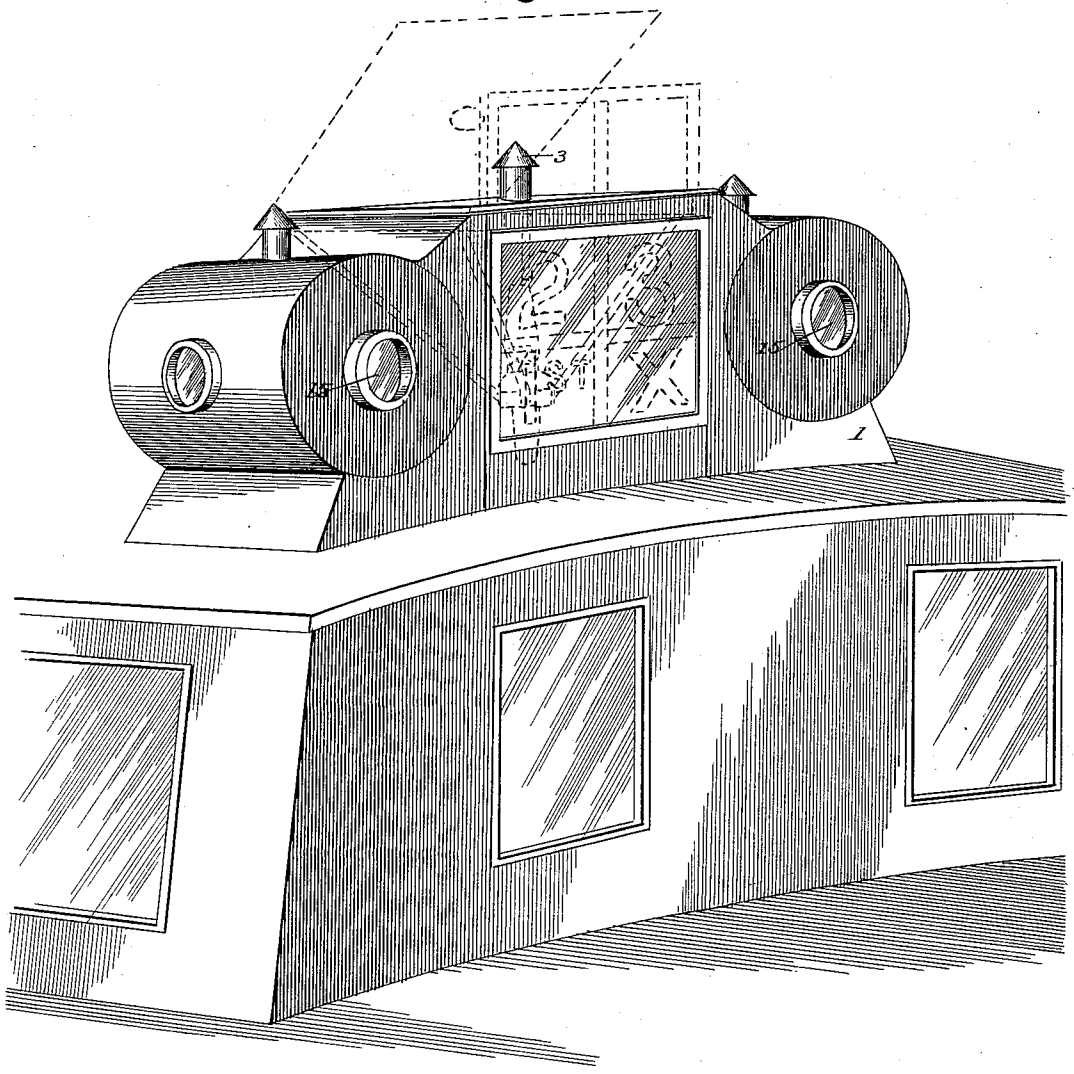
(No Model.) 4 Sheets—Sheet 1.

J. H. PARSONS.

TRAIN SIGNAL.

No. 352,567. Patented Nov. 16, 1886.

Fig. 1.



Witnesses,
L. F. Mann.
E. G. Huber.

Inventor,
John H. Parsons
By Offield Towle & Phelps
Attys.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

4 Sheets—Sheet 2.

J. H. PARSONS.

TRAIN SIGNAL.

