

J. BAADE.

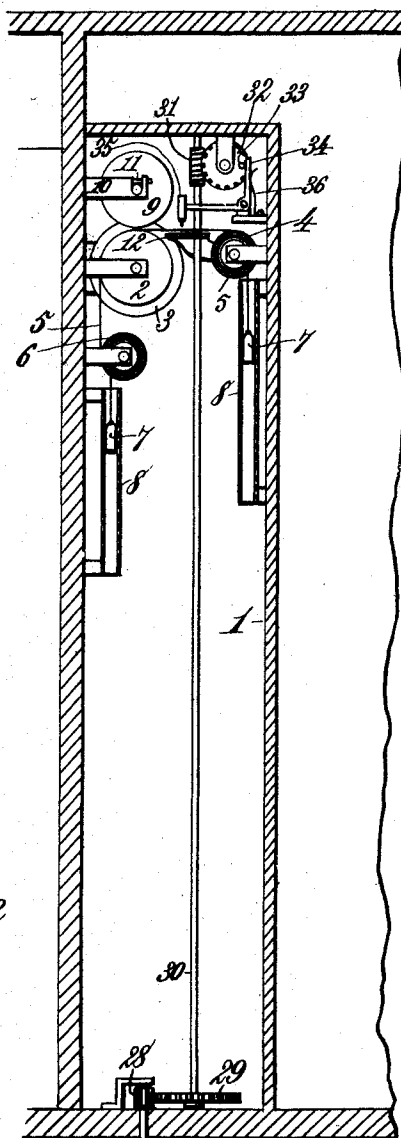
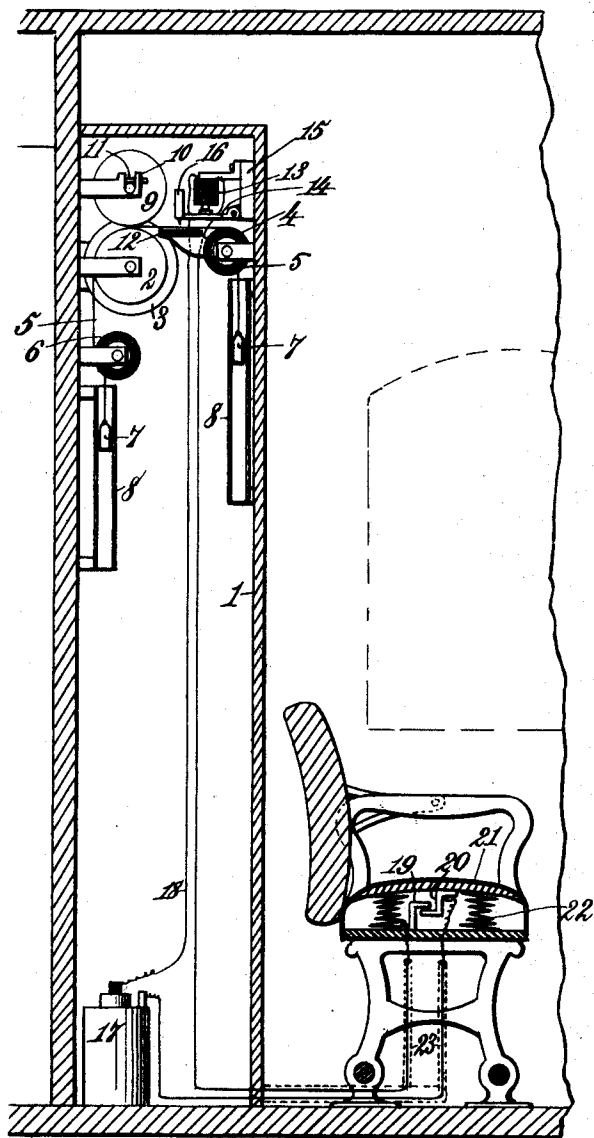
AUTOMATIC RECORDING APPARATUS FOR VEHICLES.

No. 506,579.

Patented Oct. 10, 1893.

Fig. 1.

Fig. 2.



Witnesses:
Robert G. Smith,
G. H. Rea.

