

(No Model.)

2 Sheets—Sheet 1.

C. CROOK.
FARE REGISTER.

No. 516,081.

Patented Mar. 6, 1894.

Fig. 2.

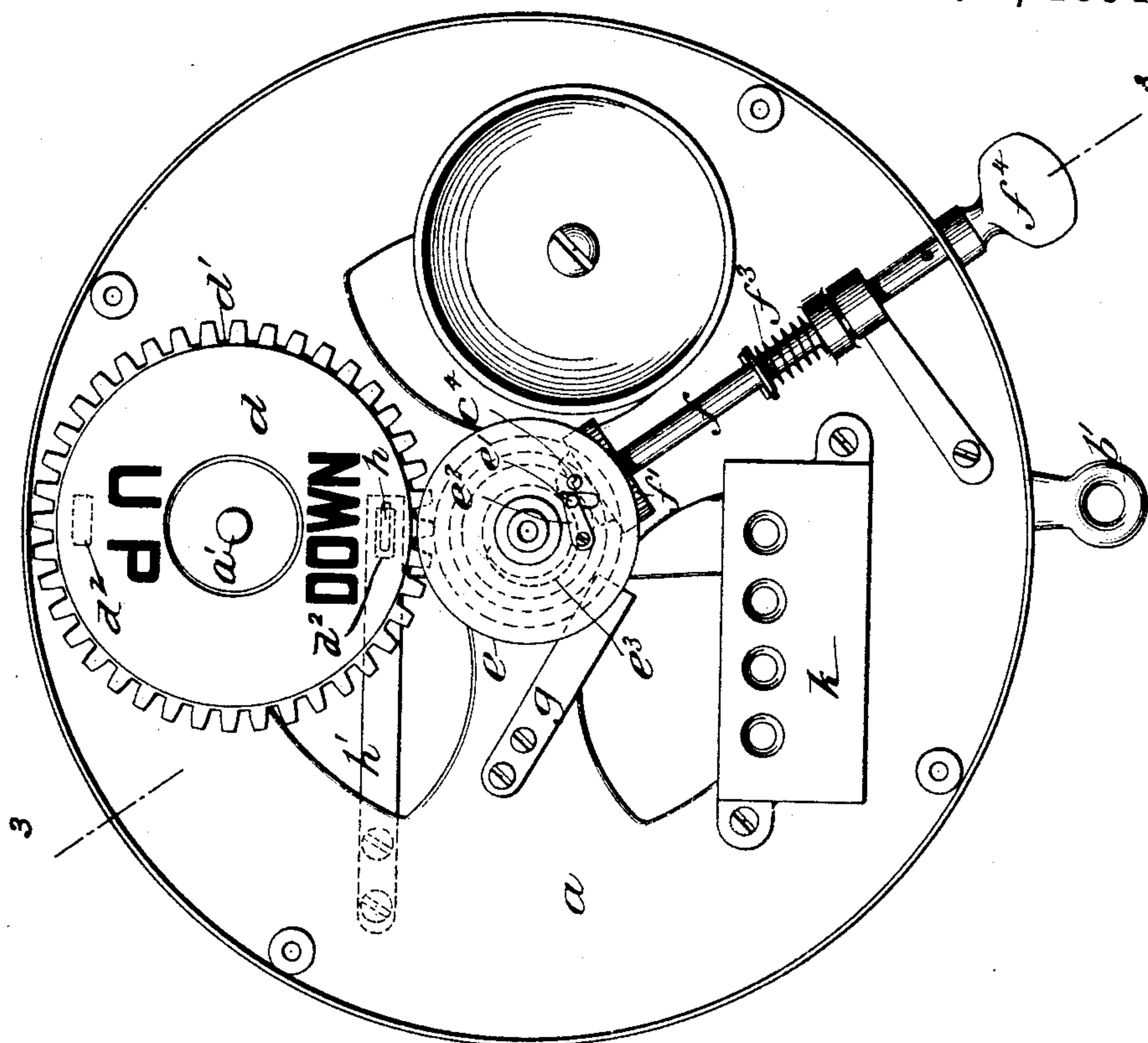
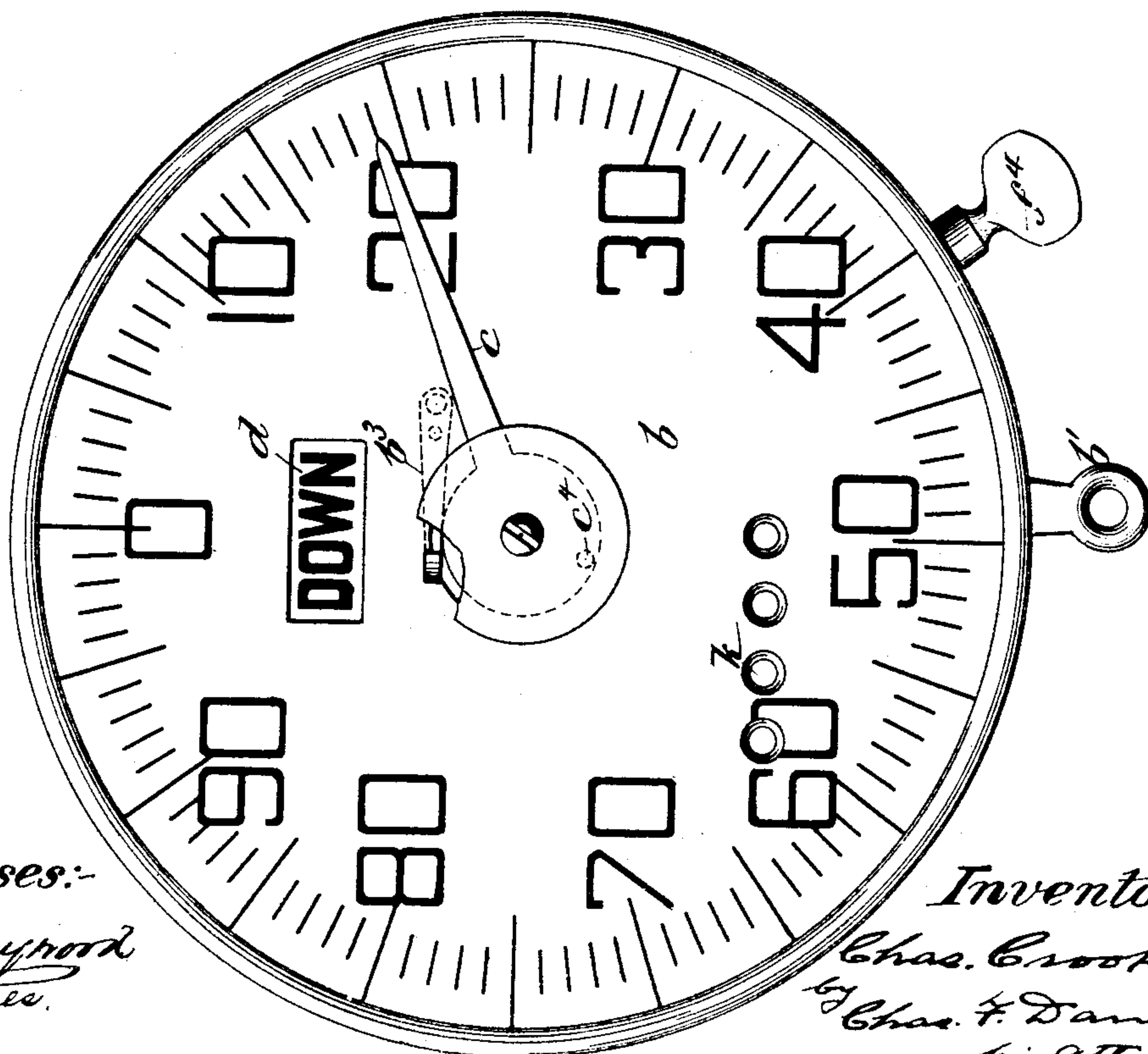


