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J. H. PARSONS.
TRAIN SIGNAL.

No. 426,679.

Patented Apr. 29, 1890.

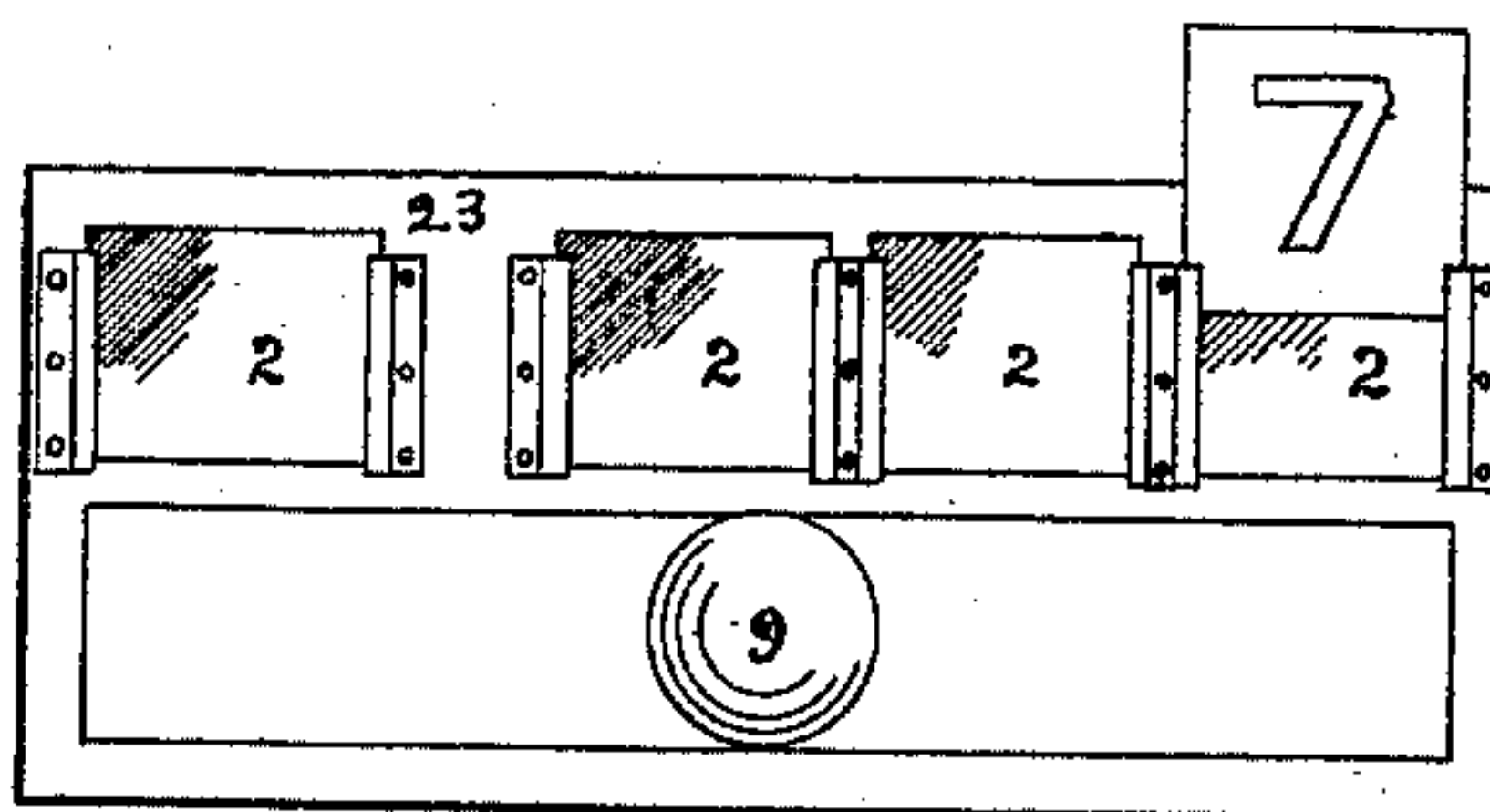


Fig. 3

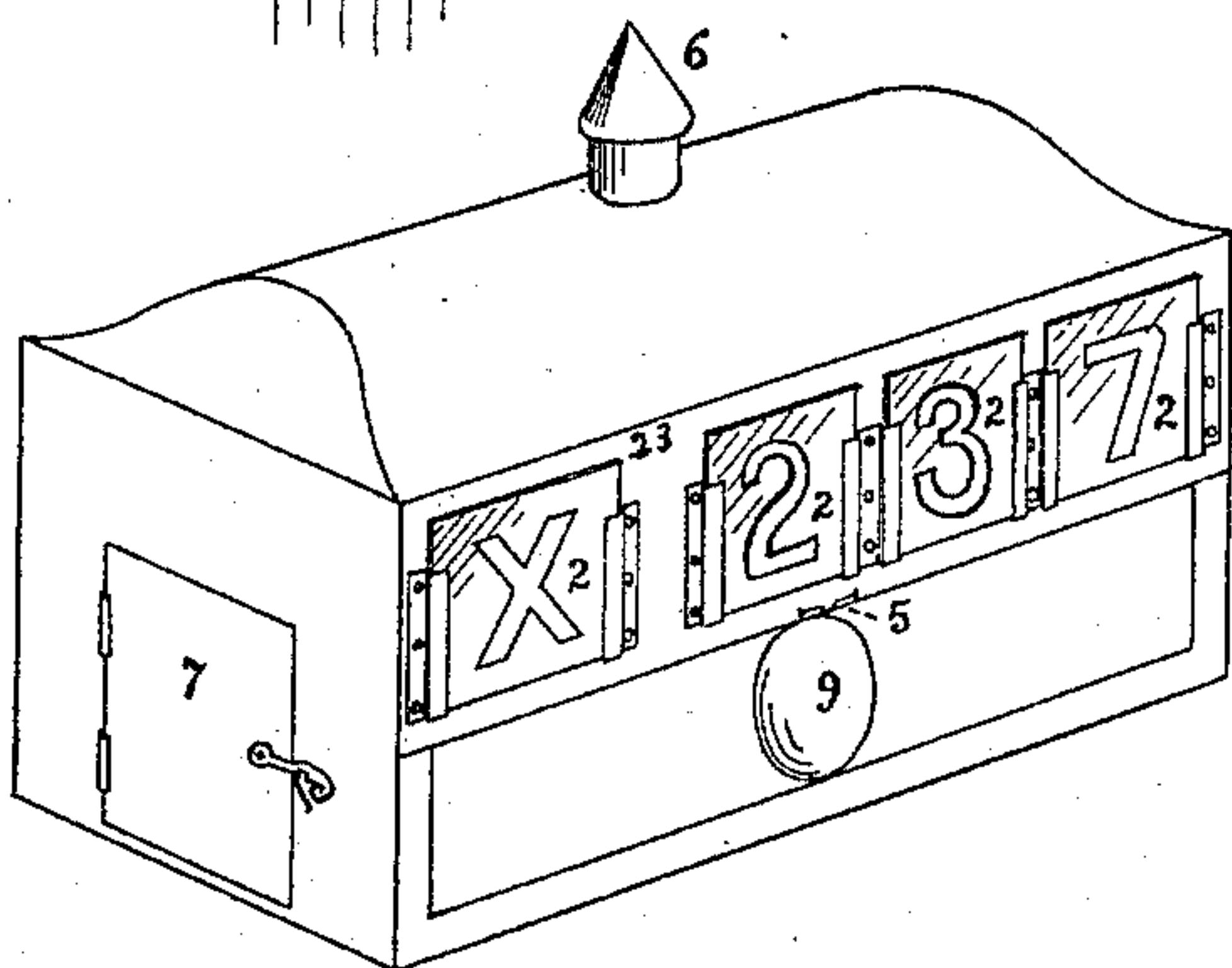


Fig. 5

