

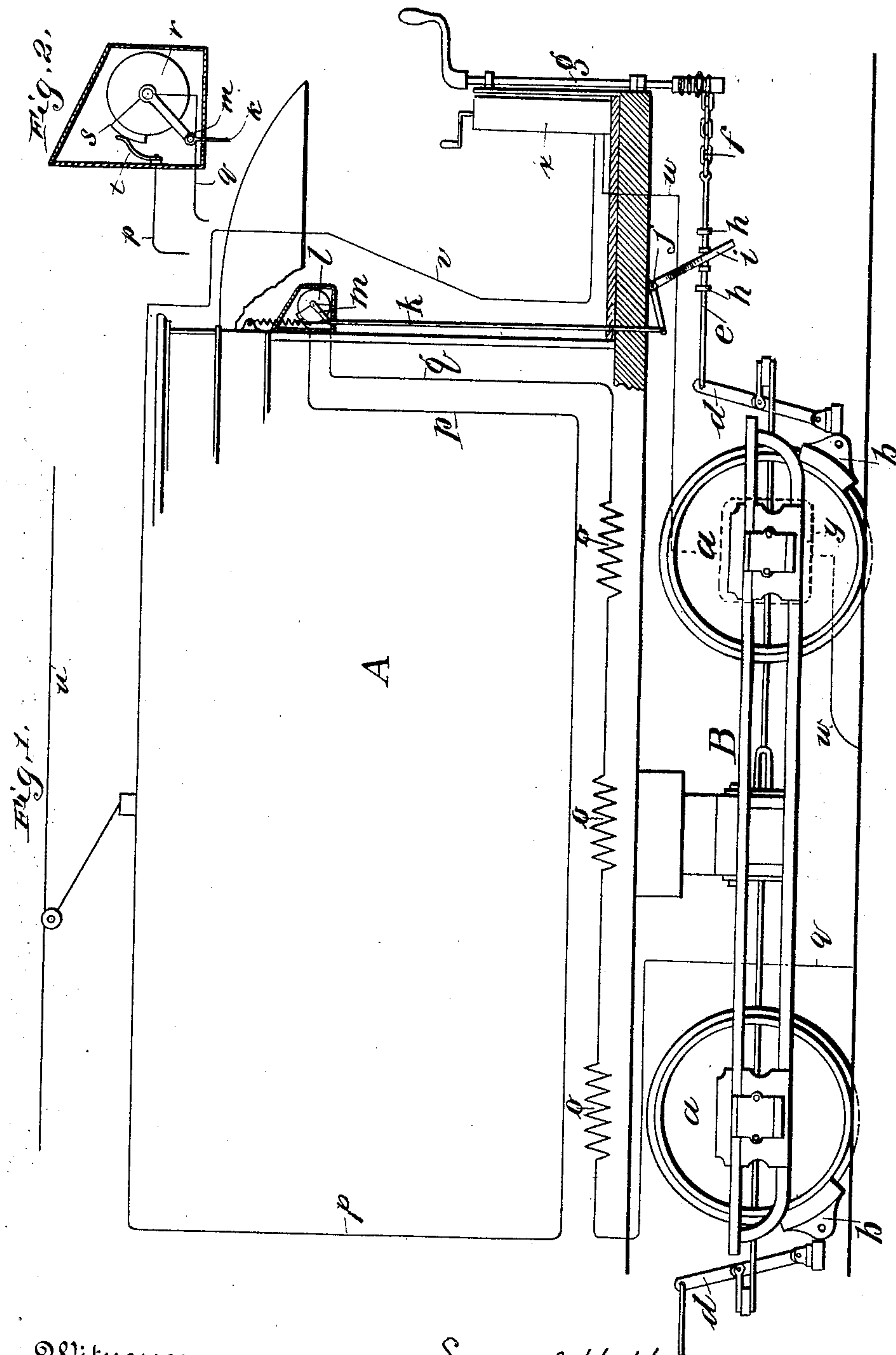
No. 704,797.

Patented July 15, 1902.

S. H. HARRINGTON.
RAILWAY HEATER SYSTEM.

(Application filed Jan. 3, 1901.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL H. HARRINGTON, OF NEW YORK, N. Y.

RAILWAY HEATER SYSTEM.

SPECIFICATION forming part of Letters Patent No. 704,797, dated July 15, 1902.

Application filed January 3, 1901. Serial No. 42,006. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. HARRINGTON, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Railway Heater Systems, of which the following is a full, clear, and exact specification.

