(No Model.)

A. WHITE.

SIGN SHIFTER.

No. 552,860. Patented Jan. 7, 1896.

Fig. 1.

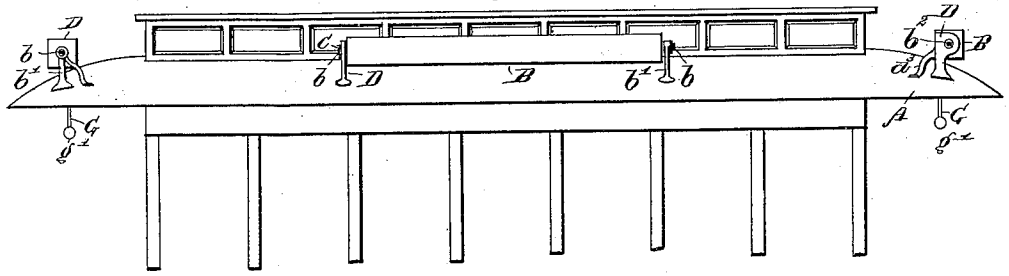


Fig. 2.

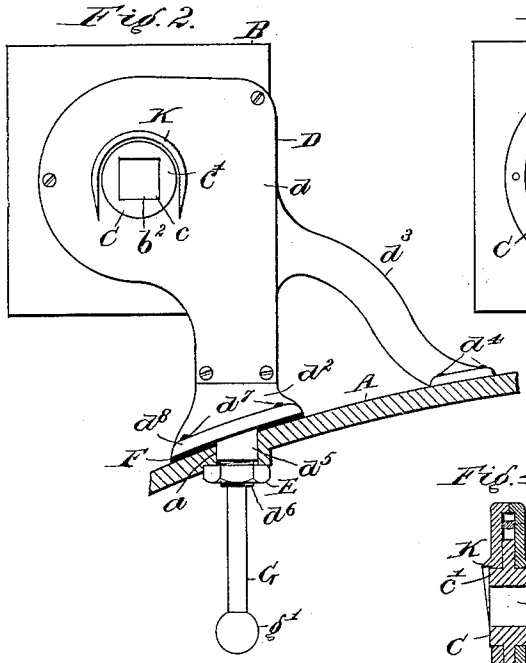


Fig. 3.

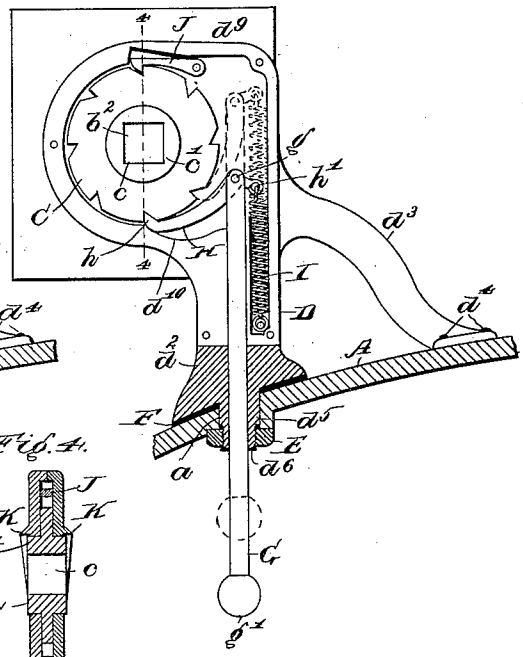
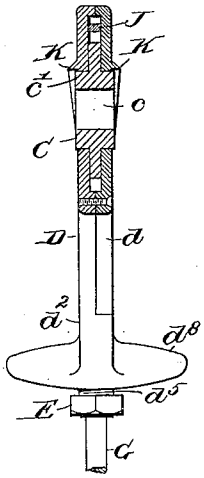


Fig. 4.



Witnesses—
Kirkley Hyde.
Arthur S. Cutler

Inventor—
Albert White,
By Albert M. Moore,
His Attorney.

UNITED STATES PATENT OFFICE.

ALBERT WHITE, OF LOWELL, MASSACHUSETTS, ASSIGNOR OF THREE-FOURTHS TO FRANK E. JEWETT, OF SAME PLACE, AND JONATHAN BOWERS AND GEORGE BOWERS, OF TYNGSBOROUGH, MASSACHUSETTS.

SIGN-SHIFTER.

SPECIFICATION forming part of Letters Patent No. 552,860, dated January 7, 1896.

Application filed June 24, 1895. Serial No. 553,805. (No model.)

To all whom it may concern:

Be it known that I, ALBERT WHITE, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Sign-Shifters, of which the following is a specification.

My invention relates to sign-shifters; and it consists in the devices and combinations hereinafter described and claimed.

