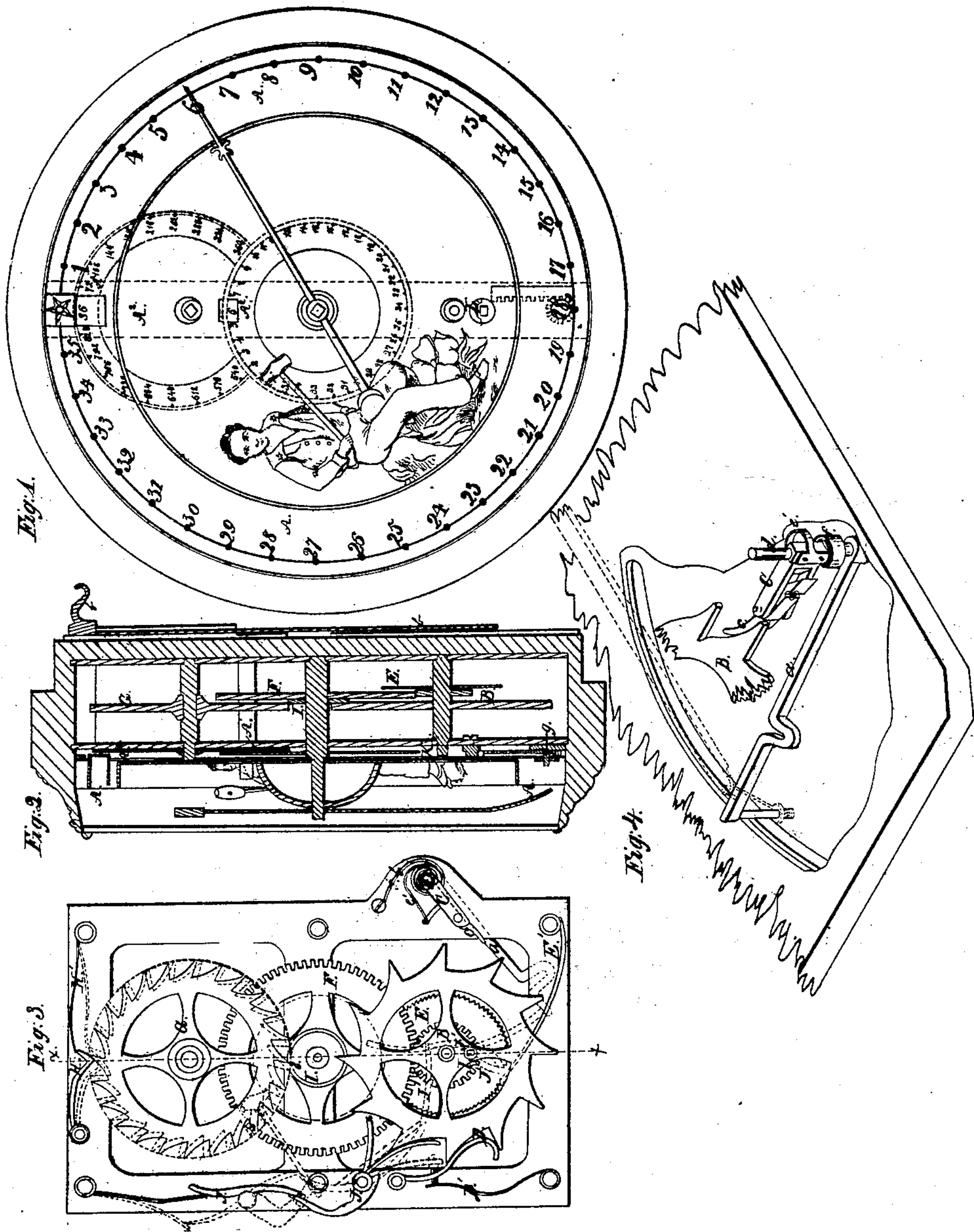


F. O. DECHAMPS.
OMNIBUS REGISTER.

No. 8,770.

Patented Mar. 2, 1852.



UNITED STATES PATENT OFFICE.

F. O. DESCHAMPS, OF PHILADELPHIA, PENNSYLVANIA.

OMNIBUS-REGISTER.

Specification of Letters Patent No. 8,770, dated March 2, 1852.

