

H. C. & J. C. HOWELLS.

Registering Machine.

No. 24,390.

Patented June 14, 1859.

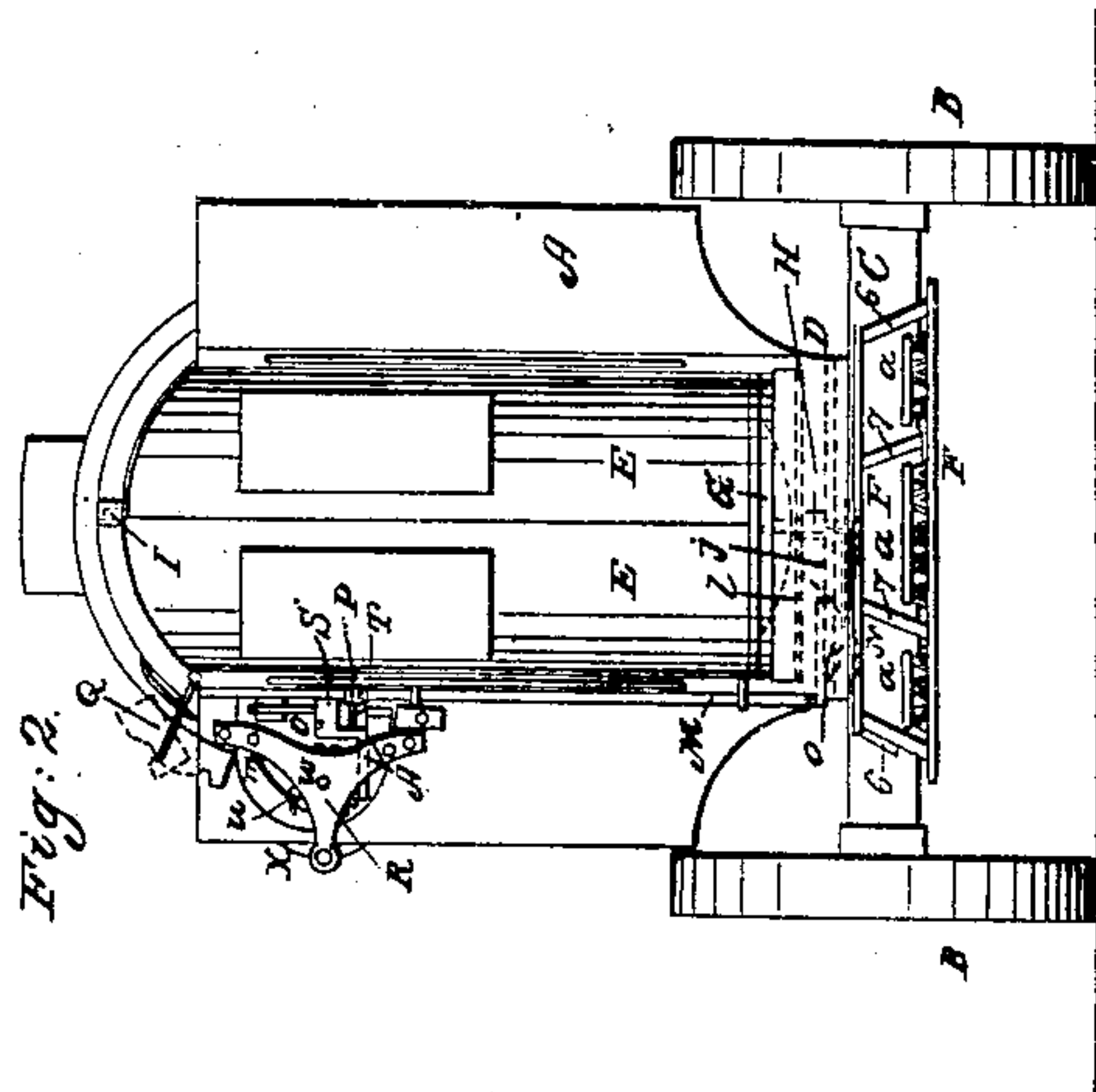


Fig. 2.