This invention relates to heaters for street-railway cars and the like; and its object is to provide means for effectively preventing the current from being used simultaneously to heat the car and operate the motor.

The invention, broadly speaking, comprises suitable connections between the brake mechanism and the switch or controller for the heater-circuit whereby when the brakes are applied the heater circuit or circuits will be closed and when the brakes are released the heater circuit or circuits will be opened. With such construction the heater circuit or circuits will be closed only when the brakes are applied, and as the brakes are never applied except when the current is cut off from the motor (many street-railway controllers having specially-devised mechanism for preventing the operation of the brakes except when the current is cut off) the current will not be used simultaneously for both heater and motor.

In the accompanying drawings I have shown in diagrammatic form a street-car embodying my invention, it being understood that the parts therein shown are intended as conventional representations of any well-known form of apparatus for performing the functions of the respective parts.

In the drawings, Figure 1 is a side view of a portion of a car equipped with my invention and showing the various parts in diagram, and Fig. 2 is a detail side view of the heater-switch.

A represents the body of the car suitably mounted upon the running-gear B, comprising the wheels *a a*.

b b represent brakes for the wheels *a a*, the brakes being suitably mounted and connected in any well-known manner with the brake-lever *d*, which is connected by the brake-rod *e* and the chain *f* with the brake-handle *g*.

It will be understood that instead of the mechanism here shown any well-known mechanism may be used to operate the brakes.

Upon the brake-rod *e* are fixed two collars *h h*, between which the ends of a bifurcated bell-crank lever *i* surround the brake-rod, the lever *i* being pivoted at *j*, and thus caused to move backward or forward as the brake-rod is moved. A rod *k* or other suitable means connects the end of bell-crank lever *i* with the switch which controls the supply of current to the heater or heaters. The switch *l* shown in the drawings is an ordinary drum-controller, such as is commonly used for heater-circuits, and the connection is made in the drawings by connecting the rod *k* to a lever *m*, attached to and moving the drum *r* of the controller in one direction or the other, according as the lever is moved up or down by the rod *k*. Upon drum *r* is carried the contact-segment *s*, adapted to engage the fingers *t*. Finger *t* is connected to wire *p*, and wire *q* is attached to drum *r* and leads to segment *s*. In the position shown in the drawings the brakes are set and rod *k* has turned the drum to close the switch by bringing finger *t* and segment *s* in contact. It will be understood that any other suitable type of switch or connection thereto from the brake-operating mechanism may be employed for the purpose.

o o o represent the heaters, and *p q* the electric circuit connecting the same through the controller or switch *l* from the trolley-wire *u* to ground, and *v w* is a circuit from the trolley through the contact *x* and motor *y* to ground. The parts are so adjusted that when the brakes are in the off position the circuits through the switch *l* will be opened and when the brakes are on the circuits will be closed.

In operation the motorman to stop the car will first shut off current from the motor and then apply the brakes. Upon moving the brake-rod *e* to apply the brakes the lever *i* is moved, which lever in turn moves rod *k* and closes the circuit through the heaters by turning the controller or switch properly. As long as the brakes are thus applied the heaters will draw current and heat the car. When the brakes are released, the movement of the rod *e* in the opposite direction will move lever

i and rod *k* to rotate drum *r*, and thus open the heater-circuits.

With the device above described each car in a train of cars may be equipped, so that
5 each car may be heated independently of the others and so that it is unnecessary to make heater connections throughout the train at the time of making up. Furthermore, in a system operating a number of cars and oper-
10 ated from a central station having a capacity normally sufficient for the motors of all the cars, but not all the heaters and motors together, such station cannot be overloaded, and in any system the consumption of cur-
15 rent is more nearly equalized throughout the system.

It will of course be understood that the devices above described may be modified in various respects without departing from the
20 spirit of my invention, and I therefore desire it to be understood that I do not herein limit myself to the precise construction and arrangement of parts herein shown.

The heater-switch *l* may be located in any

convenient part of the car—for illustration, 25 under the seats.

Having thus described my invention, I declare that what I claim as new, and desire to secure by Letters Patent, is—

In a railway system, a main source of elec- 30 trical supply, a car having a motor for propelling the same and deriving its power from said source of electrical supply, an electric heater upon said car and deriving energy from said source of electrical supply, a switch 35 controlling the circuit of said heater, brakes upon said car, brake-operating mechanism, and operative connection between said brake-operating mechanism and said switch where-
40 by the latter is operated by the operation of the former; substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL H. HARRINGTON.

Witnesses:

HENRY BEST,

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