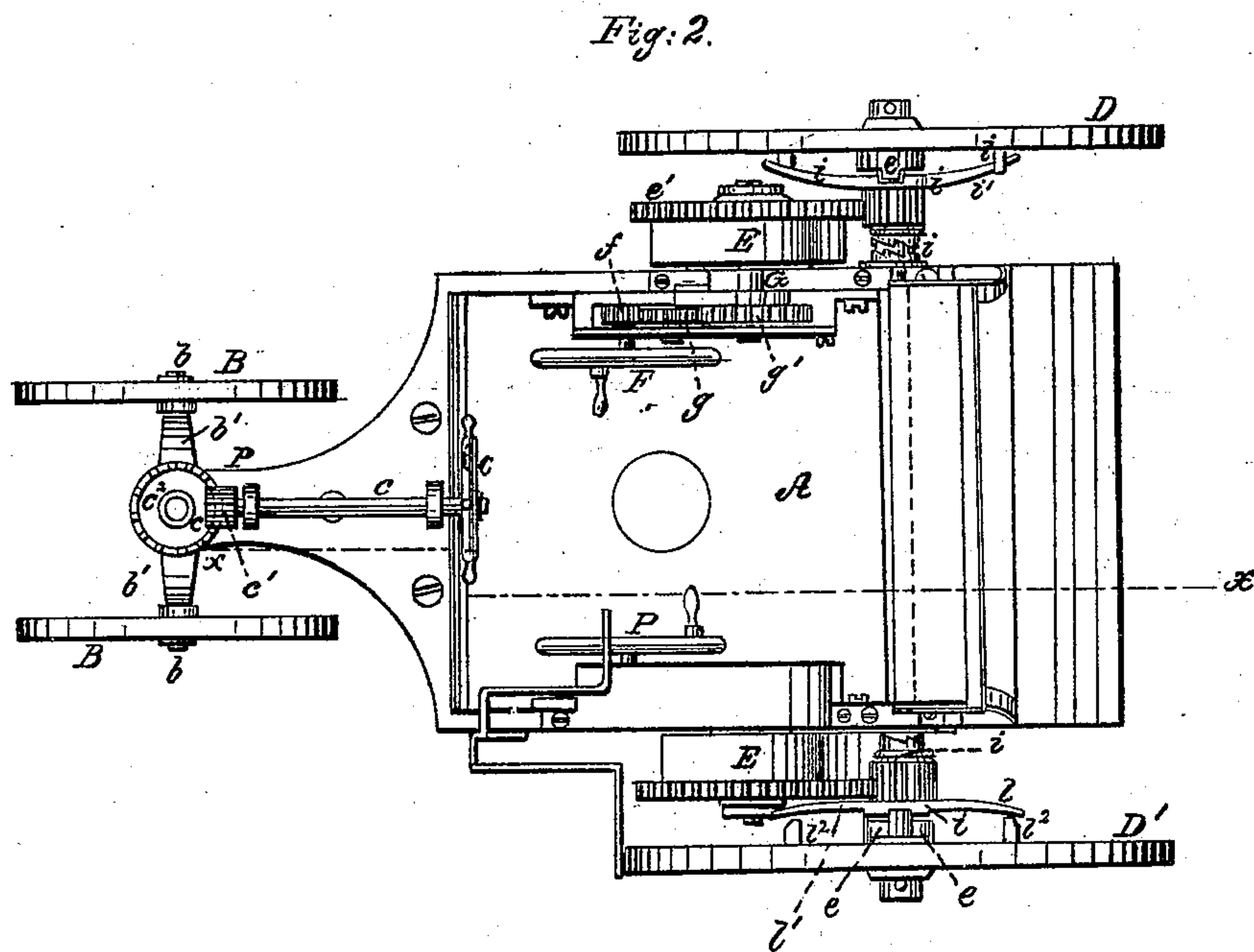