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Fig. 2.

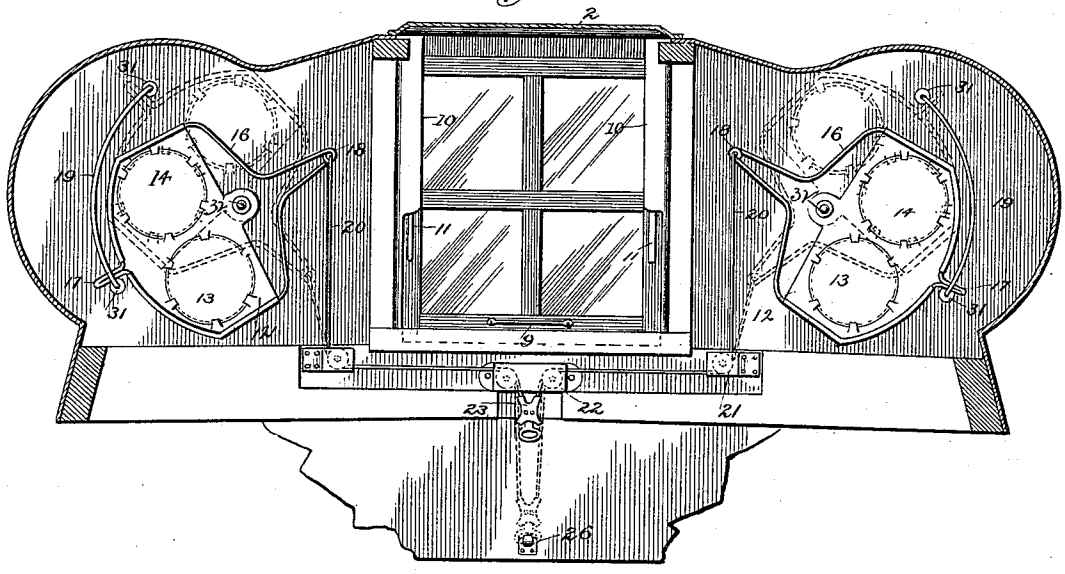


Fig. 4

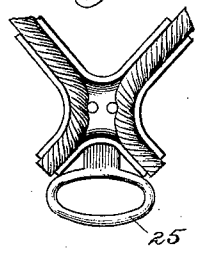
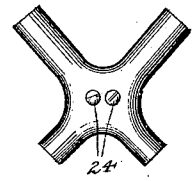


Fig. 9.



Fig. 5



Witnesses,
L. F. Mann.
E. L. Huber.

Inventor,
John H. Parsons
By, Offield Towle & Philips
Atty's.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

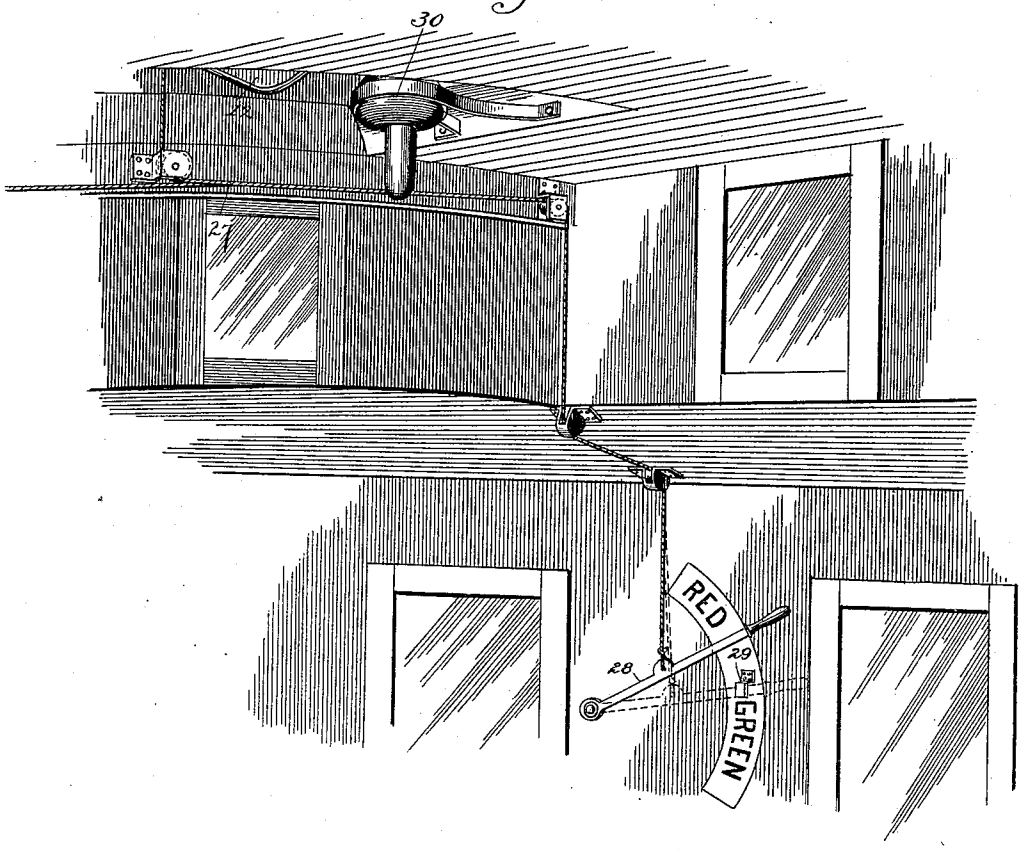
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J. H. PARSONS.

