

I. Z. A. WAGNER.

Register.

No. 9,289.

Patented Sept. 28, 1852.

Fig. 2.

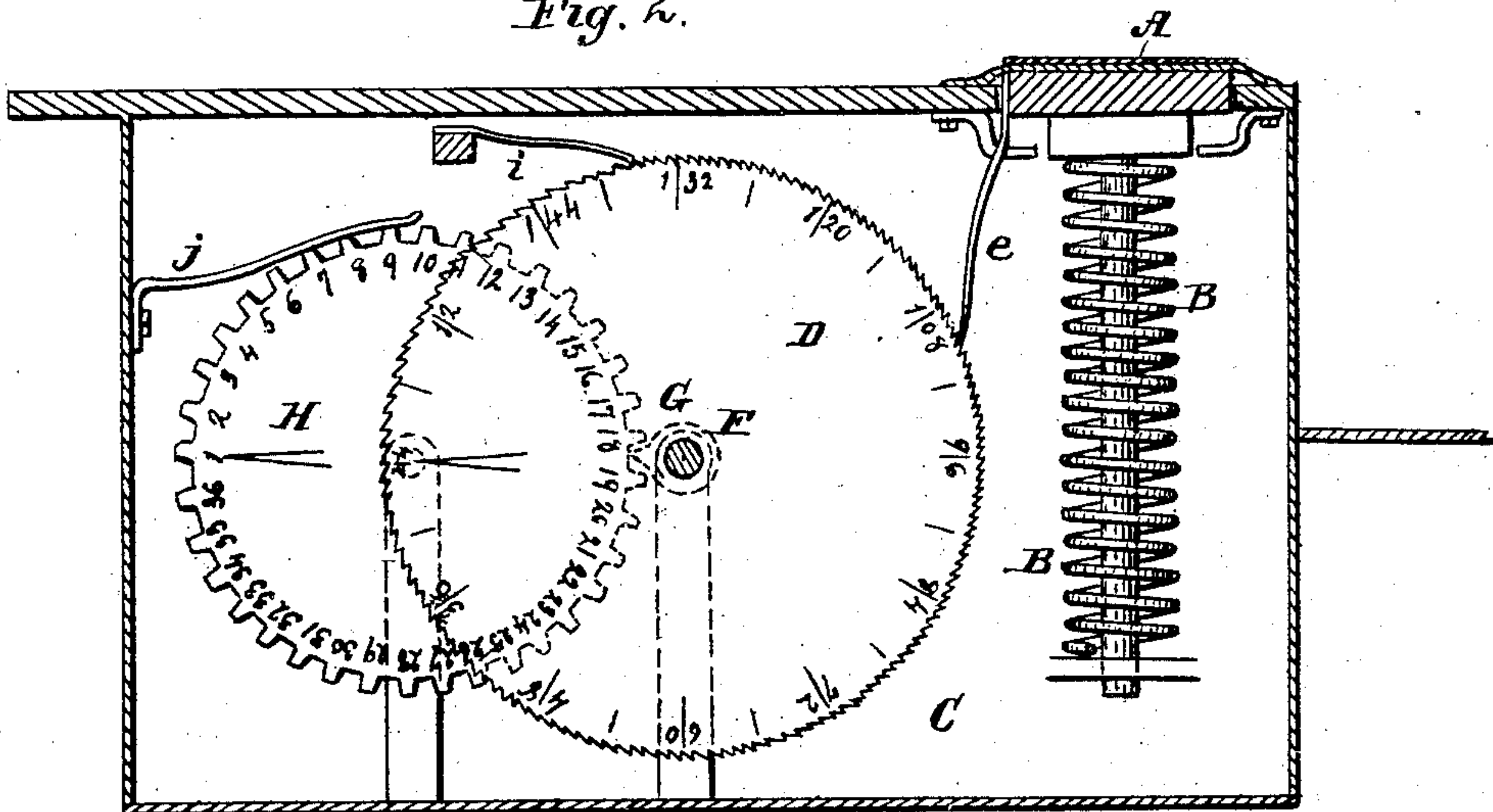
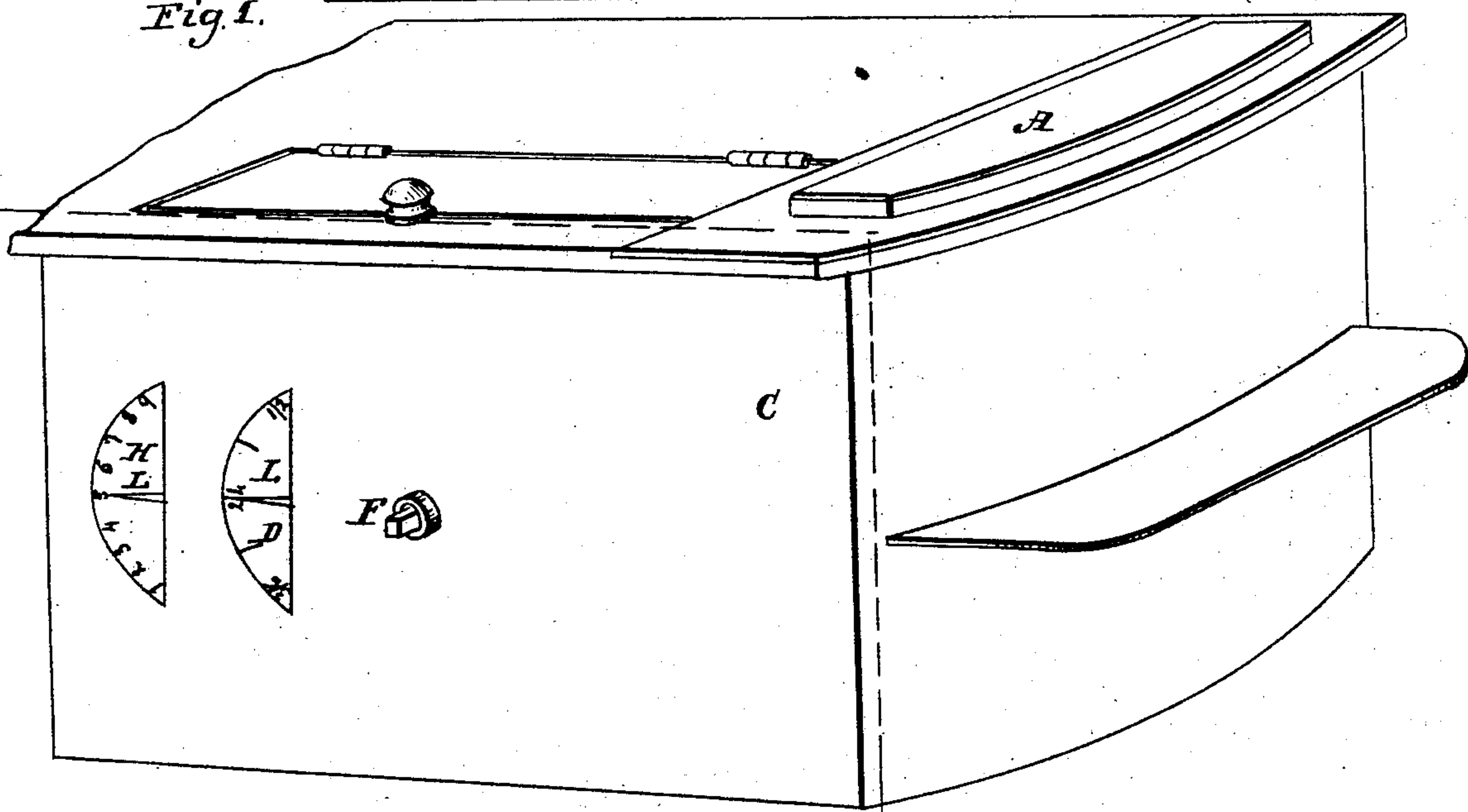


