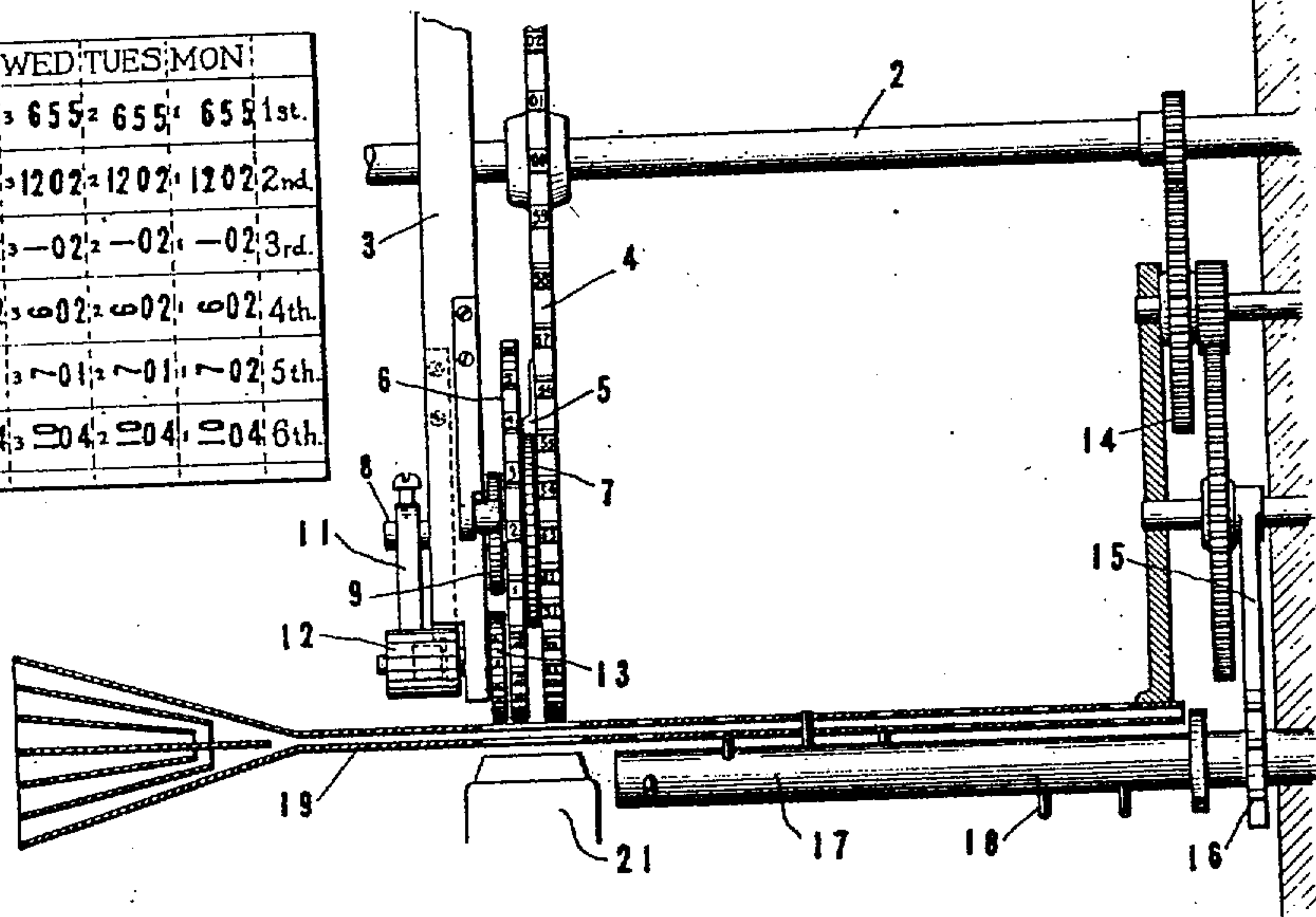


Fig. 2.

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UNITED STATES PATENT OFFICE.

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MEANS FOR DETECTING FALSE REGISTRATION IN TIME-RECORDERS.

No. 888,069.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed January 13, 1903. Serial No. 138,851.

To all whom it may concern:

Be it known that we, JOHN DEY, residing at Syracuse, in the county of Onondaga and State of New York, and ALEXANDER DEY, residing at Glasgow, in the county of Lanark, Scotland, have invented certain new and useful Improvements in Means for Detecting False Registration in Time-Recorders, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to time recorders and its object is to provide a means for detecting false registrations in time recorders. That is, means whereby if a workman in registering his time, as on a record card for example, should attempt to fill in a missing Tuesday registration on Wednesday, that fact would be made apparent on the face of the record.

With many kinds of printing mechanisms and record receiving surfaces used in time recorders, there is nothing to prevent a false registration nor any means of indicating the falsity of a registration improperly made.

With a view to correcting this defect, the invention consists in the features of construction, combinations of elements and arrangements of parts which will be hereinafter more fully set forth and the novel features thereof pointed out in the claims.