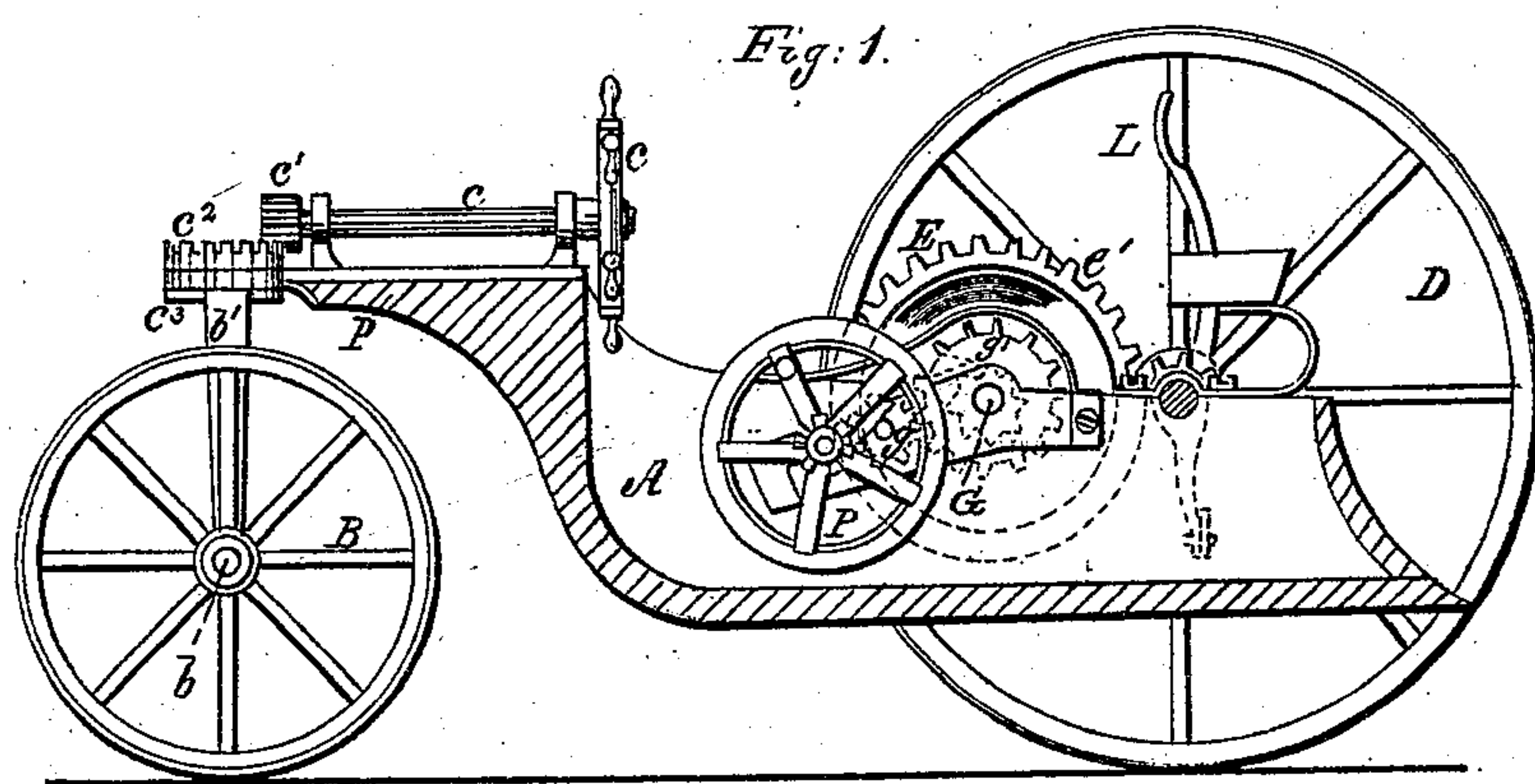