TRAIN SIGNAL.

No. 352,567. Patented Nov. 16, 1886.

Fig. 3.



Witnesses,
L. F. Mann
E. L. Huber.

Inventor,
John H. Parsons
By, Offield Towle & Phelps
Atty's.

N. PETERS. Photo-Lithographer. Washington, D. C.

(No Model.)

4 Sheets—Sheet 4.

J. H. PARSONS.

TRAIN SIGNAL.

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Fig. 6.

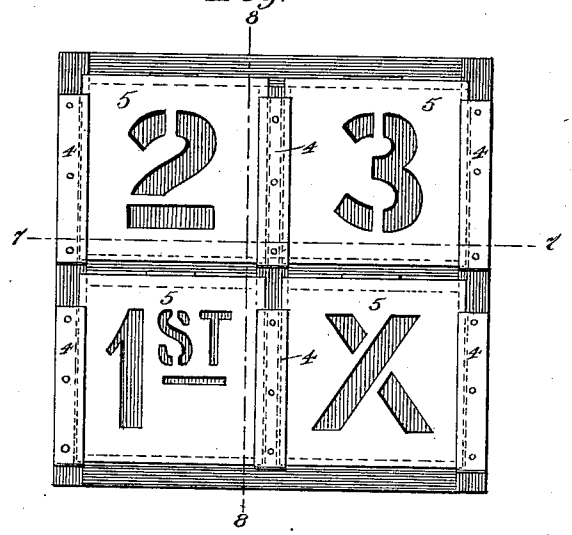


Fig. 7

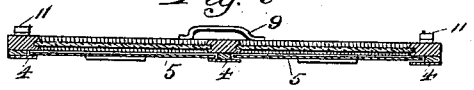
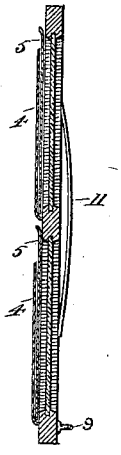


Fig. 8.



Witnesses,
L. F. Mann.
E. L. Huber.

Inventor,
John H. Parsons
By, Offield Towle & Philps
Atty's.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN H. PARSONS, OF CHICAGO, ILLINOIS.

TRAIN-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 352,567, dated November 16, 1886.

Application filed February 24, 1886. Serial No. 193,037. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. PARSONS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Train-Signals, of which the following is a specification.

Freight-trains are required to carry signals visible both from the front and rear of the train, for the purpose of informing the engineers of other trains of their positions, and also of enabling the engineer of the train carrying the signal to know whether one or more cars on the rear of his train have or have not become detached. These signals are usually carried by the caboose, located at the extreme rear of the train. The usual signal has been a lantern fixed upon the outside of the car. This from its location has been inconvenient to control, and cold weather or storms frequently interfere with the burning of the lantern.

