(No Model.) 3 Sheets—Sheet 1.

L. J. DE MESMAEKER.

RECORDING APPARATUS FOR CABS OR OTHER VEHICLES.

No. 304,301. Patented Sept. 2, 1884.

FIG. 1.

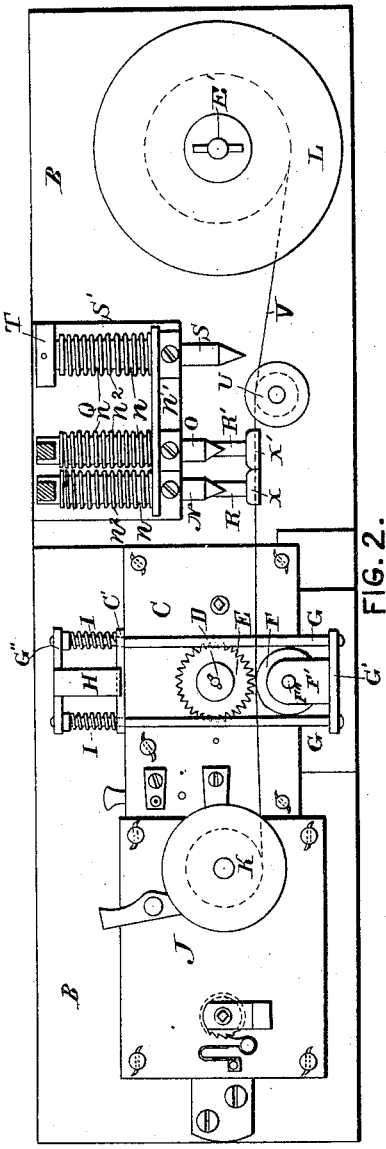
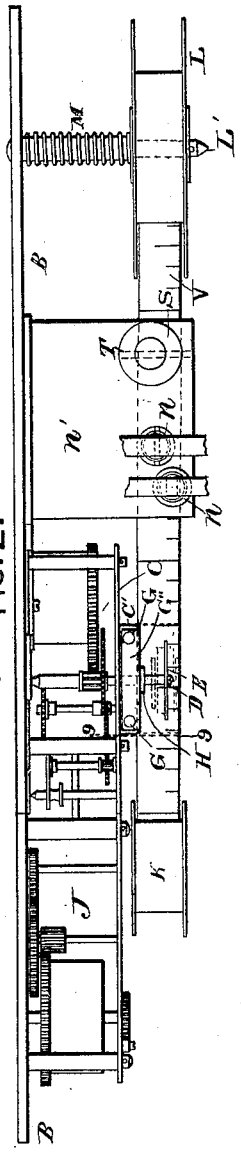


FIG. 2.



ATTEST.

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(No Model.) 3 Sheets—Sheet 2.

