(No Model.)

C. H. SMITH.

SIGNAL FOR STREET CARS.

No. 475,474. Patented May 24, 1892.

Fig. 2.

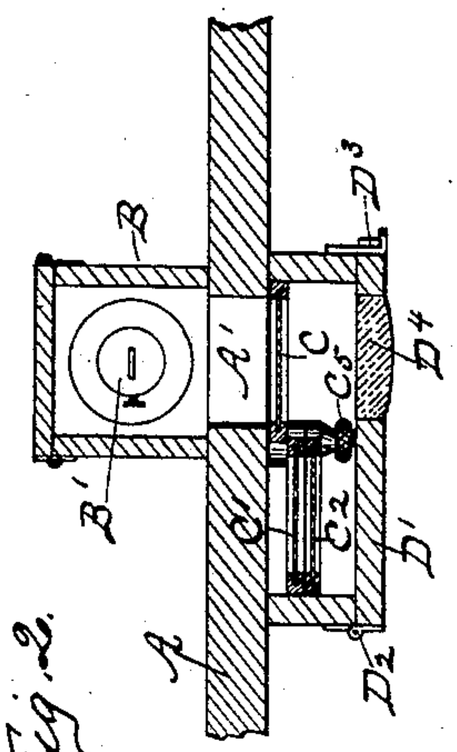


Fig. 3.

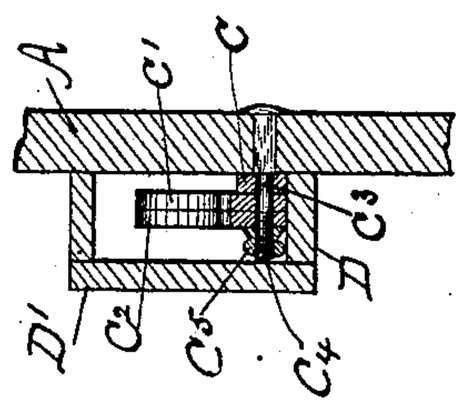
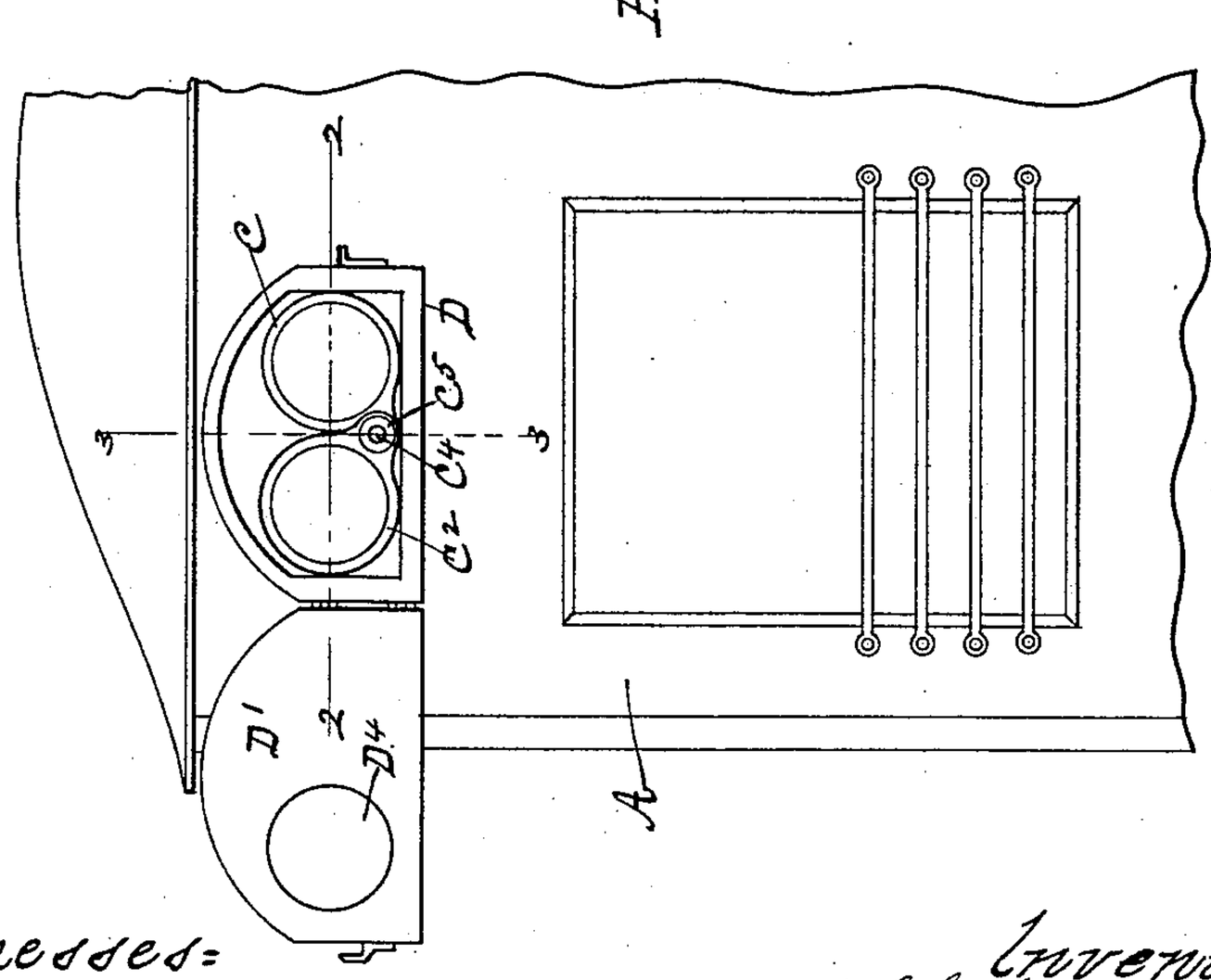


Fig. 1.