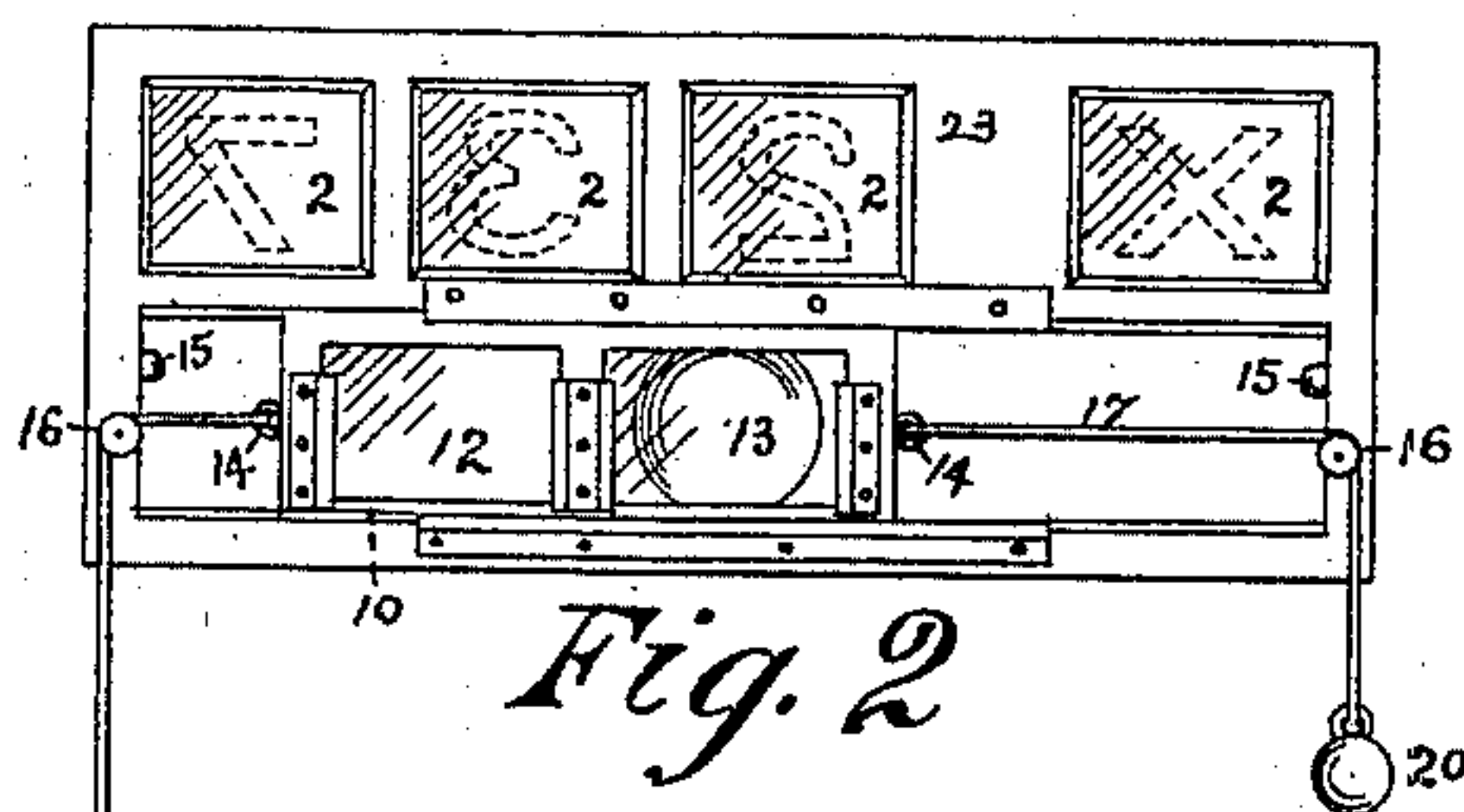


Fig. 2

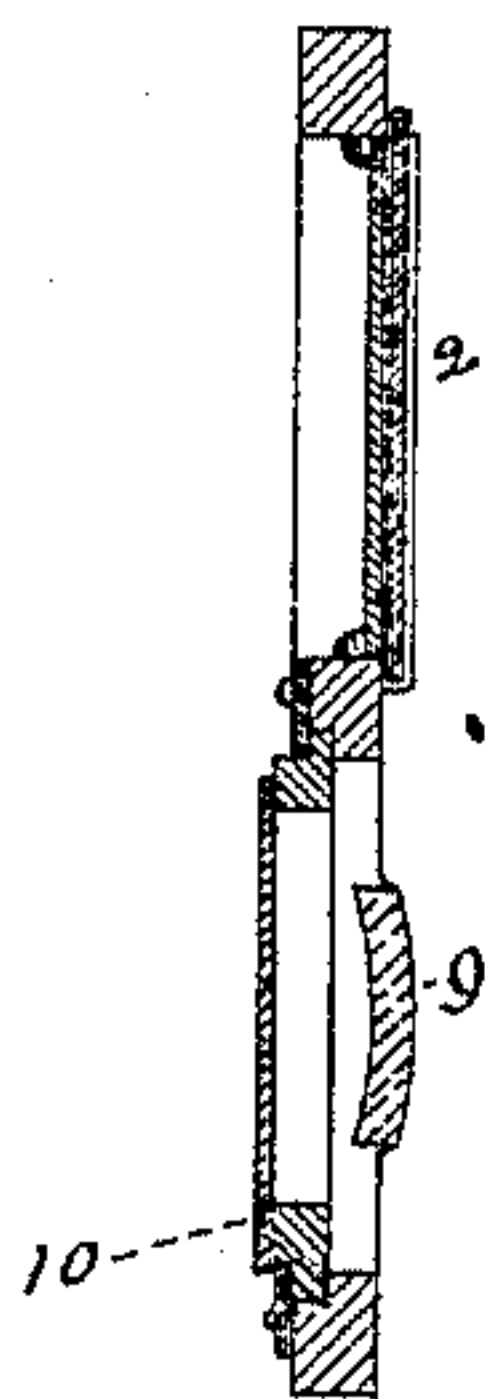


Fig. 6

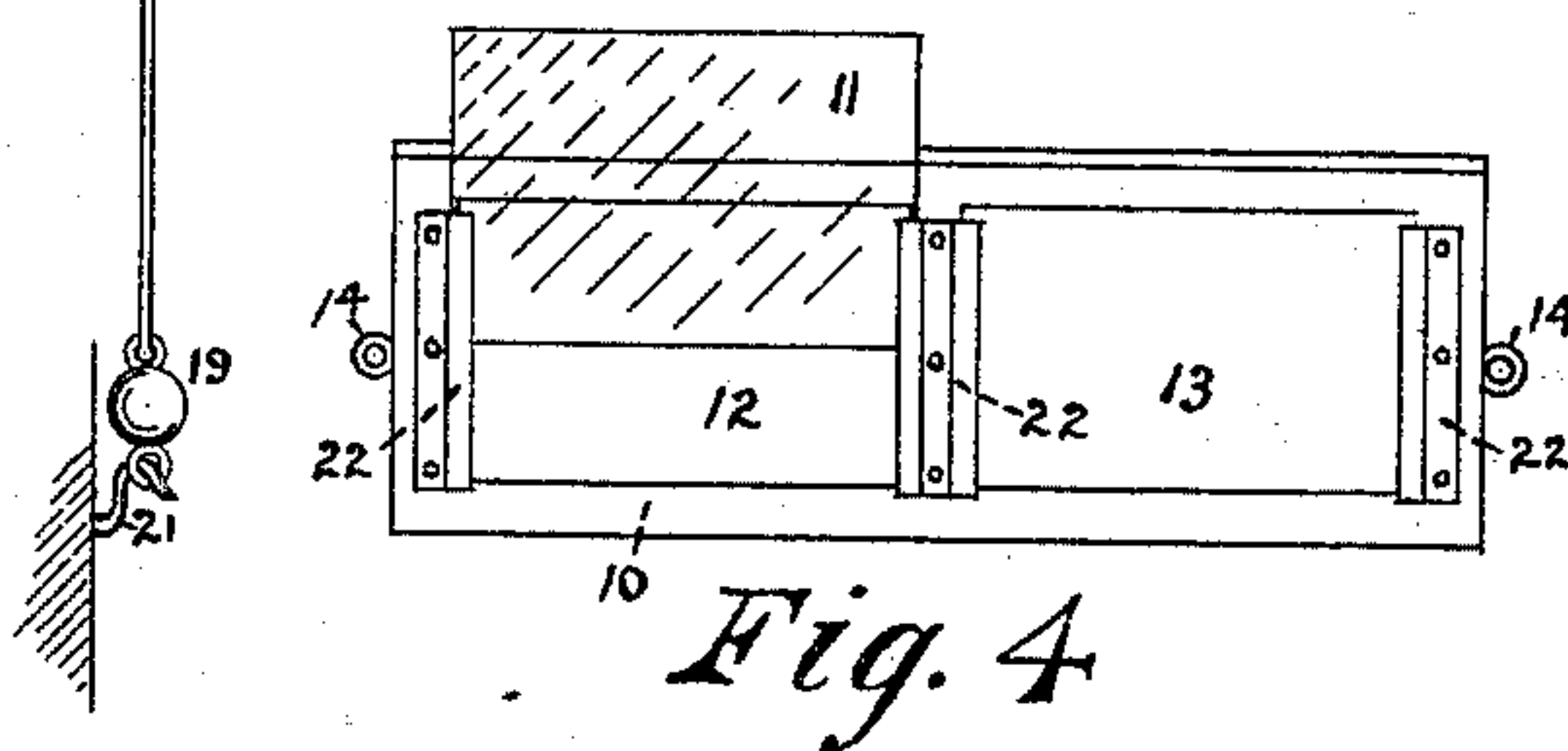


Fig. 4

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN H. PARSONS, OF SUSQUEHANNA DEPOT, PENNSYLVANIA.