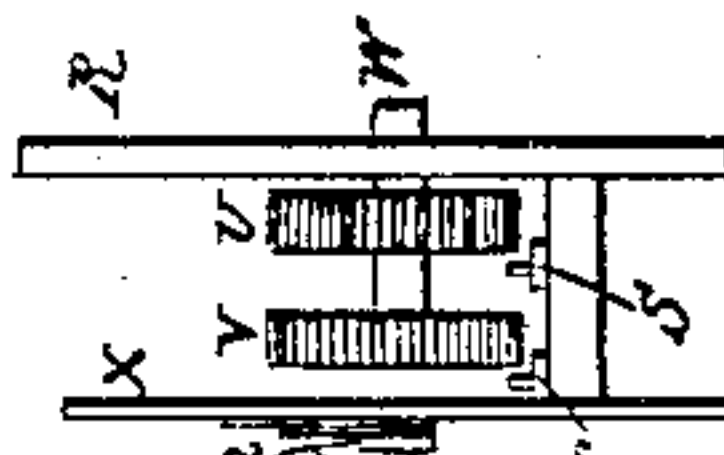


Fig. 6.

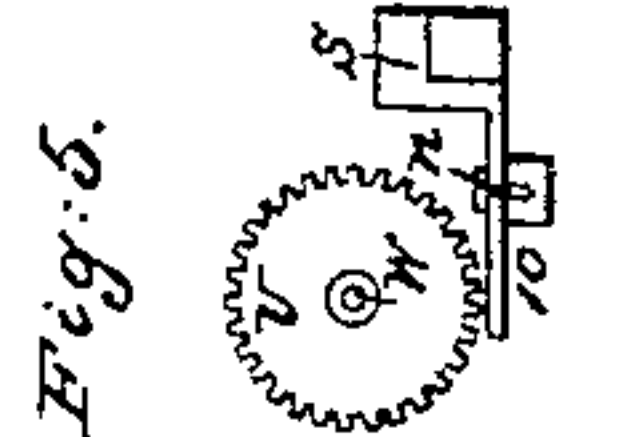


Fig. 5.

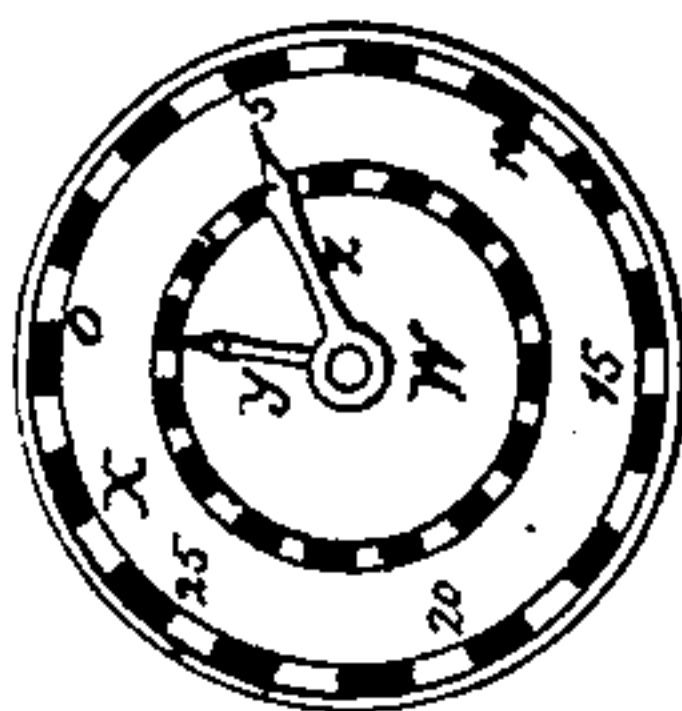


Fig. 4.