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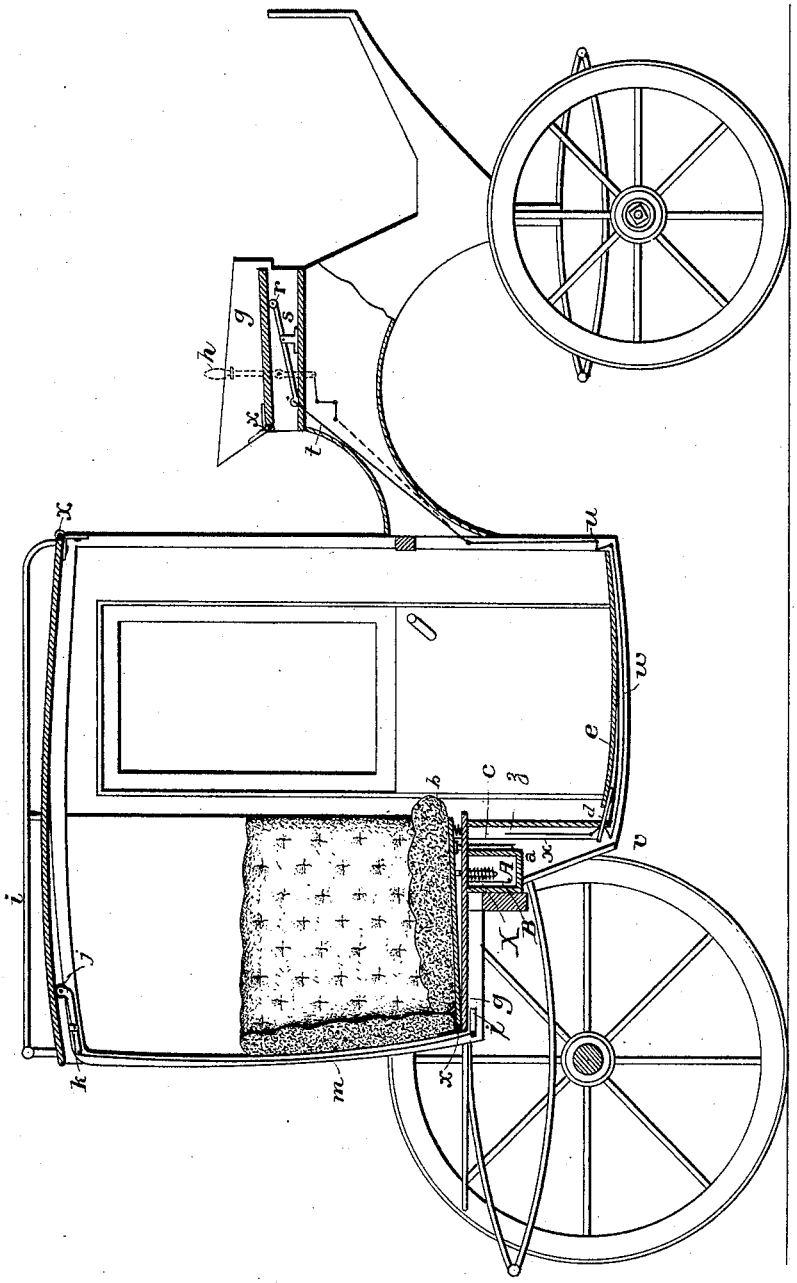
FIG. 3.



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(No Model.) 3 Sheets—Sheet 3.

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FIG. 8.

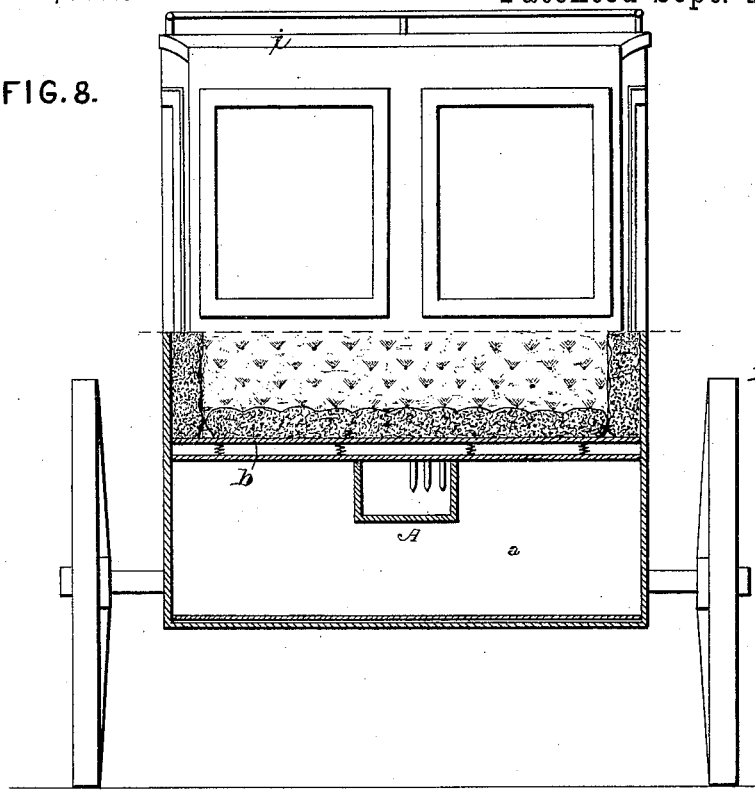


FIG. 9.