TRAIN-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 426,679, dated April 29, 1890.

Application filed January 22, 1890. Serial No. 337,756. (No model.)

To all whom it may concern:

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

Freight-trains are required to carry signals of different colors, which are visible to the engineer of the same train, also to train-men of other trains from both the front and rear of the train. The signals displayed are not always the same color in front that they are in the rear of the train. These signals are usually carried by the caboose and generally placed on top of the car high enough to be visible to the engineer of the same train. Red is a danger-signal, and is always displayed at the rear of a train while in motion, as a warning to following trains. The lamp in general use shows red in both directions, although the signal green is used in various ways. A green signal means "caution" and a white signal "clear" or "safety." The signal carried on the rear of the caboose is a signal of danger, caution, or safety, carried in front to inform the engineer that his train has not parted. It has been fully demonstrated that a white light at night can be seen farther than any other color, especially in foggy weather, and it has been found desirable for this reason to show white in front toward the engineer of the train, and at the same time show either red, green, or white in the rear, according to the position of the train. All trains are numbered and run as a single number in sections, extras, or specials. It is of the greatest importance that the number, section, and class of a train be shown, in order that train-men meeting or passing other trains may be informed of the correct number or class of the train met or passed, as described in my patent, No. 148,844, dated March 24, 1874, and as shown in my patent, No. 352,567, dated November 16, 1886. In the latter I show signals for a similar purpose; but in that device I use three lamps at night to show the train number and signals.

My present invention has for its object the placing of signals in a different manner in an

indicator-box, so that the signals can be changed to the desired color from the inside of a caboose and the signal device combined with my train-indicator, so that both signals and indicator may be illuminated by one lamp, as hereinafter more fully described.

In the drawings hereto annexed, forming part of this specification, Figure 1 is an outside perspective view of my combined indicator and signal box attached to the end of an elevated deck of a caboose-car. Fig. 2 is a vertical longitudinal inside view of the box, showing the manner of operating the signals. Fig. 3 is a detached front view of the indicator and signal sash. Fig. 4 is a detached view of the signal-frame for carrying colored glasses to change the color of the signals displayed. Fig. 5 is a perspective view of the indicator and signals when made double and placed on top of a car, one side and end only being shown. Fig. 6 is a cross-section view of the sash shown in Fig. 2.

The indicator-box may be made of any desired material; but a wood sash in front, to which are attached the indicator-characters and signal-lens with metal covering over the top and ends, is preferable.

Fig. 1 represents my combined indicator and signal box secured to the elevated end of the deck of a caboose. A similar box is placed on the opposite end of the deck, exactly like the one represented, two being necessary in order to display signals both toward the front and the rear end of the caboose-car. The end of the deck is cut away where the box is attached to it, leaving the box open on the inside and communicating freely with the inside of the car, through which a lamp is placed in position to illuminate the signals and indicator at night. This opening is covered by two small doors. (Not shown in the drawings.) The front of the indicator-box is made in the shape of a sash, of either wood or metal. The upper half is divided into four or more parts, in which are displayed the train-indicator characters and numbers 2 2 2 2. This part of the sash is protected by cover 3, which is glazed with colorless glass 4, hinged at 8 8 and fastened by catch 5. This cover or door is opened only when necessary to change the indicator-numbers. The lower

part of the sash is made with one opening, and is covered with sheet metal 1. In the center of the sheet-metal cover a circular opening is cut out, over which is secured in the ordinary manner a colorless-glass lens 9. The top and ends of the box are covered with sheet metal and the bottom constructed of wood or sheet-iron. A small smoke-jack 6 is placed on the top directly over the lamp on the inside. The indicator, as shown in Fig. 1, would represent that it was train extra 237, the letter X standing for the word "extra." The front side of the sash is shown more in detail in Fig. 3. The upper part is constructed substantially as described in my patent heretofore mentioned, provided with white glass in the back of the sash and stencils in front placed over the glass plates, except in this I make the space between the first and second characters on the left wider than the others, in order to separate the class from the number of the train, that the class or section of the train may be more readily distinguished from the number a greater distance.

The improvement which I desire to describe now, and as different from my patents heretofore mentioned, is that in this I use the lower half of the same sash for displaying train-signals, and combine the indicator and signals in one box, using only one lamp for all, whereas in my patent, No. 352,567, I use three lamps and an entirely different system of train-signals.