To all whom it may concern:

Be it known that I, F. O. DESCHAMPS, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Contrivance for Registering the Fare when Paid by the Passengers in an Omnibus or other Conveyance; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and letters marked thereon, forming a part of this specification.

The nature of my improvements consists in the construction of an instrument with its internal machinery so arranged and combined, and operating in such a manner that the registering of the fare and striking of a bell to indicate to the passengers within, as each fare is paid, shall be more certain and sure in its action than anything heretofore known or used as far as I am acquainted. The driver has charge of the instrument so far as the registering the fare is concerned, but should he be dishonest and inclined to cheat, his true character will be exhibited and exposed to the public. When the fare is paid, it is registered by the driver, which is plainly indicated to the passengers, both by the position of the hand on the face-dial and the striking of a bell, and if the driver should neglect to perform his duty faithfully and not register each passenger's fare when it is paid it would be at once observed by the passengers and his employer would be sooner or later informed of his dishonesty. Thus it will be seen that unless the driver be a bare-faced villian or more of a fool than a knave; and a person of no principle or pride for public opinion, that it will be utterly impossible for him to cheat or defraud his employer.

In the accompanying drawings Figure 1, is a front plan view of my instrument, showing the external dial plate, hand, bell, and figure for striking the fare as registered. Fig. 2, a vertical section through the line x, x , and Fig. 3, a view with one of the plates removed, showing the internal arrangement of the machinery, with the position of the arm and hammer, and the bell in red lines. Fig. 4, a view of part of the back of the instrument showing the recoiling click and part of the driving wheel, and the rod or lever by which it is operated. In each of these figures where the same parts are shown,

they are designated by the same letters of reference.

The instrument is placed in the front panel of the omnibus between the lamp and the hole through which the fare is passed to the driver and it resembles in appearance the dial or face of a common clock with the addition of a bell and a figure holding a hammer in its hand, the arm of which is so connected with the internal machinery as to rise and fall and strike the bell when the fare is registered. The following notice may be placed immediately under the instrument "Passengers will please prepay their fare and notice, if the figure on the dial plate strikes the bell when the fare is paid." The passenger while paying his fare is immediately in front of the instrument and cannot help noticing the neglect on the part of the driver to register the fare when paid.

A, is the external dial plate which in the drawing is divided into 36 parts or points, but it is obvious that this is subject to variation. A', is one of the concealed dial plates attached to the same arbor, as the center wheel F, and the hand or pointer, and it has marked upon it the same number of divisions as the external dial plate, this answers the purpose of a check. A², the other concealed dial plate attached to the arbor of the toothed wheel G, is divided into 24 parts or divisions each equal to 36 divisions, marked on the external plate amounting in all to 864 parts or fares. The arbors onto which these several indexes or dial plates are attached, can be set like those of a common clock without disturbing the other machinery. B, the driving wheel which is operated upon by what I call a recoiling click C; and is also provided with a steadying click D, and spring D' for the purpose of falling into the notches on its periphery and holding it firmly in that position until operated upon again by the recoiling click; and it is further provided with a ratchet wheel E and pawl E', for the purpose of preventing the recoil of the wheel B, by catching and holding it until the steadying click has fairly entered the teeth, thus preventing the hammer of the bell from falling until its proper time. J, J, levers which when operated upon by the toothed wheel B, causes the hammer (represented in red lines Fig. 1) to strike the bell at the

same time a fare is registered on the dials A and A'. When it is necessary to set the instrument these levers J, J, can be thrown out of gear by applying a key to the arbor I, and turning it to the right which will act upon them through the medium of the levers J', J', J', and throw them out of the influence of the wheel B, thus enabling the conductor or agent only to move the dials without striking the bell. F, the center wheel to which the dial plate A', and hand or indicator of the face-dial plate is attached, this wheel is a cog wheel and meshes into a pinion on the driving wheel B, by which the desired degree of motion is communicated to it. G, is another toothed wheel to which the arbor of the index or dial plate A², is attached, this is so operated upon as to jump one division at every revolution of the center wheel and hand or indicator, so as to register at each revolution of the face plate, the number of divisions marked upon it viz 36. So that it will register 24 times 36, or 864 fares.