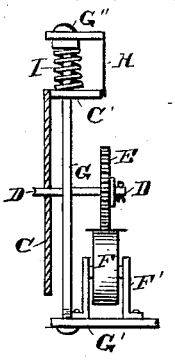


FIG. 4.

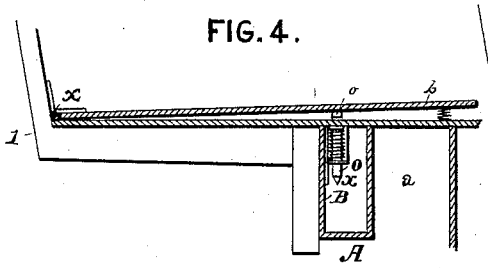


FIG. 5.

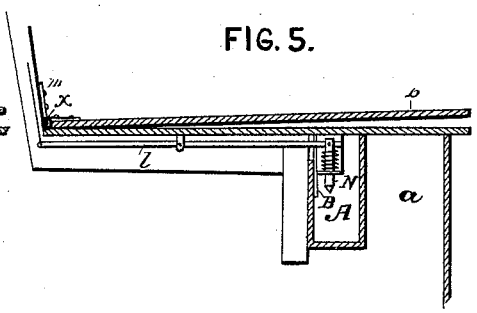


FIG. 6.

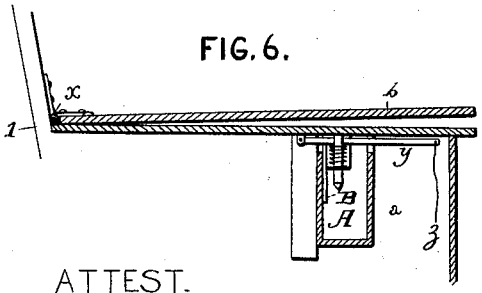
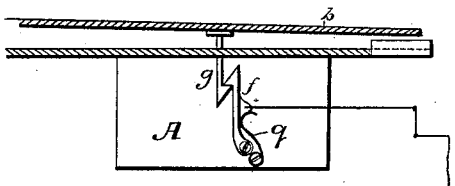


FIG. 7.



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Attys

UNITED STATES PATENT OFFICE.

LOUIS JOSEPH DE MESMAEKER, OF BRUSSELS, BELGIUM.

RECORDING APPARATUS FOR CABS AND OTHER VEHICLES.

SPECIFICATION forming part of Letters Patent No. 304,301, dated September 2, 1884.

Application filed November 7, 1883. (No model.) Patented in Belgium May 28, 1883, No. 61,504, and in France June 8, 1883, No. 143,586.

To all whom it may concern:

Be it known that I, LOUIS JOSEPH DE MESMAEKER, of Brussels, in the Kingdom of Belgium, have invented a certain new and useful Recording Apparatus for Cabs and other Vehicles, of which the following is a specification.

The object of my invention is to provide an apparatus by which the fact of occupancy of one or more of the seats and the conditions of a vehicle, whether in motion or at rest, may be recorded side by side on a graduated tape or ribbon, to which a constant and uniform movement is imparted by suitable clock-work. To this end I provide means by which the entrance and seating of a passenger within the vehicle, the seating of the driver upon the box, or the placing of one or more packages on the top of the cab is made to actuate one or more pencils, which, on being brought against a regularly and constantly moving paper ribbon, record the amount of time during which such places are so occupied. Means are provided by which the driver, on the delivery of a package or passenger, may release such pencil or pencils and cause the recording action to cease. An additional pencil is also provided adapted to be operated by the jar produced by the movement of the cab itself, so as to constantly record the fact of movement or non-movement of the same.