The changeable signs commonly used on a street-car consist each of a long triangular or quadrangular prism provided with horizontal journals which turn in brackets supported on the roof of the car, each of the lateral faces of the prism bearing the name of a terminus or station of the route traveled by the car. At the end of the route, usually, the conductor, standing on the ground, turns the signs by means of a long stick or pole pressed against one of the lateral faces of the signs. Sometimes the journals are clogged by ice and sleet and considerable force is required to turn the sign, rendering the faces of the sign liable to be injured by the shifting-pole.

This invention is more particularly applicable to shifting such signs, and enables them to be changed by the conductor or other person in charge without getting off from the car and without the use of the stick or pole commonly used for that purpose.

In the accompanying drawings, Figure 1 is a side elevation of the roof and the upper part of the street-car to which my improvement is applied; Fig. 2, an end elevation of a sign provided with my improvement, showing the adjacent part of the roof in vertical transverse section; Fig. 3, similar to Fig. 2, except that the cover to the ratchet-case is removed and the lower part of said case is in vertical section in the same plane with the car-roof; Fig. 4, a side elevation of the improved device detached, the upper part of the ratchet-case being in vertical section on the line 4 4 in Fig. 3.

The car-roof A is of any usual construction. The signs B are of the usual prismatic shape and provided at one end with the customary journal b, turning in a bracket b', which may be of usual construction. At the other end the sign is provided with a projection b^2, which occupies the place of the usual journal, and is squared or many sided to enter and fit a corresponding hole c in the center of the ratchet-wheel C. Said ratchet-wheel C is provided with a hub c', which turns in the case D and cover d, said case being formed in one (as by casting) with a shank or bracket d^2, and preferably with a brace d^3, adapted to be secured by screws d^4 to the roof A. The shank d^2 has a reduced lower end d^5, which is passed through a hole a in the roof A and is retained therein by a nut E, which engages the screw-threaded end portion d^6 of said shank d^2 and is turned up against the under side of said roof A, and said shank may be further secured in place by screws d^7, driven through a flange d^8, with which the shank is provided, and which rests on said roof or upon a packing-washer F, of rubber or other suitable material, in order to prevent water from leaking through the hole a. The shank d^2 is hollow and receives a push-rod G, to the upper end of which a pawl-lever H is pivoted at g, between the ends of said pawl-lever, the pawl or tooth h of which engages the teeth of the ratchet-wheel C, the other end h' of said pawl-lever being drawn down by a spring I, which serves to keep the pawl h in engagement with said ratchet-wheel and also to draw the push-rod down and to turn said ratchet-wheel when the push-rod is raised to its greatest height and let go.

The hollow d^9 of the case in which the ratchet-wheel turns is provided with an abutment d^{10}, which is inclined away from said wheel, as shown in Fig. 3, in such a manner as to allow the pawl h to be readily disengaged from a tooth of said wheel when the push-rod is raised and to wedge said pawl h between said wheel and abutment and to stop said wheel from turning, when said pawl reaches the end of its operative stroke, in either direction. Reverse motion of the ratchet-wheel is prevented by a retaining-pawl J pivoted in the case D.

The number of teeth in the ratchet-wheel should be twice the number of lateral faces of the sign—that is, if the sign is a triangular prism, the number of teeth will be six, but

the sign B being represented as a quadrangular prism, the ratchet is represented as having eight teeth. In either case, the push-rod must be twice raised and let go or drawn down to bring the next face of the sign into proper position.

The lower end of the push-rod G is provided with an enlargement g', which may be grasped by the hand to enable the push-rod to be drawn down, if for any reason the spring I should be insufficient to restore said rod to position.

The device above described may be operated from within the car and from the car-platforms, and may be used to turn any sign or indicator placed out of convenient reach.

The case is provided with ledges K, which overhang the ends of the hub of the ratchet-wheel, and in storms conduct the water away from said hub and prevent it from entering the case.

I claim as my invention—

1. The combination in a sign shifter for street-cars of the case, provided with a hollow shank, the ratchet-wheel supported in said case, a push-rod, sliding in said case and shank and passing down through said shank, a pawl-lever, pivoted between its ends on said rod and having at one end a pawl to engage said ratchet, a spring, connected to the other end of said pawl-lever and adapted to hold said pawl against said wheel and to return said push-rod to normal position, as and for the purpose specified.

2. The combination of a sign, having a plurality of lateral faces, and having at one end a journal, a bracket, adapted to be secured to the roof of a car and to receive said journal, said sign having at the other end a projection, a ratchet-wheel secured to said projection, concentrically with said sign, and provided with a hub, a case, containing said wheel and having holes to receive said hub, a push-rod, sliding in said case, a pawl-lever, pivoted between its ends on said rod and having at one end a pawl to engage said wheel, and a spring, connected to the other end of said pawl-lever, to hold said pawl in contact with said wheel and to return said push-rod to normal position, said case having also a shank, adapted to be secured to said roof and serving as the other supporting bracket of said sign, as and for the purpose specified.

In witness whereof I have signed this specification, in the presence of two attesting witnesses, this 20th day of June, A. D. 1895.

ALBERT WHITE.

Witnesses:

ALBERT M. MOORE,

LILIAN E. OWEN.