My present invention has for its object the placing the signals so they shall be accessible from within the car and readily operated without leaving the car, and to protect the signals from the effects of cold and storms by bringing them within the influence of the heat of the interior of the car. For this purpose I propose to introduce these signals into a train-indicator box, such as I have shown in my previous patent, No. 148,844, dated March 24, 1874, and place that box in direct communication with the interior of the car on which it stands. This combination of these signals with the train-indicator will necessitate certain changes in the construction of the indicator, hereinafter pointed out in detail. Among the chief of these is provision for removing and replacing the sash carrying the indicator-numbers from below as well as from above, so that the whole apparatus may be operated from within the car.

My invention consists, further, in certain features and details of construction hereinafter fully described, and pointed out in the claims.

In the drawings hereto annexed, forming part of this specification, Figure 1 is an outside perspective view of the usual raised deck of a caboose with my indicator and signal-box mounted upon it. Fig. 2 is a vertical cross-section of the box, showing two of the signals, the indicator-sash, and other details. Fig. 3 is an interior view of the car, showing an arrangement for operating the signals from below. Figs. 4 and 5 represent a two-part clamp in which the ends of the ropes controlling the signals may be fastened, and which is provided with a ring or handle for engaging with a hook fixed to the side of the car. Fig. 6 is a front view of the sash, showing the indicator-letters. Figs. 7 and 8 are respectively horizontal and vertical cross-sections of the same on lines 7 7 and 8 8, Fig. 6; and Fig. 9 is a side view of the casing of the window, showing the groove in which the sash slides and the manner in which it is cut away to permit the introduction of the sash from below.

The indicator-box 1 may be of any desired material; but sheet metal will probably be found the most convenient, and is placed transversely of the length of the car, facing toward the engine and toward the rear of the train. The shape I have shown, having at each end a semi-cylindrical portion for the location of the signal-lamps, will probably be found advantageous, it being desirable to duplicate the signals, placing one on each side of the car, so that the engineer may look back on either side of the train for the signal, and also to increase the probability of the signal being seen by the employés at the stations and along the track. It is provided with a hinged top, 2, carrying a chimney, 3, to provide for the escape of the products of combustion of the lamp placed in the center to illuminate the indicator-window. The sash is of the same construction in general as that shown in my previously-referred-to patent, being provided with overlapping retaining-strips 4, between which and the glass window-panes are retained the plates 5, carrying the figures and letters for indicating the number of the train and the number of the train-section, as fully described in the specification accompanying my Letters Patent 148,844, above referred to. For the purposes of this application it is merely necessary to observe that these figures and letters are arranged to inform the employés of the roads at the stations passed by the train as to the number of the train, and, where the train is run in several sections, as to the number of the section, so that the switches and

track-signals may be placed accordingly. These strips 4 are bent in against the sash at their lower ends, so as to afford a vertical support for the plates. A handle, 9, is attached to each sash for conveniently moving it, and the projection 33 is provided on each of the plates 5 for the same purpose. The inner side, 10, of the groove of the casing in which the sash slides is cut away, as shown in Figs. 2 and 9, at its lower end, and is beveled outwardly, so as to permit the sash to be removed from below, as well as from the top, by opening the cover 2. To prevent rattling of the sash in the casing, or its displacement, springs 11 are provided, of such a shape as not to interfere with the introduction and withdrawal of the sash.

The form of signal which I prefer to use is shown in Fig. 2, and consists, essentially, of a plate of sheet metal, 12, provided with two openings, in which are secured, by means of clips, two colored glasses, 13 and 14, for giving the required signals when brought, respectively, before the opening 15 in the side of the box to the side of the indicator-box. This metal plate is pivoted at 32. A wire, 16, passes around the outer edge of the plate and is bent into two projecting points, 17 and 18, to one of which, 18, is attached the cord used to operate the signal, the other, 17, passing beneath a segment of wire, 19, fixed to the side of the box and serving to retain that end of the frame carrying the glasses in position while it moves, said wire having elastic bushings 31 to protect the glasses against the effects of concussion when the signal is changed. The cord 20 passes over pulleys 21 and 22 to clamp 23. This clamp is formed of two pieces of the shape shown in Figs. 4 and 5, being provided with two grooves for the reception of the ends of the two cords respectively. The grooves are of such a depth that when the two pieces are fastened together by means of screws 24 the cords will be securely clamped between them. One of the parts of the clamp is provided with a handle-shaped attachment or ring, 25, adapted to engage with a hook, 26, fixed upon the side of and within the deck. The frame carrying the glasses, being pivoted on one side of its center of gravity, will normally assume the position shown in Fig. 2, in which the red or danger signal is given, the glass 14 being of that color, and over the opening of the box. The other glass, 13, is used for giving the caution-signal, usually green, and when this is to be displayed the position of the signal-frame is reversed by drawing down the clamp and causing it to engage with the hook 26. It will be noted that when the clamp is attached to the cords it can readily be adjusted to the proper points thereon, so that the cords will be taut when the several parts are in the positions shown in full lines in Fig. 2, and when the clamp is drawn down to the position shown in dotted lines the signals will be thrown.