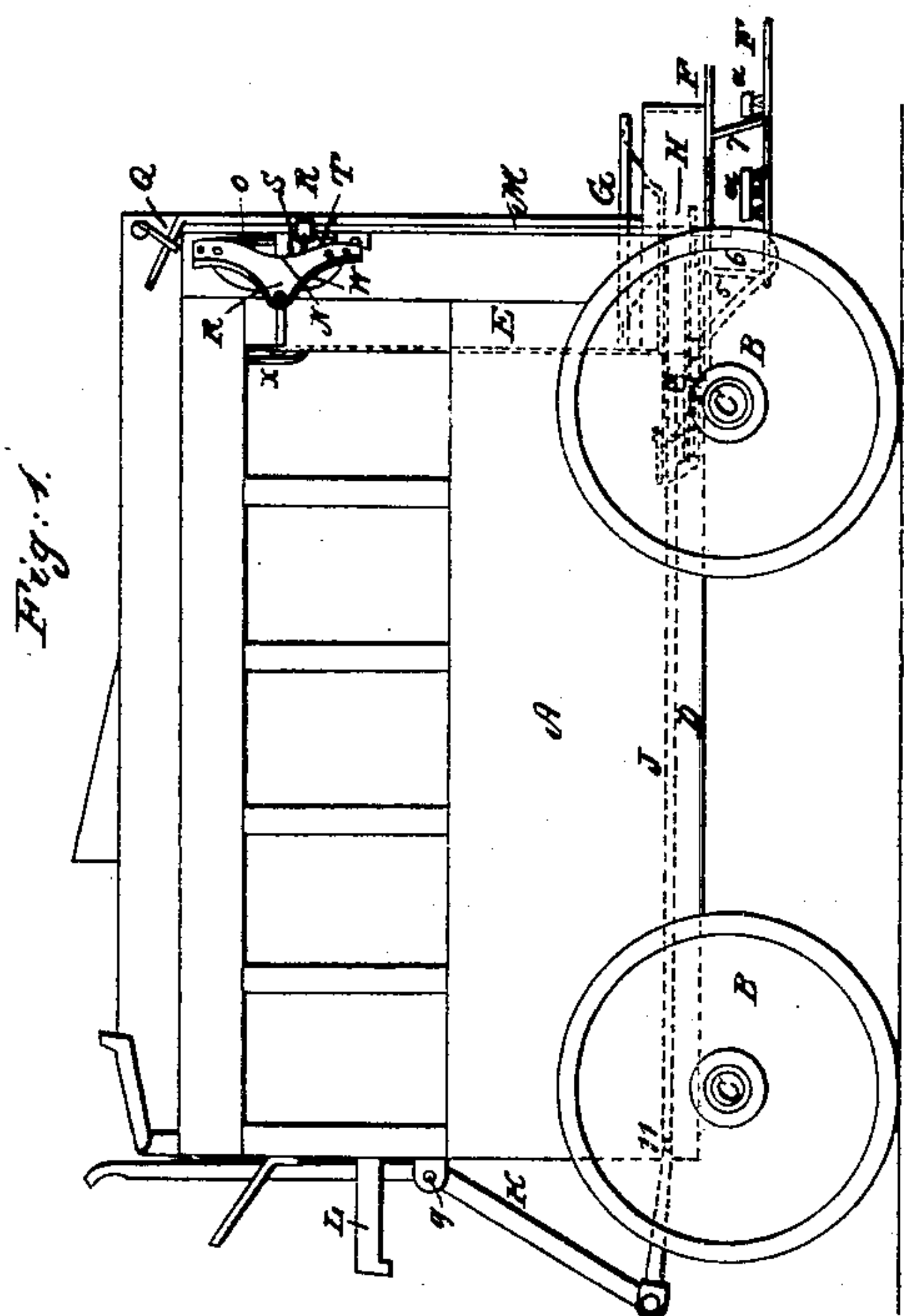


Fig. 1.