Fig. 1.



UNITED STATES PATENT OFFICE.

J. Z. A. WAGNER, OF PHILADELPHIA, PENNSYLVANIA.

REGISTER FOR OMNIBUSES AND FOR OTHER PURPOSES.

Specification of Letters Patent No. 9,289, dated September 28, 1852.

To all whom it may concern:

Be it known that I, J. Z. A. WAGNER, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful improvement in registering-steps for the entrance to omnibuses, toll-bridges, and other places where passengers pay graduated tolls, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings of the same, which form part of this specification, and in which—

Figure 1 is a view in perspective of my improved step with its register; and Fig. 2 is a vertical section of the same at the line $x x$ of Fig. 1.

The object of my invention is to reduce to the denomination of full tolls and register the aggregate number of mixed, full and fractional tolls to which a promiscuous number of adult passengers and children liable to tolls graduated according to their respective weights, are subject on entering any toll passage, as a bridge, toll gate, omnibus, etc. And it consists in mounting a step where passengers must tread upon it, on springs yielding levers, or other equivalent contrivance, and connecting it with a registering mechanism in such manner that all passengers of less than a given weight, and who are only required to pay fractional tolls, will depress the step a fractional part only of its range of motion, and register this movement, while all above this weight will depress the step a proportionately greater distance, and make a corresponding registry.