Fig. 1.



Witnesses:-

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A. L. Hayes.

Inventor:-

Chas. Crook
by Chas. F. Dana
his atty.

(No Model.)

2 Sheets—Sheet 2.

C. CROOK.
FARE REGISTER.

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Fig. 3.

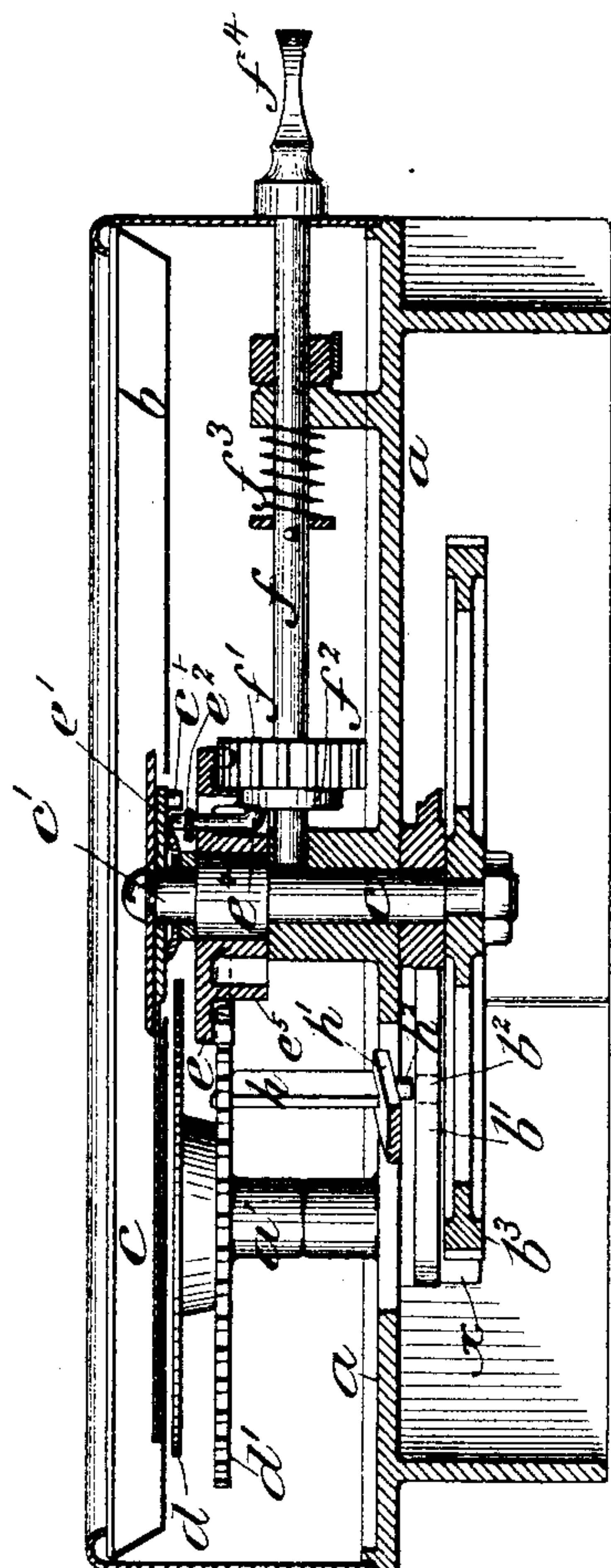


Fig. 4.