T. A. HARES.
Propelling Carriages.

No. 92,306.

Patented July 6, 1869.



Witnesses:

*W. A. Pettit
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Inventor.

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United States Patent Office.

THOMAS A. HARES. OF NEW YORK, N. Y.

Letters Patent No. 92,306, dated July 6, 1869.

APPARATUS FOR PROPELLING CARRIAGES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS A. HARES, of the city, county, and State of New York, have invented a new and improved Device for Propelling Carriages; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section through line *z z* of fig. 2.

Figure 2 is a top view.

The principle involved in this invention is that of employing a spring and clock-work apparatus for driving each wheel, there being one such apparatus on each side of the carriage, and the driver winding up the apparatus on one side while that on the other is running down, and impelling the carriage forward.

In connection with these devices, is a steering-apparatus, and a new and improved form of the carriage, to adapt it to the mechanism employed and the use to which it is to be put.

In the drawings—

A is the body of the carriage.

B B are the forward wheels, attached to an axle-tree, *b*, and connected with the steering-wheel C by means of the horizontal shaft *c*, gear-wheels *c'* *c''*, disk *c'*, and inclined standards *b'* *b''*, extending from the disk to the axle-tree.

D D' are the two driving-wheels.

E E, a wheel or barrel, enclosing the main spring, and wound up by means of a crank, F, which connects with the shaft G of the barrel, by means of intermediate gearing, *f f' g*.

H, a pinion, fixed to a sleeve-clutch, *i*, that slides longitudinally on the axle, and engages with teeth, *e* *e'*, on the inner end of the hub of the driving-wheel D D', the pinion itself being operated from the shaft G or wheel E, by means of a large spur-wheel, *e'*, and the clutch H being engaged with or disengaged from the driving-wheels by means of a lever, L.

The lever or the sleeve-clutch may also have connected with it a stop, or other apparatus, which, when the clutch is disengaged from the driving-wheel, shall engage with the wheel *e'* or E, and prevent the apparatus from suddenly running down.

The friction-clutch *i* may have arms, *i'*, that shall extend out alongside of the driving-wheels, and engage with pins, *i''*, on their inner face, or on their spokes, at the same instant that the clutch engages with the hub, in order to assist the clutch and strengthen the connection.

Having disengaged both clutches, and wound up the apparatus on one side of the carriage, the driver puts the carriage in motion by engaging either clutch, and it continues to move forward until that part of the apparatus has run down.

Just before it runs down, however, it strikes an alarm-bell, hearing which, he disengages that clutch, and engages the opposite one, and while the apparatus connected with the latter is running down, he winds up that which was first in operation, and so on, to the end of the journey.

The clutches can be so connected by a rod running across the carriage, (under the floor, if necessary,) that the same operation would engage the one and disengage the other.

Instead of a crank to move the shaft of pinion-wheel *f*, a treadle may be employed, connected, by a rod, with a wrist-pin on the pinion, or on a larger wheel, carried by the same shaft.

The wheels D D' may be adjusted at exactly the right point on the axle to bring the clutch and stop into proper working-position, by means of a screw-nut on the outer end of the axle.

The wheels are made very light, and the body low between the wheels, as shown in fig. 1.

The steering-wheel may be supported and attached at the forward end of a vertical projecting beak or prow, P, shaped something like the prow of a ship, and supported, if necessary, by braces on either side.

The device can be got up so as not to exceed three hundred or four hundred pounds in weight, and can be made to run from fifteen to twenty-five miles an hour on a smooth road, as has been experimentally proved by the inventor.

It can be made, by a proper construction and arrangement of gear-wheels of different sizes, to move a great distance without running down. The labor of winding it up is but a trifle compared with that of operating the common hand-car.

The machine is designed for any ordinary use on common roads or railways, and will be especially serviceable in the transportation of the mails in country places.

Having thus described my invention,

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

1. The arrangement, in a carriage, of two spring clock-work devices, entirely independent of each other, and wound up by independent cranks, F, or their equivalent, one apparatus and crank being on one side, and the other on the other side of the carriage, and so constructed and operating, that while either is running down and propelling the carriage forward, the other may be winding up, substantially as and for the purpose herein set forth.

2. In a carriage, having two spring clock-work devices, winding independently of each other, as and for the purpose specified, and, in combination with said devices, the clutch *i*, pinion H, and teeth *e* *e'*, operating substantially as and for the purposes set forth.

3. The construction and arrangement of the two

disks c^2 c^3 , one above and one below the projecting end of the prow, said parts being rigidly connected by the standard b' , to the axle of the forward wheels, the upper disk having a crown-wheel cog-rim, and being connected with the pinion c^4 , horizontal shaft c , and its hand-wheel, in the manner described, and for the purposes herein specified.

4. The form and construction of the carriage, here-

in shown, in order to adapt it to the use of the motive-power above described.

To the above specification of my invention, I have signed my hand, this 11th day of May, 1869.

THOMAS A. HARES.

Witnesses:

CHAS. A. PETTIT,

SOLON C. KEMON.