Inventor,
John Baade.
By
James L. Norris,
Atty.

(No Model.)

2 Sheets—Sheet 2.

J. BAADÉ.

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Fig. 3.

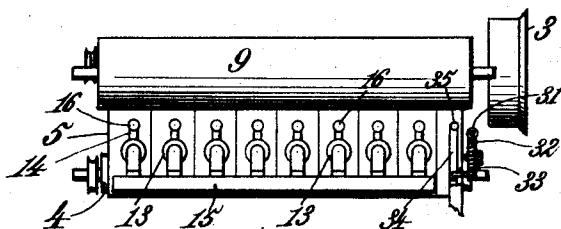


Fig. 4.

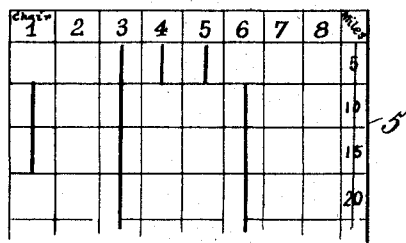
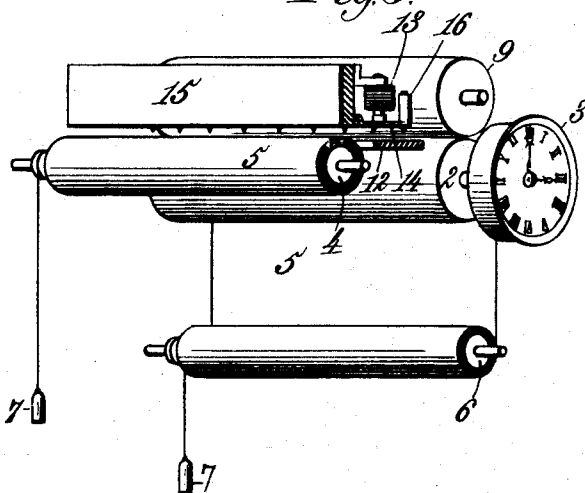


Fig. 5.



Witnesses:
Robert Conitt.
G. W. Rea.

Inventor:
John Baade.
By
James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

JOHN BAADE, OF WACO, TEXAS.

AUTOMATIC RECORDING APPARATUS FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 506,579, dated October 10, 1893.

Application filed April 27, 1893. Serial No. 472,071. (No model.)

To all whom it may concern:

Be it known that I, JOHN BAADE, a citizen of the United States, residing at Waco, in the county of McLennan and State of Texas, have
5 invented new and useful Improvements in Automatic Recording Apparatus for Vehicles, of which the following is a specification.

This invention relates to an improved automatic passenger register and mileage recorder for railway cars, cabs, and other vehicles; and it consists in certain peculiarities of construction and novel combinations of parts in an apparatus for automatically recording the running time of a vehicle and the
15 number of miles for which each seat is occupied, as hereinafter more particularly described and claimed.

In the annexed drawings illustrating the invention—Figure 1 is a sectional elevation
20 of a portion of a railway car showing the apparatus for automatically recording the time or mileage during which a seat is occupied. Fig. 2 is a similar view showing the devices for recording the running time or mileage of the vehicle. Fig. 3 is a plan of the recording
25 devices. Fig. 4 is a plan of a portion of a record sheet or strip. Fig. 5 is a perspective of a portion of the record apparatus showing the clock movement or time motor for the traveling record sheet, strip, or ribbon.

At a convenient point in a railway car or other vehicle is located a casing or compartment 1 for inclosing the passenger mileage recording mechanism. In the upper part of
35 this compartment is journaled a roller 2 which is geared with and actuated from a clock-work or time motor 3 that is arranged to rotate said roller, say, once in an hour. On one side of the roller 2, and preferably in the
40 same horizontal plane therewith, is journaled a roller 4 from which a record sheet, strip, or ribbon 5 may be unwound at a uniform speed. A similar roller 6 is journaled on the other side of the roller 2 and preferably below the
45 same. This roller 6 is to receive and wind up the record sheet, strip, or ribbon 5 after it has passed over the roller 2 from the roller 4, or, if preferable or more convenient, the clock mechanism may be so located or arranged
50 with reference to the roller 2, actuated therefrom, as to cause the record sheet, strip or ribbon to travel in the opposite direction.