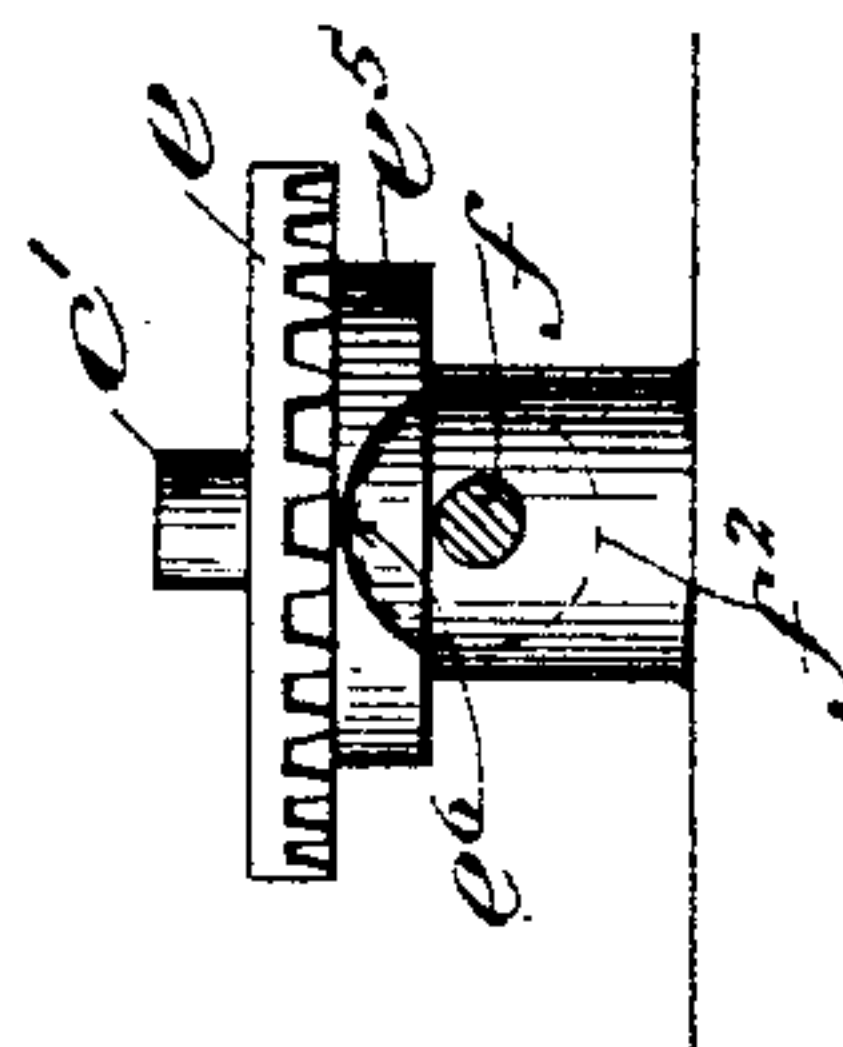
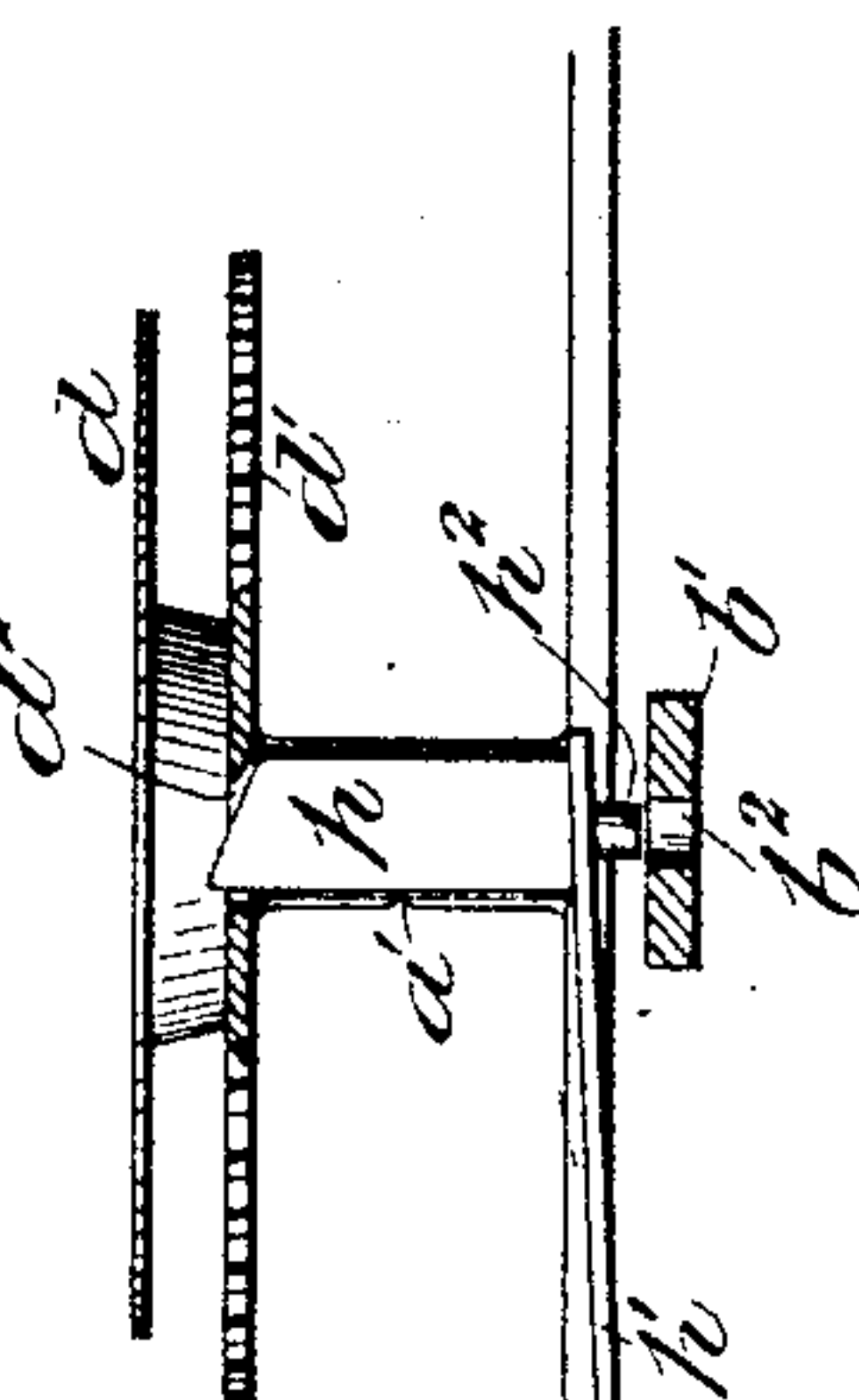


Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES CROOK, OF BROOKLYN, ASSIGNOR TO ELI BALDWIN, OF NEW YORK, N. Y.

FARE-REGISTER.

SPECIFICATION forming part of Letters Patent No. 516,081, dated March 6, 1894.

Application filed January 24, 1893. Serial No. 459,551. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CROOK, a citizen of the United States, and a resident of the city of Brooklyn, county of Kings, and State of New York, have invented new and useful Improvements in Fare-Registers, of which the following description, taken in connection with the drawings herewith accompanying, is a specification.

This invention consists of additional improvements in fare-registers to those embodied in the fare-register and recorder for which Letters Patent No. 483,102 were granted to me September 20, 1892. In the instrument or register shown and described in my said Patent No. 483,102, I have shown a "direction indicator" which is operated in combination with the trip-register or indicating hand, to be reset at the end of each trip, by a single operating shaft; and my present invention consists more particularly in the new and novel construction and combination of parts forming the trip-register and direction-indicator and the means for operating and setting said parts at the end of a trip or other desired time; and also in other details of construction and combination of parts as will hereinafter be described and claimed.

The object of my invention is to simplify the construction of the register as a whole, and also to regulate and limit the several movements of the trip-register and direction-indicator in such manner as to insure their positive and proper operation.

Referring to the drawings, in which I have shown the register with the rear portion of the frame, containing the recording device, removed as not relating to my present invention:—Figure 1, is a face view of the register; Fig. 2, a view of the same with the face or dial plate removed; Fig. 3, a vertical sectional view through line 3—3 of Fig. 2; Fig. 4, a view of the centrally located post or stud with the loose disk thereon which forms the connecting medium between the trip-hand and direction-indicator and the setting shaft, and Fig. 5, a side view of the direction indicator device, the end of the main operating lever in section, and the device for automatically locking the operating lever from movement

during the operation of resetting the trip-hand and direction-indicator.

To explain in detail,—*a* represents the main supporting frame upon which the several parts of the register are supported, *b* the dial or face-plate, and *c* the trip-hand. The latter has a frictional connection with a supporting spindle *c'* which is rotated to give the trip-hand its forward step-by-step movement over the dial plate, by the main operating lever *b'* through the medium of a ratchet-wheel *b³* rigidly secured thereon and a pawl *x* carried by said lever (see Fig. 3). This construction being substantially the same as shown in my said Patent No. 483,102.

