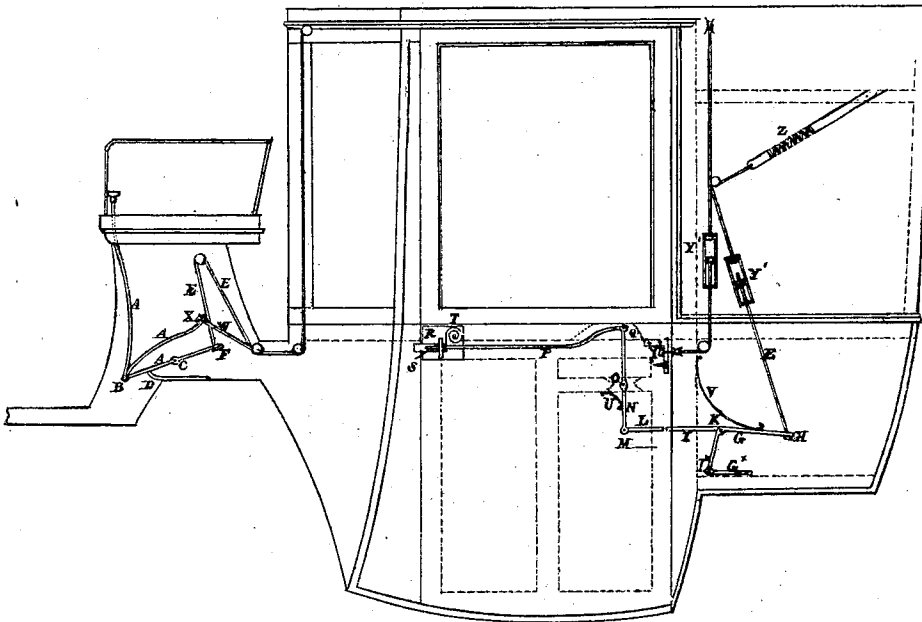


S. SMITH.

Modes of Opening and Closing the Doors of Vehicles.

No. 141,733.

Patented August 12, 1873.



Witnesses :

C. H. Isham

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UNITED STATES PATENT OFFICE.

SAMUEL SMITH, OF HALESWORTH, GREAT BRITAIN.

IMPROVEMENT IN THE MODES OF OPENING AND CLOSING THE DOORS OF VEHICLES.

Specification forming part of Letters Patent No. **141,733**, dated August 12, 1873; application filed January 16, 1873.

To all whom it may concern:

Be it known that I, SAMUEL SMITH, of Halesworth, county of Suffolk, Kingdom of Great Britain, have invented certain Improvements in the Mode of Opening and Shutting Doors, which improvements are more particularly applicable to vehicles, of which the following is a specification:

The improvements consist, in the case of road carriages, in making suitable communication between the doors or fasteners thereof and the driving-seat, for the purpose of enabling the driver to open or shut the said doors without descending from the driving-seat; and, in the case of railway carriages, in making suitable communication between the doors or fasteners thereof and the guards' van or the engine, so that the guard or driver, as the case may be, can open or shut the said doors without descending from their respective positions in the train. The improvements may also be applied to doors, gates, and such like generally, and may be performed by applying various cords, wires, or rods, acting by means of convenient pulleys, and attached or communicating with locks, bolts, springs, or fastenings, on or in the door or doors, and furnished with convenient handle or handles, lever or levers, situated at or near the front or driving seat; or, in the case of railway carriages, in or near the guards' van or engine, so that the occupant thereof may, by pulling, pushing, lifting, or pressing, or by other suitable means, move the handle or handles aforesaid and cause the cords, wires, or rods to open or shut the door or doors of the said carriages.

The accompanying drawing will serve to illustrate the invention as applied to a brougham, and a convenient mode of carrying the same into effect generally.

A is the handle, made with a joint at B, and hung on a pin at C, resting on a plate at D. E is the cord for opening the door, and is

attached to the handle A at F, and runs over convenient pulleys round the roof, and is attached to the lever G at the point H. The lever G is hung on a pin or joint, I^x, and has the needle I attached at the joint K. Inside the door is the needle L, connected at M with the shaft N, working on the pin O, having the plate P attached at Q, which runs to the self-acting slam-lock T, and is attached to the bolt of the lock at S.

The handle A, being lifted up and working on the pin C, draws the cord round the pulleys and raises the lever G, which forces out the needle I. This needle strikes another needle, L, which moves the shaft N, and, by means of the plate P, draws back the bolt of the lock T, and the door instantly opens.

T is the spring of the slam-lock. U is the spring to force the shaft N to its proper position when the door is open or shut, and V is the spring to keep the lever G in its proper place when the door is open or shut. W is the cord, attached to the handle A at X, for shutting the door, running round the roof parallel with the cord E, and attached to the door at Y.

By moving the handle A forward, which will then work upon the joint B, the cord will shut the door, and the spring-lock T fastens it.

Y^x Y^x are tension-regulators fitted to the wires or guts, as shown; Z, leather strap, carrying spiral spring for keeping tight the wire or gut near Y when the door is open or shut.

I claim and desire to secure by Letters Patent—

The combination of the various parts described, when used for the purpose of making communication between the door and driving-seats of carriages, as herein set forth.

SAMUEL SMITH.

Witnesses:

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