Fig. 2 represents the inside of the sash, showing glasses and figure-plates 2 2 2 2 in the upper part and the back side of the lens 9 and signal-frame in the lower part. The lower half of the sash is grooved the same as in common sash. In this groove, secured by proper fastenings or clamps at the top and bottom, I place a signal-frame 10, which is provided with colored glasses. Said signal-frame slides back and forth before the colorless-glass lens 9, thus changing the color of the light. This signal-frame is moved by the cords 17 and 18, running over pulleys 16 16, which are secured at each end of the box, then through holes in the bottom to the inside of the car. To the end of cord 18 is attached a light wood handle 19, and to the end of cord 17 is attached a heavy metal handle 20.

Fig. 6 represents a cross-section of the sash, the upper part showing the position of the white glasses, over which are placed stencil-plates indicating the class and number of the train, the lower part the position of the colorless lens 9 and signal-frame 10.

The signal-frame 10 (shown in detached view, Fig. 4) is made of sheet metal, wood, or other suitable material, or may be made of cast metal in one piece, with two openings 12 and 13. The center and end bars 22 22 22 are provided with grooved metal strips closed at the bottom, in which to place and hold plates of colored glass. The glass is put in at the top, as shown at 11. At each end of the

frame are hooks 14 14, to which the ends of the cords 17 and 18 are fastened. The opening 12 is provided with red glass and the opening 13 with green glass. When the color green is not desired, it is not necessary to put any glass in the opening 13, as the lens 9 is white and gives the desired color.

Referring to Fig. 2, the operation of the signal is as follows: The opening 12 having red glass and opening 13 green glass, by pulling the signal-frame to the left and securing the handle 19 to the hook 21, the signal displayed through the lens 9 is green. By relieving the handle 19 the weight of the heavy handle 20 instantly pulls the frame to the right, bringing the red glass 12 directly in front of the lens 9, displaying a red signal. By removing the green glass from opening 13, red and white signals are displayed instead of red and green. The handle 20 is made of cast metal and sufficiently heavy to keep the red glass constantly in front of the lens 9, except when secured by the hook 21. Rubber stops 15 15 are provided at each end of the sash-frame to prevent too sudden jar to the glasses in moving the signal-frame. The lamp is placed the proper distance from and directly in front of the lens 9. The same lamp by means of reflectors (not shown) illuminates both the indicator and signal glasses.

Another improvement which I desire to describe and different from my patents heretofore mentioned is that in the construction of the indicator-sash I make the mullion 23 nearly half as wide as the stencil-plates. This has been found necessary in order to separate as much as possible the class or section of the train from the number, so that train-men may not misconstrue the class or section as a part of the number of the train.

When it is desired to place the indicator and signal box on top of a caboose-car, or if the caboose is not provided with a raised deck and it is desired to place the box higher up than the roof of the car, I make the combined indicator and signal box substantially as shown in Fig. 5, both sides being made alike, and the box of sufficient width that one lamp answers for the signals in both directions, the lamp being placed in the box through the door 7. If the box is placed on top of a caboose-deck, the lamp may be put in from the inside of the car through a hole made for the purpose in the roof. The cords 17 and 18 may be run to any part of the car over pulleys properly arranged where most convenient and varying with differently-constructed cars. When a train is in motion, red is shown in the rear of the caboose, and either red, green, or white in front toward the engineer of the same train. When the train is standing on a side track waiting for another train to pass, the red signal must be changed to either green or white.

By the use of above-described improvement the signals in either direction may be instantly changed from the inside of the ca-

boose and the same lamp illuminate my indicator, heretofore referred to.

I claim—

1. An indicator-box attached to the side of
5 or placed on top of a car, said box being provided with a sash for carrying indicator-numbers in the upper part and a colorless-glass lens and movable signal-frame in the lower part, the indicator-numbers in the upper part
10 of said sash being protected by the cover 3, glazed with colorless glass 4, substantially as described and shown.

2. In an indicator-box, the combination of the signal-frame 10, provided with a trans-

parent signal-glass in the opening 12 and with 15
or without a signal-glass in the opening 13, said signal-frame being shifted by cords 17 and 18 over pulleys 16 16 by light handle 19 and heavy handle 20, with the indicator-sash in the upper part of said box provided with 20
glasses and removable plates 2 2 2 2, substantially as described, and for the purpose set forth.

JOHN H. PARSONS.

Witnesses:

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C. F. CURTIS.