The direction-indicator, represented at *d*, consists of a plate or disk, provided with the desired words or characters to denote the direction of travel, which is loosely pivoted or supported upon a stud or projection *a'* in a position adjacent to the dial-plate to expose the proper indicating word or character to view through an opening in the latter (as shown in Fig. 1), and, in the present instance shown, is provided with a toothed wheel or disk *d'* having a fixed connection therewith as the medium for connection with its operating mechanism as will be described. A toothed disk or wheel *e* having a hub *e⁵* is loosely supported upon the spindle *c'* and is provided with means supported or carried thereby to form the connecting medium between the setting-shaft, represented at *f*, and the trip-hand *c* and direction-indicator *d*. This toothed wheel or disk *e* forms the connecting gear between a gear *f'* on the setting-shaft *f* and the toothed disk *d'* of the direction-indicator, as more clearly shown in Fig. 3, and is provided with a movable pin *e'* carried thereby on its upper surface, which is adapted to engage with a pin or projection *c⁴* located on the under side of the trip-hand, in such manner that when the disk *e* is operated by the setting-shaft *f*, the trip-hand may be set back to zero and the direction-indicator be reset, simultaneously or at the one operation of the shaft. The setting-shaft *f* is longitudinally movable, and the connecting hub of the disk *e* is provided with an opening or depression *e⁶* in its periphery corresponding

in form with a portion of a hub or disk f^2 on the setting-shaft (as shown in Figs. 2 and 4), into which said hub is adapted to extend when the parts are in a normal position at rest, as shown in Figs. 2 and 3; thus locking the setting-shaft f and the disk e and the connecting direction-indicator from movement as it is obvious that the disk e cannot be moved or rotated while the hub or projection f^2 extends into the opening in its hub e^5 . The setting-shaft is movably held in such connection with the disk e by an expansible spring f^3 . The pin e' carried by the disk e is located on a pivoted plate e^2 secured on said disk as clearly shown in Fig. 2, and is movably held by a spring e^3 in position to move in a line to engage with the projection c^4 on the under side of the trip-hand when the disk e is operated, to set the trip-hand back to zero. This pin e' or its pivoted supporting-plate e^2 is provided with an arm or extension e^4 projecting through a slot or opening in the disk e , in position to be engaged by the disk or hub f^2 on the setting-shaft (as shown in Fig. 3) when the latter is in its normal closed or locked position, and be operated thereby to move the pin e' away or to one side of the line of movement of the projection c^4 on the trip-hand, as shown in Fig. 2, in order to form no obstruction to the latter when being moved forward over the dial-plate to indicate the number of fares rung up, or otherwise.

To reset the trip-hand and direction-indicator at the end of a trip or other desired time, the setting-shaft f is first drawn outward, by means of its projecting end f^4 , to withdraw the disk or part f^2 thereon from the opening in the disk e and from engagement with the arm or extension e^4 of the pin e' , to allow the latter to be moved by its spring e^3 into position in line with the projection c^4 on the trip-hand and to allow itself and the disk e to be rotated. When the setting-shaft is thus drawn outward and slightly rotated, the hub or disk f^2 thereon engages with the outer periphery of the disk e or its hub e^5 and holds the shaft in such outward position when the same is being rotated to operate the disk e , which latter is rotated to cause the pin e' carried thereby to move into engagement with the projection c^4 on the trip-hand to set the latter back to zero and also to operate the direction-indicator d to indicate the changed direction of travel. These changes of the trip-hand c and the direction-indicator d are accomplished by one complete rotation of the disk e , at the end of which the setting-shaft is automatically moved inward by the action of the spring f^3 to move the hub or disk f^2 thereon into the opening or depression e^6 in the disk e and lock the parts from movement. In the present instance, I have provided a spring-pawl g , (as shown in Fig. 2) for engaging with the teeth on the disk e to prevent backward movement of the same and of the connecting setting-shaft f , although it is obvious that the pawl might engage with a wheel

on the setting-shaft or other arrangement of parts be made for the desired purpose without departing from the spirit of my invention. 70

In order to lock the main operating lever b' and the several parts operated thereby, with the exception of the trip-hand, from movement while the trip-hand and direction-indicator are being reset by the setting shaft f , I have provided a vertically movable bar or arm h , supported on a spring plate h' secured on the supporting frame a , which is movably held in a normal position with its upper end extending through a slot or opening d^2 in the disk d' of the direction-indicator which is adapted to receive the same, as clearly shown in Figs. 2, 3, and 5. The upper end of the bar h is formed at such an angle that when the direction-indicator is first moved by the setting-shaft, the edge of the slot d^2 therein engages said end and forces the bar h downward as the disk d' passes over the same, and causes a pin or projection h^2 located on the under side of the plate h' at a point over the end of the lever b' , to extend or pass into an opening b^2 in the latter and thus lock the same from movement until the direction-indicator has been moved to the end of its limit, which in the present instance is a half rotation, and the second receiving opening d^2 with which the disk d' is provided as shown in Fig. 2 has been brought to a position above the bar h , at which time the latter is moved into said opening d^2 by the action of its spring supporting-plate h' and releases the lever b' , as will be readily understood. 100