The rollers 4 and 6 are provided with counterbalance weights 7 arranged to act against each other in such a manner as to keep the
55 record sheet, strip, or ribbon 5 taut and straight as it is unwound from one roller, 4 or 6, and rewound upon the other. To keep the weights 7 from swinging they may be arranged in guide boxes 8, as shown. 60

Instead of weights the rollers 4 and 6 may be provided with springs.

Above the roller 2 and in contact with the strip or ribbon 5 is a pressure roller 9 that may be journaled in slotted bearings 10 and
65 be held therein by suitable clamps or fastenings 11 so as to be removable for facilitating renewal or replacement of the strip or ribbon and also to exert by gravity a yielding pressure thereon to cause it to travel evenly and
70 smoothly. The several rollers may be made of rubber or other suitable material.

Between the rollers 2 and 4 in the same horizontal plane with their upper surfaces is a table, plate, or support 12 for the traveling
75 record sheet, strip, or ribbon. At a convenient point above the record sheet or strip 5 is a series of electro-magnets 13 that may be supported in any suitable or convenient manner. Each electro-magnet 13 is provided with
80 an armature lever 14 having one end pivotally attached to a support 15 while its other end carries a suitable marker 16, such as a pencil or a fountain pen.

In the lower part of the compartment 1, or
85 other suitable location, is a series of battery cells 17 each of which is connected by wires 18 with one of the electro-magnets 13 and with a pair of contact plates 19 and 20 located in a car seat. The car seat 21 is cushioned
90 and provided with springs 22 that are adapted to support a weight of fifty pounds, or thereabout. One of the contact plates, as 19, is attached to a stationary lower portion of the car seat frame while the other contact plate,
95 as 20, is attached to the upper vertically yielding or cushioned portion of the seat. These contact plates 19 and 20 may be flanged or arranged to overlap at their meeting ends, as shown, so that when the car seat is unoc-
100 cupied they will make contact with each other in such a manner as to close the electric circuit and thereby cause the connected electro-magnet to attract its armature lever 14 and

thus hold the attached pen, pencil, or marker 16 away from the traveling record sheet, strip or ribbon. When a car seat is occupied by an adult the movable contact plate or piece 20 is pressed down, away from the overlapping flanged portion of the contact piece 19, thus breaking the electric circuit and permitting the armature lever to drop and carry the attached pen, pencil, or marker 16 into contact with the traveling record sheet, strip, or ribbon 5 so as to trace or mark thereon in a numbered column corresponding with the number of the occupied seat a line or mark which will record the length of time or number of miles for which the seat remains occupied. As soon as the passenger leaves the seat the released springs 22 will raise the cushion and close the circuit by bringing the contact plates 20 and 19 together, thereby vitalizing the electro-magnet and causing it to attract its armature lever 14 so as to lift the pen, pencil, or marker 16 away from the traveling sheet, strip, or ribbon so as to interrupt or discontinue the record.

It will be observed that the pens or markers 16 act wholly by gravity in making a record of the time or mileage during which each seat is in use, electric energy being employed only to draw the markers away from the record sheet, for which purpose no great strength of current is required. The circuit wires 18 may be suitably insulated and those portions that are immediately below the car seats, or outside the casing 1, may be inclosed in tubes 23 to protect them from injury.

For the purpose of recording the running time or mileage of the vehicle a gear wheel 24, on one of the axles 25 of the car or other vehicle, is engaged with a gear 26 on the lower end of a vertical rotary shaft 27 journaled in suitable bearings and extended upward through the car floor. The upper end of the shaft 27 carries a pinion 28 that connects by one or more intermediate gears 29 with the lower end of a vertical rotary shaft 30 having on its upper end a screw gear 31 meshing with a gear 32 mounted vertically in the upper part of the casing or compartment 1 and arranged to rotate once, or a predetermined number of times, in a mile's travel of the vehicle. One side of the gear 32 carries a knob or lateral projection 33 that is arranged to tilt or depress one arm of a bell crank lever 34 at regular intervals thus raising a pen, pencil, or marker 35 that is carried by the other arm of the bell crank and at the same time compressing a spring 36 bearing against said bell crank lever. As soon as the knob or projection 33 passes the lever 34, the spring 36 throws the pen, pencil, or marker 35 down onto the moving sheet, strip, or ribbon 5 and causes it to make a mark thereon to indicate or record the distance traveled by the vehicle, after which the spring rebounds to its normal position so as to afford the bell-crank lever 34 sufficient support to hold the pen, pencil, or marker

away from the paper or recording strip until the gear wheel 32 completes another rotation.