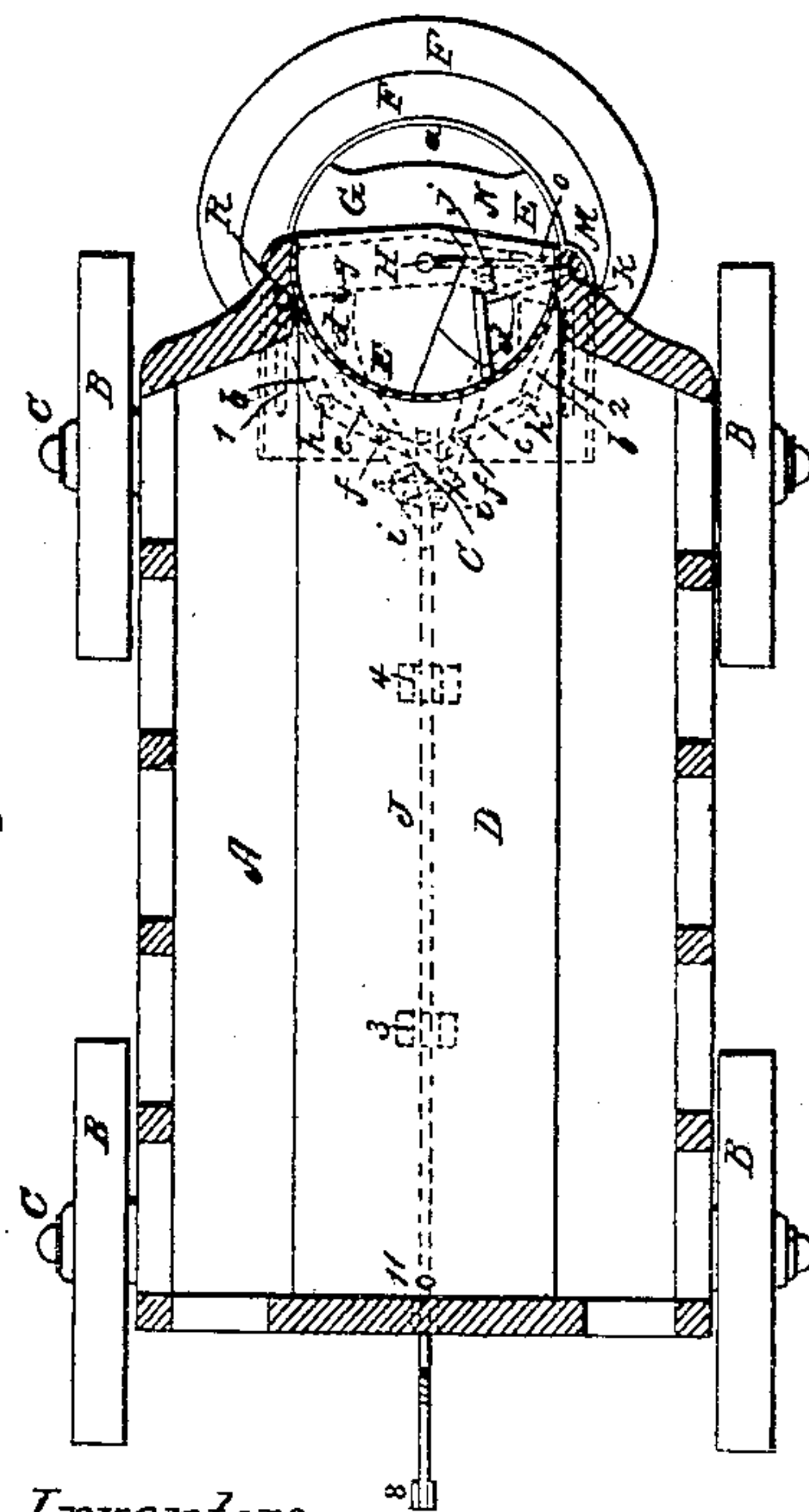


Fig. 3.