In order that my invention may be more fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is an elevation of the recording apparatus in detail. Fig. 2 is a top view thereof. Fig. 3 is a vertical section of a cab embodying my invention. Fig. 4 is a detail view of the mechanism connecting the rear seat of the cab with its recording-pencil. Fig. 5 is a detail view of a portion of the mechanism for connecting the false top of the cab with its recording-pencils. Fig. 6 is a detail view of a portion of the mechanism for connecting the driver's seat with its recording-pencil. Fig. 7 is a detail view of mechanism for locking the seat after it has been depressed by the weight of a passenger. Fig. 8 is a cross-sectional view of a cab, showing the recording-box in place therein. Fig. 9 is a detail sectional elevation on the line 9 9, Fig. 2.

A is a box in which is placed the recording apparatus. In the drawings this box is shown as placed under the back seat of the carriage; but I reserve the right to place it in the neck which joins the carriage-body to the driver's seat, and to which access is had by lowering the bracket-seat. The apparatus may, however, be placed at any other suitable point, means of access being provided according to its location.

B is a metallic plate serving to support the different parts of the recording apparatus, said plate being held by screws against the side or back of the box A.

C is a clock-movement disposed so as to cause the main arbor D to make a certain number of revolutions per hour, (say one.) On the arbor D is wedged a toothed wheel, E, whose teeth engage on a roller, F, made of rubber or other soft material, turning on an axle, F″, having its bearings in standards F′, rising from the lower cross-head of a vertically-moving yoke, G G′ G″. The hangers G of this yoke slide freely within openings in a flange, C′, on the face-plate of the movement C, and carry between said plate and the upper cross-head, G″, springs I, which serve to keep the wheel E and roller F together with a yielding pressure.

Attached to the cross-head G″ is a spring-catch, H, Fig. 9, which, when said yoke is depressed, engages under the flange C′ and holds the wheel E and roller F separated, thereby facilitating the removal of the paper band. The result of this arrangement is that a regular and determined rotation is imparted to the toothed wheel E and the rubber roller F, and consequently to the paper band V, which is graduated to correspond with the unit of rotation of said wheel E.

J is a second clock-movement of very simple construction, its sole use being to turn the bobbin K with a force and velocity sufficient to take up the band as it leaves the wheel E and roller F.

L is a bobbin turning freely on its axis L′,

and held between two disks by the spiral spring M, the tension of which prevents the spool from turning at random.

N O are pencils (any necessary number of which may be employed) operated by different means, which will be more fully described hereinafter. These pencils are fixed in sleeves *n*, sliding freely in grooves in a flange, *n'*, of the support Q, and are kept elevated by spiral springs *n²*. In the drawings these pencils are two in number; but I reserve the right to increase or diminish this number, according to the requirements of the apparatus.

R R' are brackets or hangers, having at their lower ends flat rests X X', over which the paper ribbon travels.

S is a third pencil sliding in a similar guide or groove, and provided with a weight, T, the depressing effect of which is resisted by a coil-spring, S'. The opposing forces of the weight and spring being equal, or nearly so, the vibrations or jars produced by the movement of the cab will tend to impart a vertically-reciprocating motion to the pencil, thereby bringing it into contact with the paper band V. This band, previously rolled on the bobbin L, passes onto the roller U, where, when the carriage is in motion, it receives the mark of the crayon S. It then passes to the flat supports X X', where it receives the imprint of one or of several pencils, N O, according to the number of seats occupied; thence between the wheel E and the roller F, which imparts to it the desired velocity, and it is at length rolled on the bobbin K with the same velocity.

U is a roller turning freely on its axle, and designed to elevate and guide the ribbon V over the recording-rests X X', thereby avoiding friction. The ribbon V may be of paper, cloth, or leather, and is unrolled from the bobbin L, as already explained.

It will be seen that by combining in a single apparatus devices for recording side by side, on a single ribbon, the time the vehicle has been retained and the time it has been in motion and at rest, the accountant is not only permitted to see the two primary indications of the apparatus, but he is also enabled to tell at a glance how much time was spent at rest and how much in transit during the engagement of the vehicle, how much time elapsed between the discharge of the vehicle and the starting thereof on the return trip, and how much time was spent at rest and in motion between any two engagements. The result of the combination is not, therefore, the mere sum of the results of the two devices when used alone, but includes the induced indications just described.