An embodiment of the invention is illustrated in the accompanying drawing, in which

Figure 1 is a front view of a portion of a time recorder. Fig. 2 is a side elevation of parts shown in Fig. 1, the same being partially broken away to show the construction more clearly. Fig. 3 is a view of a record card after use in connection with this embodiment of the invention.

Similar reference characters refer to similar parts throughout the several views of the drawing.

It may first be noted that further details and description of operation of the time recorder of which the herein-described embodiment of the invention forms a portion, are set forth in our application filed October 17, 1902, Serial No. 126,298, it being also noted that the invention is not limited to embodiment in a time recorder of this type.

Referring now to Fig. 1 of the drawing, there is shown what may be considered clockwork 1, the same being represented by a dotted clock dial and hands co-acting therewith, the main spindle 2 of which is journaled in a portion of the recorder frame 3. Mounted upon spindle 2 is minute printing wheel 4 adapted to drive intermittently, as by means of a tappet or pawl 5, an hour printing wheel 6. Tappet 5 co-acts with a star wheel 7, provided in this case with twenty-four teeth corresponding to the hours of the day, and likewise fixed upon the spindle 8 of hour wheel 6 is a star wheel 9 co-acting with a spring-pressed jockey roller 10, adapted to hold the hour wheel in its several predetermined positions with the type thereof in operative relation to the printing point. Upon spindle 8 is also mounted a tappet 11 adapted to co-act with a star wheel 12 fixed upon the spindle of what may be termed a day wheel 13. The latter part is, in the present illustrative embodiment, provided with seven arbitrary characters, each of which is adapted to indicate by its impression a certain predetermined day of the week. These characters here take the form of the numerals 1 to 7 and respectively indicate the days, as 1 for Monday, and 2 for Tuesday, all as will hereinafter more fully appear.

The above-described parts, driven from clockwork 1 or any other desired automobile mechanism, will so act as, at any given point of time, to print not only the hour and minute corresponding to this time, but will also stamp a character indicative of the day upon which the impression is taken. It may here be noted that in this illustrative embodiment, the hours before and after noon are distinguished by a vertical and horizontal disposition of the corresponding characters upon the hour printing wheel.

Driven from spindle 1, as by suitable gearing 14 and a tappet and star wheel 15 and 16, the precise construction and action of which are disclosed in the co-pending application above referred to, is a shaft or banking roller 17 provided with a plurality of spirally-disposed projections 18, in this case seven in number. These projections are successively thrust into a card receiver 19 and thus intermittently vary the depth to which a record card may be inserted therein. This card re-

ceiver is provided with a number of laterally-offset mouths 20, as shown in Fig. 1 of the drawing, whereby the records upon the card or other record receiving member may be spaced in a transverse direction and maintained in such columns by the insertion of the card in the proper mouth.

Card receiver 19 is cut for the entrance of the projection 18 and for the action of a platen 21 whereby the record receiving member is thrown against the printing wheels in the operation of making an impression.

The form of record receiving member best adapted for use in connection with this type of instrument is represented in Fig. 3 of the drawings and is provided with a surface vertically and transversely divided into columns respectively adapted for the records of the several days of the week and for the records of the several periods of each day, as the entrance of the workman in the morning, his exit at noon, reentry at noon, and his time of leaving at night. The extra columns entitled "5th" and "6th" upon the card shown may be employed to record overtime work. The method of use of this embodiment of our invention, which is, with regard to many features thereof, fully set forth in the above-noted co-pending application, is as follows: Upon the entry of the workman in the morning, the card is inserted in the proper mouth or opening 20 until it brings up against the projection 18 which is positioned therein. An impression is then formed in the ordinary manner and this impression will be made in the column devoted to the day upon which it was formed, as Monday, and the proper period, as first, this record being shown herein as "6:55", giving evidence of the fact that the workman had arrived prior to 7 o'clock. The additional character formed in this space, namely, 1, is that due to the action of the day wheel and attests the correct positioning of the card. Thus, if the impression be formed upon Monday, this character 1 will compose a part of the impression and indicate the day of the formation of the record, and if such record appears in the column dedicated to the record of any other day, the fraudulent or accidental misuse of the machine is at once evidenced. The recorder is thus used throughout the day by inserting the card in the proper mouth for each period and forcing it against the projection 18 which is in operative position. From day to day, the effective projection 18 changes, thus permitting the insertion of the card to a greater depth and bringing the several columns successively to the printing point. It is to be noted, however, that even though the position of the abutment against which the card rests be automatically controlled, as in the embodiment shown, nevertheless, it would be possible to form an impression in an incorrect column by failing to insert the card un-

til it brings up against the abutment. Such practice, however, would be at once evidenced by the character formed by the day wheel and is shown upon the record card appearing in the drawings by the character 6 in the last two impressions for Friday, thus indicating that these were filled out upon Saturday and the workman was absent during the corresponding period of the former day.