In the accompanying drawings, the step (A) is represented as being placed across the entrance to an omnibus, in a recess which allows it to slide up and down freely, so that when no one is standing on it, it will protrude about half an inch more or less above the floor. Beneath the step, spiral springs (B) are placed which constantly tend to force it upward. These springs stand beneath the step, in a case (C) which contains the registering mechanism. From one end of the step a pawl (e) depends which takes into the teeth of a ratchet wheel D on the side of the case, so that when the step is depressed to a level or thereabout with the floor by a full toll passenger, the pawl will be depressed far enough to turn the ratchet wheel two teeth or notches; but when the step is only depressed about half way down to the floor by a half toll passen-

ger the pawl will only be depressed far enough to turn the ratchet wheel one tooth. Children not subject to toll will not depress the step far enough to turn the ratchet wheel at all, and as the step rests on the floor when depressed down on a level with it, a person however heavy will only depress the wheel two teeth or notches, so that by neither excess nor deficiency is there any likelihood of an erroneous account being kept by the register.

The ratchet wheel is mounted on an arbor F one end of which protrudes through the side of the case and is squared to admit a key by which it can be turned to be set by the person having it in charge, at the naught point, every morning, or at any other period that the registry of the number of passengers is transferred to a book kept for the purpose. The ratchet wheel has 144 teeth, and on the same arbor with it, a pinion (G) is mounted having one tooth which takes into a wheel (H) having 36 teeth, and at each revolution turns the latter one tooth; so that the turning of the wheel H one tooth or point, denotes the turning of the wheel D one hundred and forty four points or teeth. The ratchet wheel is prevented from turning backward when the pawl (e) is raised, by a spring stop (i) whose front extremity drops behind the teeth as they pass, and whose opposite extremity is attached to the side of the case. The wheel H is prevented from turning or changing its position by jars or shocks by a spring brake (j) attached to the side of the case at one extremity and at the other pressing upon the wheel.

The wheels D and H have their sides, adjacent to the case, graduated and numbered into as many equal parts as they respectively have teeth; and an opening opposite each wheel as seen in Fig. 1 is made in the side of the case for the purpose of seeing the numbers which they have registered. Each of these openings is provided with an index finger or pointer L to facilitate the reading-off of the number of passengers who have walked over the step.

To illustrate the manner of reading off, we will suppose that the wheel D indicates 24 and the wheel H indicates 5; now as the wheel D counts one full toll passenger for every two notches or points, it shows that $24 \div 2 = 12$ passengers have passed; and as the wheel H counts for each notch or point $144 \div 2 = 72$ full-toll passengers; the number

5 on it indicates $72 \times 5 = 360$ passengers, which added to the 12 denoted by the other wheel amounting in all to 372, the number of full toll passengers that have walked upon the step since the wheels were set at the naught point.

The notation and graduation of the wheels, the number of their teeth, and the whole combination and arrangement of parts, it is obvious may be variously modified to suit different circumstances, without in the least departing from the principle of the invention. As one example of such a change, quarter, half, three-quarter and full tolls may be charged, the first for weights within given limits which will depress the step so as to turn the ratchet wheel one tooth; the second for weights exceeding the limit of the former, not more than a given amount, which will depress the step far enough to turn the ratchet wheel two teeth; the third weight exceeding the second by not more than a given amount, will depress the step to turn the wheel three teeth; and the fourth or full weight will depress the step to turn the wheel four teeth.

The joint between the sides of the step and the floor, may be covered to keep out dust etc. which might obstruct its action, by leather, india rubber, or other substance

which lies loose enough to permit the step to raise and lower freely. A board may likewise be set up in front of the registering step, so that passers can not conveniently overstep the latter, which tends to keep the registry correct. Where every passenger goes and returns for one toll as is the case in an omnibus, the graduation and notation of the index plates of the wheels, must be made to correspond, by indicating only half as much as if pay was required both on entering and coming out of the omnibus.

What I claim as my invention and desire to secure by Letters Patent, is—

Fitting toll passages with a registering step, combined with mechanism in such manner that the aggregate number of full and fractional tolls due from passengers will be reduced to the denomination of full tolls, and registered, whatever the proportions may be in which the aggregate is composed of fractional and full tolls, substantially as herein set forth.

In testimony whereof I have hereunto subscribed my name.

J. Z. A. WAGNER.

Witnesses:

CHARLES D. FREEMAN,
ROBERT W. JONES.