Figs. 3 to 8 of the drawings show the application of a recording device such as described to a cab, and also the means for connecting it with various parts thereof which are adapted to be occupied by the driver, passenger, or baggage.

a is the box of the carriage, and *b* the seat, which is fixed at its back by suitable hinges, *x*, and (when not occupied) kept raised at front two or three centimeters by one or several springs placed between it and the top of the box.

c is a rod, which is attached at its respective ends to the under side of the seat *b* and one extremity of a rod, *d*, the other extremity of which is rigidly secured to the movable bottom *e* of the cab, thereby causing the two to move together, both being depressed by a weight on the floor, and both being elevated by the springs placed under the seat. Secured to the under side of the seat, and projecting downwardly therefrom, is a lug, *g*, which, when the seat is depressed, is engaged by a pivoted dog, *f*, actuated by a spring, *q*. By this means the seat is locked down while occupied, and may be liberated by the driver, after it has been vacated, by a hand-lever, *h*, placed by the side of his seat, and connected to the spring-dog *f* through the medium of suitable levers and bell-cranks, all of which are not visible in the views here given, but are similar to those *t u v w z*, hereinafter described.

As represented in Fig. 4, the pencil O is operated from the seat *b* through the medium of a button, *o*, placed on the under side thereof, and adapted, when the seat is depressed, to come in contact with the top of said pencil, and thereby cause it to come in contact with the band V.

The cab is provided with a false top, *i*, which is hinged at *x*, and bears upon anti-friction roller *j*, mounted in the end of a short lever, *k*, which is pivoted centrally, or thereabout, and connected at its other end with the pencil N through the medium of rod *m* and pivoted lever *l*, Fig. 5. The rear end of the false top may be kept elevated by springs placed thereunder, or by the spring which surrounds the sleeve of the pencil, as preferred. If it be desired, the top or frame *i* may be divided into several compartments, each separately movable and operating a separate pencil, thereby indicating the transportation of one or several packages. The frame, whether single or double, is placed at the top of the cab, which it covers completely, being provided with a downturned flange fitting against the wall of the cab, so as to prevent the interposition of wedges capable of preventing the working of the apparatus and exclude water. The driver's seat *g* is likewise hinged at *x* and kept raised at front by suitable means. It connects with one of the recording-pencils in a manner similar to that already described with reference to the false top *i*, being an anti-friction roller, *r*, in the end of rod *s*, which is connected through the medium of cord *t*, bell-cranks *u v*, and cords *w z* with the lever *y*, Fig. 6, which lever connects directly with the top of the pencil. All these transmissions are made in the interior of the carriage and concealed by the trimmings and paneling. The back seat of the carriage is fixed in a

frame adjusted to fit perfectly, so as to render the interposition of anything capable of preventing the working of the apparatus impossible. The means for connecting the different parts (designed for occupancy) with the recording apparatus may of course be modified to suit the forms of different vehicles and different positions in which the recording mechanism is placed.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination, with a constantly-moving ribbon, a pencil adapted to be brought in contact therewith by a weight on the seat, and a spring-catch for locking said seat automatically when depressed, of a pencil for recording the fact of movement or non-movement of the vehicle, and a hand-lever placed within the reach of the driver and connected with said locking device, whereby the length of time the vehicle was retained and the length of time spent in transit and at rest during such time of retention are recorded, as set forth.

2. The combination, in a recording device, of a clock-movement, a toothed wheel driven thereby, an elastic roller, a sliding yoke carrying the same, and springs for holding said roller and wheel in contact, with a spring-catch for holding said wheels asunder, as and for the purpose set forth.

3. The combination, with the clock-movement C and toothed wheel E, of the rubber roller F, yoke G G′ G″, and springs I, working on the standards G, as and for the purpose set forth.

4. The combination, with the toothed wheel E, roller F, yoke G G′ G″, and springs I, of the spring-catch H and flange C′, as and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

LOUIS JOSEPH DE MESMAEKER.

Witnesses:
EMILE PICARD,
R. MARAIN.