All the markers 16 for recording the miles for which any seat is occupied and the marker 35 for recording the running time or mileage of the vehicle are normally in line with each other and make their respective records in appropriate columns of the moving record sheet strip or ribbon 5 immediately above the plate 12 which affords a firm support for the strip while the record is being marked thereon.

The pinion 28 on the shaft 27 may be of such thickness or breadth that it will always remain in mesh with the gear 29 during the vertical movement of the vehicle on its springs. The gearing between the shafts 27 and 30, or between the vehicle axle and marker actuating gear 32, should be so arranged or proportioned as to impart to said gear 32 but one revolution or a definite number of revolutions for each mile or fraction of a mile traveled.

By arranging the seat springs 22 so that they will not yield except to a pressure or weight of about fifty pounds and over, the presence on a seat of a light package or piece of baggage, or of a small child for whom no fare is to be collected, will not be recorded.

The record sheet, strip, or ribbon 5 may be composed of paper, or other suitable material, appropriately ruled or provided with columns corresponding with the number of seats in the vehicle and also marked, if desired, to indicate stations, miles, or time. At the end of a trip or run this record strip or sheet is to be detached and turned in together with the fares collected so that by a comparison of the tickets, checks, or cash with the aggregates of the record the conductor's account may be verified. The record will also show the running time of the vehicle and the time consumed in stoppages at stations.

The markers 16 and 35 employed with the record sheet may be of any suitable or convenient character, such as a needle, pencil, crayon, or a fountain pen filled with ink or marking fluid.

The recording apparatus can be applied with equal facility to various kinds of public vehicles without requiring any material modification in the arrangement of parts.

What I claim as my invention is—

1. In an automatic recording apparatus for vehicles, the combination of a roller actuated by a time motor, a traveling record sheet or strip moved by said roller, a pressure roller, a pair of rollers on one of which the record sheet is wound as it is unwound from the other, means for controlling the movements of said pair of rollers to hold the sheet taut, a series of electro-magnets controlled from the vehicle seats and having armature levers provided with markers, electric circuits that connect each magnet with a seat in the vehicle, and contact plates located in each seat and normally closing a circuit to cause a mag-

net to attract its armature lever and hold the attached marker away from the traveling record sheet, said contact plates being automatically separated when the seat is occupied, thereby breaking the circuit and permitting the marker to drop into operative contact with the traveling record sheet, substantially as described.

2. In an automatic recording apparatus for vehicles, the combination of a traveling record sheet or strip actuated from a time motor, a spring supported bell crank lever having one arm provided with a marker arranged in proximity to the moving record sheet, a gear wheel having on one side a knob or projection adapted to depress the marker lever at intervals, and thereby compress its spring and cause it to throw the marker into operative contact with the traveling record sheet, and mechanism for actuating said gear wheel from the vehicle axle to cause the marker to record the mileage or running time of the vehicle, substantially as described.

3. In an automatic recording apparatus for

vehicles, the combination of a traveling record sheet or strip actuated from a time motor, a series of electro-magnets controlled from the vehicle seats and having armature levers provided with markers for indicating the seats occupied, electric circuits, contact plates located in each seat and normally closing the circuits to hold the markers away from the record sheet, a bell crank lever having one arm provided with a mileage marker, a spring for normally supporting said lever and marker, a gear wheel for actuating said lever to carry the mileage marker into contact with the record sheet, and mechanism for actuating said gear wheel from the vehicle axle, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN BAADE.

Witnesses:

W. D. MAYFIELD,
E. M. EWING.