It will thus be seen that there is provided simple and reliable apparatus for accomplishing in an efficient manner the objects of this invention. The records formed give evidence, both by their position and by their character, of the day upon which they were made, and any discrepancy between these mutually corroborative factors will at once indicate fraud in the use of the instrument.

Although, in the illustrative embodiment herein shown, the means for determining the depth of insertion of the record card are automatically driven from the clockwork, nevertheless, the invention is obviously so broad as to comprehend constructions in which any means, whether manually actuated or otherwise, are employed to position the record receiving member.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

Having described our invention what we claim as new and desire to secure by Letters Patent, is,—

1. In a time recorder, in combination, mechanism adapted to make a character distinctive of the day of the week upon which it is made, and means positioning a card provided with spaces for each day of the week with a space distinctive of the said first mentioned day of the week in position to receive said impression, whereby the character and position of a record are rendered mutually corroborative.

2. In apparatus of the class described, in combination, time-controlled printing mechanism comprising means adapted to indicate directly by the character of its record the day of the week upon which the record is made, and means coacting therewith adapted to position a record-receiving member with a predetermined portion of its surface opposite the printing point, whereby the portion in which the impression occurs is indicative of the day of the week upon which the record is made.

3. In apparatus of the class described, in combination, time-controlled printing mechanism comprising means adapted to indicate directly by the character of its record the day

of the week upon which the record is made, and means coacting therewith adapted to position a record-receiving member with various transverse and various longitudinal columns opposite the printing point whereby upon a record being formed the column extending in one direction in which it is positioned indicates the day of the week upon which the record is made, and the column extending in another direction in which the record is positioned indicates the period of the day in which the record is made.

4. In apparatus of the class described, in combination, record-forming means comprising a minute wheel, an hour wheel and a day wheel, means driving said hour wheel from said minute wheel, means driving said day wheel from said hour wheel, a card receiver operatively related to said wheels, and clock-controlled means adapted to limit the depth of insertion of a record card within said card receiver to points varying with the day of the week, whereby the impression of said day wheel and the space in which it is received are mutually corroborative.

5. In apparatus of the class described, in combination, clock-controlled hour and minute printing mechanism, a clock-controlled printing member adapted to change the character of its record daily, a card receiver operatively related to said member and said mechanism, an abutment in said receiver adapted to limit the depth of insertion of the record card, and clock-controlled means adapted to move said abutment daily to place an inserted card with different predetermined portions of its surface in position to receive impressions, whereby the depth of insertion of a record card and the character of the record formed thereon by said member are automatically changed each day.

6. In apparatus of the class described, in combination, time-controlled printing mechanism comprising a minute wheel, an hour wheel and a day wheel, means driving said hour wheel from said minute wheel and said day wheel from said hour wheel, said day wheel being provided with characters each of which is indicative of a predetermined day of the week, and means coacting with said printing mechanism adapted to position a record-receiving member with a predetermined column of its surface opposite the printing point, whereby the column in which the impression occurs is indicative of the day of the week upon which the record is made.

7. In apparatus of the class described, in combination, time-controlled printing mechanism comprising a minute wheel, an hour wheel and a day wheel, means driving said

hour wheel from said minute wheel, means driving said day wheel from said hour wheel, said day wheel being provided with characters each of which is indicative of a predetermined day of the week, and means coacting with said printing mechanism adapted to position a record-receiving member with predetermined columns of its surface opposite the printing point, said last-mentioned means being adapted to bring various longitudinal and lateral columns opposite the printing point, one of said sets of columns being indicative of the day of the week and the other of the period of the day in which the record is made, whereby the authenticity of the records of the several days and throughout periods of each day is evidenced by the character of the impression formed.

8. In apparatus of the class described, in combination, means adapted to position a record card to indicate by the position of the record formed thereon the day of the week upon which the record was made, and record-forming means coacting therewith adapted to form a record directly indicative by its character of the day of the week upon which the record was made.

9. In apparatus of the class described, in combination, a clock-controlled hour printing wheel, a clock-controlled minute printing wheel, automatic clock-controlled means adapted to print a different character daily and automatically repeat said characters at the end of a predetermined and constant number of days, a card receiver operatively related to said printing wheels and clock-controlled means adapted to limit the depth of insertion of the record card within said receiver to points differing daily and automatically repeat said limiting points at the end of a predetermined and constant number of days, said first and second mentioned numbers of days being equal.

10. In apparatus of the class described, in combination, a clock-controlled hour printing wheel, a clock-controlled minute printing wheel, and automatic clock-controlled means adapted to print a different character daily and automatically repeat said characters upon a predetermined day of the week.

In testimony whereof we affix our signatures, each in the presence of two witnesses.

JOHN DEY.

ALEXANDER DEY.

Witnesses for John Dey:

MINNIE E. PADDOCK,

CHARLES E. McDONALD.

Witnesses for Alexander Dey:

W. BLACKLEY MAXWELL,

WILLIAM WILSON.