To give the desired motion to the tooth wheel G, on which the dial plate A² is attached, I have a cylinder I, on the center wheel F, which has a notch *e* cut in its circumference at *e*, and I have a click H, and spring, H' which falls into one of the notches on the periphery of the wheel. This click H is lifted by the tooth of the wheel G as the wheel is driven forward by the action of the notch *e*, until the tooth has passed the angle of the click. The click then in its turn impels the wheel G forward until, on being liberated from the notch *e*, its next tooth strikes the cylinder I, and rests upon it, as shown by dotted lines in, Fig. 3, ready to fall into the notch *e*, at the next revolution of the cylinder. The recoiling click C, by which the driving wheel is operated consists of a lever *a*, to which the pawl *b*, is attached, the click lever *c*, working on its fulcrum in an arm projecting from the shaft *d*, with a spring *e'* to give the desired recoil to the click lever after passing the teeth of the wheel; and lastly the spiral spring *f*, for giving the desired recoil to the whole recoiling click, so as to place it in the proper position to act again upon the driving wheel. The slide K, is for covering the arbors of the dials &c. which can be slid up for the purpose of exposing the numbers indicated on the dial plates and to set the same. The key for moving this slide is in the possession of the agent so that he alone can see the concealed dial plates. The position of this slide and rack and pinion for operating the same is shown in red lines, in Fig. 1.

To understand correctly the operation of the instrument it must be observed that in this drawing the dial plate A, is divided into 36 parts and A', into the same number

and A², into 24 parts. These concealed dials I have represented in red lines. Each of the points or divisions on the dial plate A², being equal to 36 on the two dial plates A, and A', so that, at one revolution of the dial A' and hand 36 points or fares is registered on the dial A², and at each pull of the recoiling click the dial A', and hand advances one point; but the dial A², advances one point only when the hand or pointer has made one entire revolution around the external dial A. The dial A² being divided into 24 points and each point being equal to 36 points or fares it will register 864 fares, which is presumed will be as many passengers as an omnibus will carry in a day. We will suppose the omnibus has been running several hours and 42 passengers' fares have been registered. By unlocking the door of the instrument and applying the key to the shaft of the small pinion *g*, which meshes into the rack on the slide K, the square holes through which the agent views the state of the dials will be opened and 36 points or fares will be found registered on the dial plate A², and 6 on the plate A' and the hand on the face dial will point to 6, which when added together with the 36 will make 42.

In case the driver either through accident or design should give a slight or imperfect pull to the handle *b*, the ratchet wheel E, and its pawl E' will prevent the possibility of the wheel B recoiling half way or falling back and allowing the hammer to strike the bell without registering the fare. The same check is in the motion of the toothed wheel G, in the combined action of the click H, and spring H', the cylinder I, and its notch *e*, which prevents the possibility of the wheel G, moving more than one notch at a time and retaining it in that position until the hand or indicator has made one entire revolution. As the driver receives a fare he pulls the lever *a*, by applying his finger to the handle *b*, until the click recoils which advances the driving wheel one tooth, the hand on the dial also moves one point and the bell strikes, which indicates that one fare has been registered. Fare after fare is registered, in this way, until the dial plate A', and hand has made one revolution when the dial plate A², advances a point, registering 36 points or fares. This can be continued up to any number marked on the dial plate A², which number of course can be varied almost to infinity.

I am aware that various contrivances and plans have been tried and suggested for registering and keeping an account of the amount of fare taken in, but nothing has heretofore been found to answer the purpose. But I have, after much study and labor invented and discovered an entirely

new method of registering with great precision every passenger's fare that is paid, the operation of which is not subjected to the caprice of every passenger in the omnibus, nor is it possible for the passengers or driver to prevent its sure and faithful action.

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

10 1. The use of the ratchet wheel E and its pawl, or their equivalents, for the purpose substantially as herein set forth, of preventing the possibility of giving a blow to the hammer by means of a recoil of the
15 wheel B.

2. I also claim the combination substantially as herein described, of the toothed wheel G, to which the dial plate A² is affixed, with the notched cylinder I, and click H, whereby, the dial plate A² is impelled 20 one notch at each revolution of the dial plate A' for registering on the concealed dial plate A² 24 or any number of fares marked on the dial plates A and A' substantially as herein set forth.

F. O. DESCHAMPS.

Signed before two subscribing witnesses:

GEORGE ERCTY,
FRANCIS NAGLE.