An alternative arrangement for operating the signals is shown in Fig. 3, where the cords from the two signals are united, as shown at 27, and a single cord carried down over pulleys to a lever, 28, pivoted to the side of a car. A catch, 29, is provided for holding this lever in the position corresponding to the caution position of the signals. These two positions of the lever are indicated by letters or appropriate colors on the side of the car, so that the attendant in the car can tell by the position of the lever the character of the signal being displayed.

It is important that the normal position of the signal, or that to which it is brought by the action of gravity, should be the danger position, since the breakage of the rope or other derangement of the apparatus will at once occasion investigation and repair.

I have not considered it necessary to show both sides of my indicator-box, since they are made precisely alike and are provided with the same signal apparatus toward both the front and the rear of the train. The two signals on the same side are, as shown, arranged to be operated simultaneously; but the sets of signals on the opposite sides of the box are independent of each other, in order that different signals may be given forward and back at night, if desired. A disk of red paint is applied to the outside of the indicator-box, as shown by crossed shading lines in Fig. 1, about each of the signal-openings, to serve as a day-signal, for the purpose of enabling the engineer to know whether or not he has lost any cars from his train. The usual lamps, one of which is shown at 30 in Fig. 2, are placed in the indicator-box, one at each end, and opposite to the signal-openings. Windows or bull's-eyes may be placed in the convex ends of the signal-box, in order to indicate to persons situated on the side of the track the passage of the train, if desired, as shown in Fig. 1.

I wish it understood that I do not limit myself to the use of the particular colors herein described or to the exact form and construction of the various appliances, since many equivalents might be readily devised which would be equally within my invention.

I claim—

1. An indicator-box mounted upon the top of a car and communicating freely therewith, and provided with removable plates for displaying the numbers of the train and section, with signal-lamps mounted in said box, one at each end thereof, colored transparent signal-plates pivoted one before and one behind each lamp, and mechanism connected with each of said plates and passing to the interior of the cars, whereby the signals may be simultaneously shifted, substantially as and for the purpose set forth.

2. An indicator-box placed upon the top of a car and communicating freely therewith, said box being provided with a sash for carrying indicator-numbers, and a sash-frame, the sides of the grooves of said sash-frame being cut away toward the bottom of the sash, so as to

permit the removal of the sash from below, substantially as described and shown.

3. An indicator-box placed upon the top of a car and communicating freely therewith, said box being provided with a sash for carrying indicating-numbers, and a sash-frame, the sides of said sash-frame being cut away toward the bottom of the sash, so as to permit the removal of the sash from below, and the sash being provided with springs for preventing the rattling and displacement of the sash, substantially as described and shown.

4. In a signal-frame, the combination of the sheet-metal plate 12, having signal-glasses 13 14 fixed thereon, and wire-rim 16, passing around the edge of the said plate and provided with projection 18, for the attachment of a cord, said plate 12 being pivotally suspended, substantially as described and shown.

5. The combination of a pivoted signal-frame, said frame being provided with projections from the body thereof, 17 and 18, mechanism attached to one of said projections for moving the frame, and the fixed segmental guideway 19, under which the other of said projections lies, whereby the signal-frame is held in position as it is swung on its pivot from one position to another in displaying signals, substantially as described.

6. The combination of two pivoted signal-frames, cords 20, attached thereto, clamp 23, formed of two grooved pieces screwed together, for clasping the cords, said clamp being provided with ring 25, and hook 26, for the attachment of the clamp, substantially as described, and for the purpose set forth.

JOHN H. PARSONS.

Witnesses:
W. H. PHELPS,
E. L. HUBER.