As an additional safe-guard to prevent the trip-hand c from being moved or carried beyond the zero point when being reset, I have secured a spring catch b^3 on the dial-plate at a suitable point to engage said trip-hand when it has been set back to zero, as shown in Fig. 1. 105

k represents the permanent or total register which is adapted to be operated simultaneously with the trip register through the medium of suitable mechanism. This register however is of ordinary construction and not of my present invention. 110

Having thus set forth my invention, I do not wish to be understood as confining myself to the particular construction or arrangement of parts for securing the different functions as set forth, but 115

What I do claim, and desire to secure by Letters Patent of the United States, is— 120

1. The combination in a fare-register of the trip-hand, a rotating direction-indicator, a rotating disk or wheel provided with means for engaging with said trip-hand and direction-indicator, and a longitudinally movable rotating shaft adapted to be moved into or from engagement with said disk to either prevent or allow movement of the same, substantially as described and for the purpose set forth. 125 130

2. The combination in a fare-register, of the trip-hand provided with a projection thereon, a rotating disk provided with a horizon-

5 tally movable pin or projection carried there-
by, and means for moving said pin or projec-
tion laterally to and from a position for en-
gaging with the said projection on the trip-
hand, substantially as described and for the
purpose set forth.

10 3. The combination in a fare-register, of the
trip-hand, a rotating direction-indicator pro-
vided with a toothed periphery, a toothed
disk for engaging with said direction-indi-
cator, said toothed disk being provided with
a horizontally movable pin or projection car-
ried thereby adapted to be moved laterally
to and from a position for engaging with a
15 projection on the trip-hand, and a shaft for
operating said toothed disk and the movable
pin carried thereby in a manner, substantially
as described and for the purpose set forth.

20 4. The combination in a fare-register, of the
trip-hand provided with a projection thereon,
a rotating disk or wheel provided with a hori-
zontally movable pin or projection, a spring
for moving said pin laterally into position for
engaging with the projection on the trip-hand,
25 and means for moving the pin from such po-
sition, substantially as described and for the
purpose set forth.

30 5. The combination in a fare-register, with
the operating lever, of a vertically movable
pin or bolt elastically supported in a position
from engagement with said lever, and means
for moving said pin or bolt into engagement
with the operating lever to lock the same from
movement while the trip-hand is being reset,
35 substantially as described and for the pur-
pose set forth.

40 6. The combination in a fare-register, with
the operating lever and direction-indicator,
of a vertically moving pin or bolt elastically
held in a normal raised position from engage-
ment with said operating lever, and operated
by said direction-indicator or part thereof

when being reset, to engage with the operat-
ing lever and lock the same from movement
during such operation of the direction-indica- 45
tor, substantially as described and for the pur-
pose set forth.

7. The combination in a fare-register, with
the trip-hand and direction-indicator, of a ro-
tating disk provided with means for engaging 50
with said trip-hand and direction-indicator
and with an opening or depression in its pe-
riphery, and a longitudinally movable rotat-
ing shaft provided with means for engaging
with said disk to operate the same, and with 55
a hub or flange thereon adapted for extend-
ing within the opening or depression in said
disk to lock the latter from movement, and for
moving in contact with the outer periphery
of said disk when withdrawn from such locked 60
connection therewith, substantially as de-
scribed and for the purpose set forth.

8. The combination in a fare-register, of the
trip-hand provided with a projection on its
under side, a toothed disk provided with an 65
opening or depression in its periphery, and
with a movable pin for engaging with said
projection on the trip-hand, a longitudinally
movable rotating shaft provided with a
toothed wheel thereon for engaging with said 70
toothed disk to operate the latter, and with a
hub or disk, and a spring for holding said
shaft in a normal position with the hub or
disk thereon extending within the opening or
depression in said disk and in engagement 75
with the movable pin carried by the latter to
hold the same from position for engaging with
the projection on the trip-hand, substantially
as described and for the purpose set forth.

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Witnesses:

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