Witnesses:
Frank E. Curtis
John T. Booth.

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by Geo. A. Wooster
Atty.

UNITED STATES PATENT OFFICE.

CHARLES H. SMITH, OF LANSINGBURG, NEW YORK.

SIGNAL FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 475,474, dated May 24, 1892.

Application filed May 8, 1891. Serial No. 392,048. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. SMITH, a citizen of the United States, residing at Lansingburg, county of Renssalaer and State of New York, have invented certain new and useful Improvements in Signals for Street-Cars, of which the following is a specification.

My invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a view in elevation of a portion of one end of a street-car provided with my improved signal, with the signal-inclosing case open. Fig. 2 is a horizontal section of same, taken on the broken line 2 2 in Fig. 1, with the case closed. Fig. 3 is a vertical section of same, taken on the broken line 3 3 in Fig. 1.

My invention relates especially to improvements in the well-known bull's-eye signal-light used on street-cars; and its object is to provide in a small space an easily-operated device which can be attached to street-cars, whereby the color of the signal can be changed at pleasure.

Referring to the drawings, A represents the end wall of an ordinary street-car, secured to the inner side of which is a lantern B, containing a lamp B′. The aperture A′ in the end wall forms an illuminating pathway for the rays emanating from the lamp B′. Upon the outer side of the end wall, at one side of the aperture A′, I provide a series of frames, each holding a differently-colored signal-pane and arranged to swing upon a pivot common to all across the illuminating pathway of the lamp within the car. I have shown three of such signal-frames C C′ C², holding, respectively, red, blue, and green panes, pivoted contiguously to each other upon the common pivot C³, upon which they are separately movable from the position occupied by the frames C′ and C² at one side of the aperture A′ to the position occupied by the frame C opposite such aperture, in which latter position the rays of light from the lamp pass through the colored signal-pane in such frame and are changed from their normal color to the color of the signal-pane—in this case red. The color of the light can be changed at pleasure to blue or green by swinging the pane C away from the aperture A′ to the position occupied by the frames C′ and C², as shown in the drawings, and swinging the frame C′ or C², as desired, to a position opposite such aperture.

As many frames as desired, containing panes of various colors, can be secured upon the same pivot, as above described, without the use of a greater area of the end wall of the car than would be necessary for a single swinging frame. If the signal-frames swing loosely upon the pivot, the vibration of the car in motion causes the frames to rattle and produce an annoying sound. I therefore provide the pivot with a screw-threaded end C⁴, adapted to receive and fit the interiorly-threaded clamping-nut C⁵, adapted to be operated by hand and screwed down tightly upon the outer frame or an interposed washer and force the frames tightly together, thereby locking them in the desired position and making it impossible for the frames to rattle. When it is desired to change the color of the signal, the clamping-nut is loosened, the position of the frames changed, as before explained, and the nut again tightened.

I have shown the signal-frames inclosed within a box or case D, secured to the end wall of the car and having the door D′ hinged at D² and locked at D³. A clear glass bull's-eye D⁴ is located in an aperture in the door in line with the lamp B′ and aperture A′ to afford an unobstructed illuminating pathway for the rays of light from the lamp after they have passed through the colored signal-pane. The bottom and side walls of the case D form stops for the pivoted frames both when in use and when at rest.

By the term "lamp" I mean any known form of illuminating device, and the signal-panes may be made of glass or other suitable transparent or translucent material, and they may be secured directly upon the pivot, although I prefer to inclose each in a protecting-frame and mount the frames upon a pivot, as before explained.

I am aware that a plurality of signal-frames have been separately pivoted in different positions about a light aperture in the wall of a car; but such form of construction covers a large area of end wall and the number of frames that can be so arranged about the light-aperture is limited.

I am also aware that several signal-frames have been arranged upon a single pivot.

In my improved signal I can increase the number of colored panes or signal-frames upon the common pivot without requiring a greater area of end wall and can simultaneously lock all the frames at rest or a part at rest and a part in use with a single clamping-nut; and, further, I provide a case adapted to support the frames whether at rest or in use by its bottom, said bottom and the side walls also acting as "stops," the construction being such that the frames or panes resting on the bottom are also in contact with the end walls of the case, so that when one part is in use its frame bears against one end of the case, while the others bear against the opposite end, whereby, in co-operation with the common pivot and clamping-nut, they are securely held and cannot rattle. The clamping-nut serves to prevent the frames rattling against each other and the bottom and sides support them and relieve the nut and pivot from their weight, the whole construction being especially adapted to prevent wear or strain on the pivot and to effectually obviate rattling. The pivot and clamping-nut alone would be insecure, owing to the tendency of the parts to be loosened by constant jarring. This is prevented by the support given to the frames by the bottom and ends, the latter holding the frames against the pivot and the bottom relieving the pivot and nut from the weight of the frames.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a car, the combination, with a signal-lamp, of a plurality of different-colored signal-panes, a device for clamping all the panes whatever be their relative position, and a case having its bottom and side walls adapted to bear on the frames or panes either in the position of use or rest, substantially as set forth.

2. In a car, the combination, with a signal-lamp, of a plurality of different-colored signal-panes severally pivoted near the edge on a common pivot, a clamping-nut, and a case having a bottom arranged to act as a stop and as a support for each pane either in the position of use or rest and having its ends also arranged to bear upon the panes or their frames in both of said positions, whereby they are held against vertical or horizontal movement, substantially as set forth.

In testimony whereof I have hereunto set my hand this 30th day of April, 1891.

CHAS. H. SMITH.

Witnesses:

FRANK C. CURTIS,

C. C. SANBURN.