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UNITED STATES PATENT OFFICE.

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OMNIBUS-REGISTER.

Specification of Letters Patent No. 24,390, dated June 14, 1859.

To all whom it may concern:

Be it known that we, HENRY CHARLES HOWELLS, of the city, county, and State of New York, and JOSEPH CHARLES HOWELLS, of Madison, Dane county, and State of Wisconsin, have invented a new and Improved Machine for Registering the Number of Persons Entering or Leaving Public Conveyances or Places of Public Resort; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, figures, and letters of reference thereon, making part of this specification.

Of the said drawings Figure 1 is a side elevation of our improved registering machine, Fig. 2 is an end elevation, Fig. 3 is a horizontal section, and Figs. 4, 5 and 6 are parts in detail.

Similar letters of reference indicate like parts in all the drawings.

The nature and object of our invention consists, first, in the employment of a yielding platform to determine the value of the entry or fare in combination with doors or equivalent devices, to secure the registration of persons previous to their ingress or egress as will be more fully hereinafter set forth. Second, in the employment and use of circular or segmental doors or equivalent devices having within the area of their action a yielding platform, operating as will be more fully hereinafter set forth. Third, in combining with the yielding platform an operative lever to lift the vertical rod and puppet as hereinafter set forth. Fourth, in the use of a pin or bolt in combination with a horizontal arm in order partially to rotate the vertical rod and thus act upon the registering levers as shall be hereinafter set forth. Fifth, the registering levers in combination with ratchet wheels, spring pawls and double dial for registering full and half entries or fares as hereinafter set forth. Sixth, in the use of brushes and in the combination of levers and rods for operating automatically the doors and steps as will be more fully hereinafter set forth.

To enable others skilled in the art to make and use our invention we will proceed to describe its construction and operation.

A, represents the body of a stage which we have chosen to illustrate our invention.

B B are the wheels.

C C are the axles, all these parts being of the ordinary method of construction.

D is the bottom.

E E are the segmental doors.

F F are the steps.

G is the platform which rests upon the elliptic springs b.

H is a piston attached to the platform G, and fitting a bearing upon which the doors partially rotate.

I is the upper journal for the doors.

J is a rod passing along under the stage and sliding in proper boxes 3 and 4, secured to the bottom and having a joint at 11. This rod is attached by a joint at 8 to another rod or lever K which has its fulcrum at 9 and slides in a slotted piece L.

Q is a puppet operated by the rod M.

M is a vertical rod resting with a curved foot on and operated by the lever N, which has its fulcrum at j, and is acted upon by the piston H.

O is an arm attached to the vertical rod M which is operated beneath the doors by the pin or bolt s, in the rod d.

P is a jointed arm on the rod M which operates the levers S and T.

U is the registering wheel for whole entries or fares and V the registering wheel for half entries or fares.

W is the shaft or pinion which is supported by the bracket R at one end and a corresponding bracket at the other end.

X is a fixed dial plate having two distinct circles for registering full and half entries or fares respectively—the circles being divided so as to correspond with the number of cogs in the registering wheels.

Y is the hand or pointer for registering half entries or fares.

Z is the hand or pointer for registering whole entries or fares. The steps of the stage or vehicle are connected by the brackets 5 6 and 7 as shown in the Figs. 1 and 2 and for the purpose of keeping them clean there are stationary brushes a, a, a, against which the steps are drawn during the opening and shutting of the doors. At one end

of the rod J at *i i*, there are secured the rods *d, d*, which connect at *g g*, to the plates which form the heads of the doors and by these rods the doors are opened and closed by the driver. There is also in the rod J a mortise which receives the levers *c c*, having their fulcra at *f f*, which are attached to the arms *b b*, at *h h*, and these levers are operated by the reciprocating movement of the rod J whereby the steps and doors are simultaneously moved. The steps slide in grooves 1 and 2 which are in connection with these last mentioned devices as plainly shown in the dotted lines in Fig. 3.

Operation: In the Figs. 1 and 2 the steps and segmental doors are shown in the proper position for a person to enter the vehicle and as soon as the person is on the yielding platform G, the piston H acts on the lever N, having its fulcrum at *j*, and consequently the vertical rod M which has its curved foot resting thereon is elevated, which elevation causes the puppet Q to be thrown up by which the driver observes whether it is a whole or half entry or fare and also when to close the doors which is done by the driver forcing forward the lever K at its upper end. This closing act which takes place while the person is on the platform and within the area of the action of the circular or segmental doors, causes the pin or bolt *s*, in the rod *d*, to act upon the arm O which action partially rotates the vertical rod M causing the jointed arm P on the vertical rod M to have a movement against the lever S which has its fulcrum at *n*, for a whole entry or fare which causes the finger 10 at the end of the lever S in combination with the spring pawl *m* to move the ratchet wheel U one tooth and the hand or pointer Z which is secured to the ratchet wheel U by the pinion W moves over one space on the outer circle of the dial X which as the registration is secured by closing the doors while the person is standing on the platform within their area, accurately and with certainty registers every such person who enters the vehicle. In like manner the half entries or fares are made by the same movement of the driver which operates the finger of the lever T against the ratchet wheel V and in combination with a spring pawl *m* moves the hand or pointer Y over a given space on the inner circle of the dial X. The elevation of the vertical rod M and the subsequent action of the jointed arm P on the levers S or T in order to register the full or half entries or fares is governed by the weight of the person standing on the platform within the area of the action of the doors and which must be ascertained by the elasticity of the elliptic springs *b*, on which the platform G rests or by any other suitable means. The arm P being jointed with its under side or

surface beveled prevents the possibility of a double or full and half entry or fare from being registered should it strike at any time at the division of the levers S and T, as the tendency would be to lift the arm P and cause it to strike against the lever S. In order to complete the movement of the registering wheels U and V and also hold them in place the spring pawls *m m*, are used which bearing upon the ratchet teeth of the wheels U and V advance them one half their thickness after the fingers attached to the levers S and T have ceased to act upon them and the levers have recovered their former position by the action of the spring *o*, arranged for the purpose as shown in Figs. 1 and 2.

It is evident from the foregoing description of the operation of our registering machine that a reverse action of some of the moving parts with suitable gearing will secure a registration of the entry or fare as the person is leaving the vehicle instead of entering it.

We would remark that we do not confine our invention to the use of stages or other vehicles of conveyance, but claim the right to modify and vary its construction to suit other purposes of registration without departing from the principle by which it is governed.

We have thus far endeavored to render perfectly intelligible to any one skilled in such devices aided by the drawings the method in which we construct and operate our improved registering machine and will therefore state what we claim and desire to secure by "Letters Patent."

1. We claim the employment of a yielding platform to determine the value of the entry or fare and in combination with doors or equivalent devices to secure the registration of persons standing upon it, previous to their ingress or egress substantially as specified and set forth.

2. We also claim the employment and use of the circular or segmental doors or equivalent devices having within the area of their action a yielding platform operating substantially as set forth and specified.

3. We claim in combination with the yielding platform G an operative lever N and vertical rod M and puppet Q or their equivalents, substantially as set forth and for the purpose specified.

4. We claim the pin or bolt *s* in combination with the arm O attached to the vertical rod M or their equivalents for communicating motion to the registering levers S and T by the action of the jointed arm P substantially as specified and set forth.

5. We also claim the registering levers S and T operated as set forth, or their equivalents and in combination with the register-

ing ratchet wheels U and V and the spring
pawls *m m* together with the double dial X
for registering the whole or half entries or
fares substantially as set forth and specified.

5 6. We also claim the stationary brushes
and the arrangement and combination of
levers and rods or their equivalents for

operating the doors and steps substantially
as set forth and described.

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Witnesses:

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