(No Model.) 2 Sheets—Sheet 1.

H. S. TEAL.

CAR SIGNAL.

No. 547,868. Patented Oct. 15, 1895.

Fig. 2.

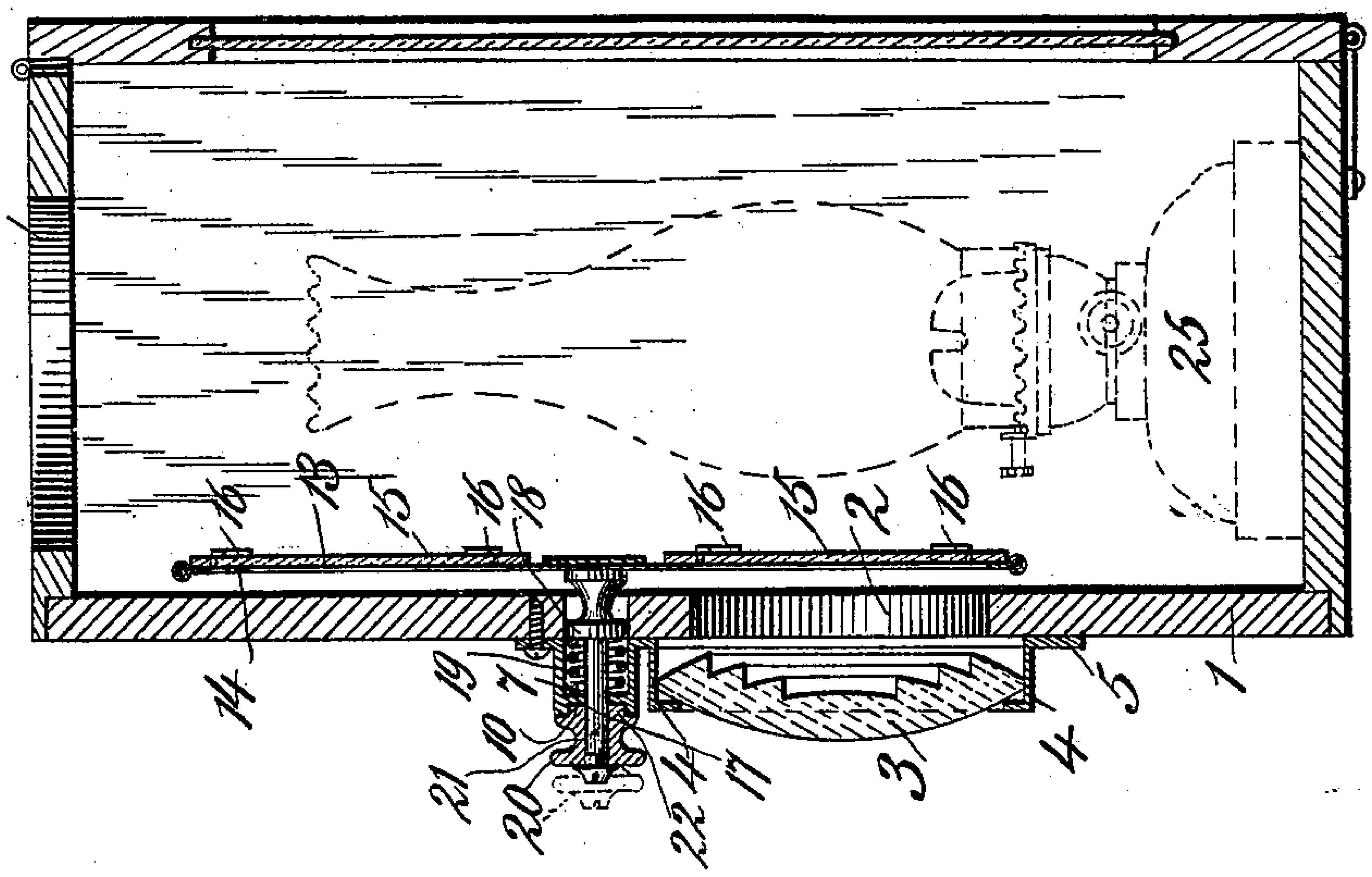
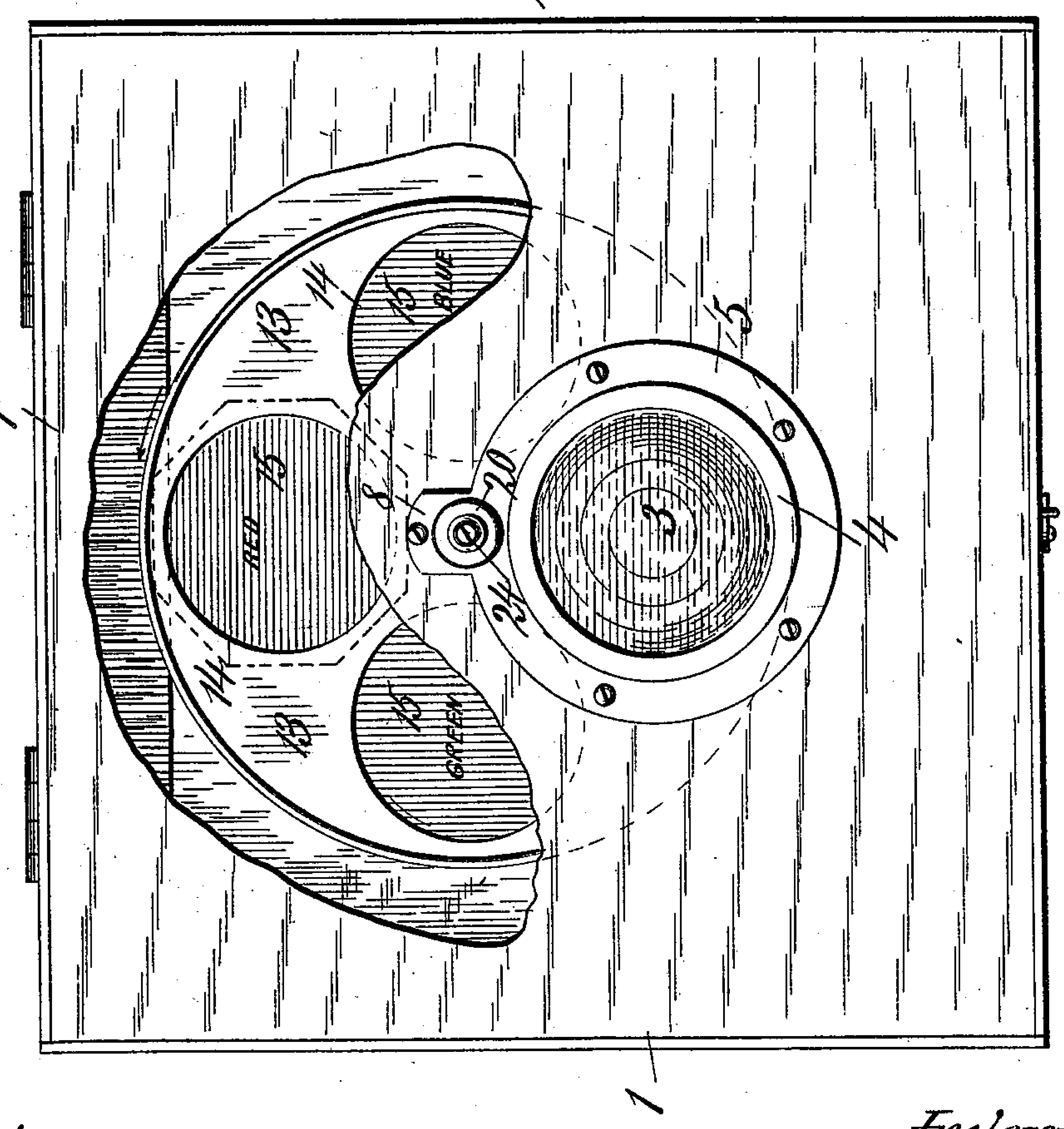


Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

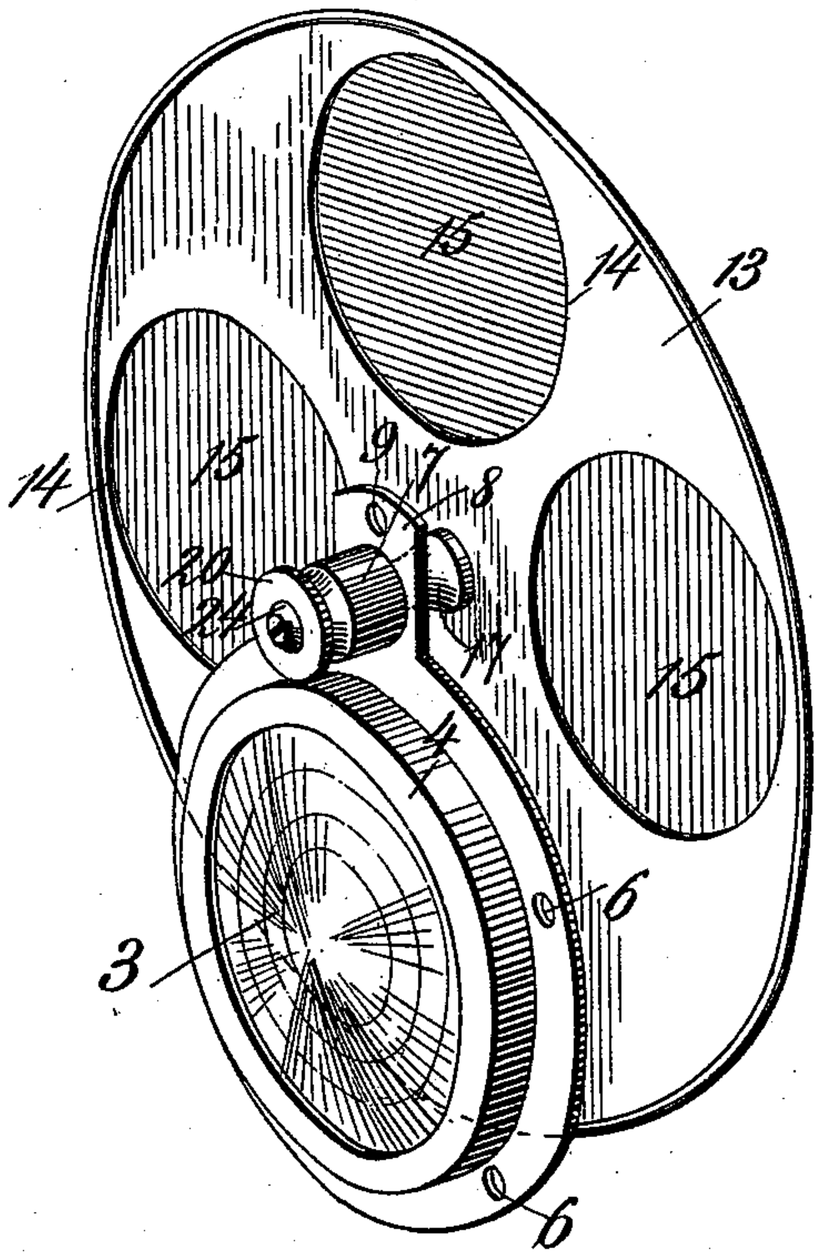
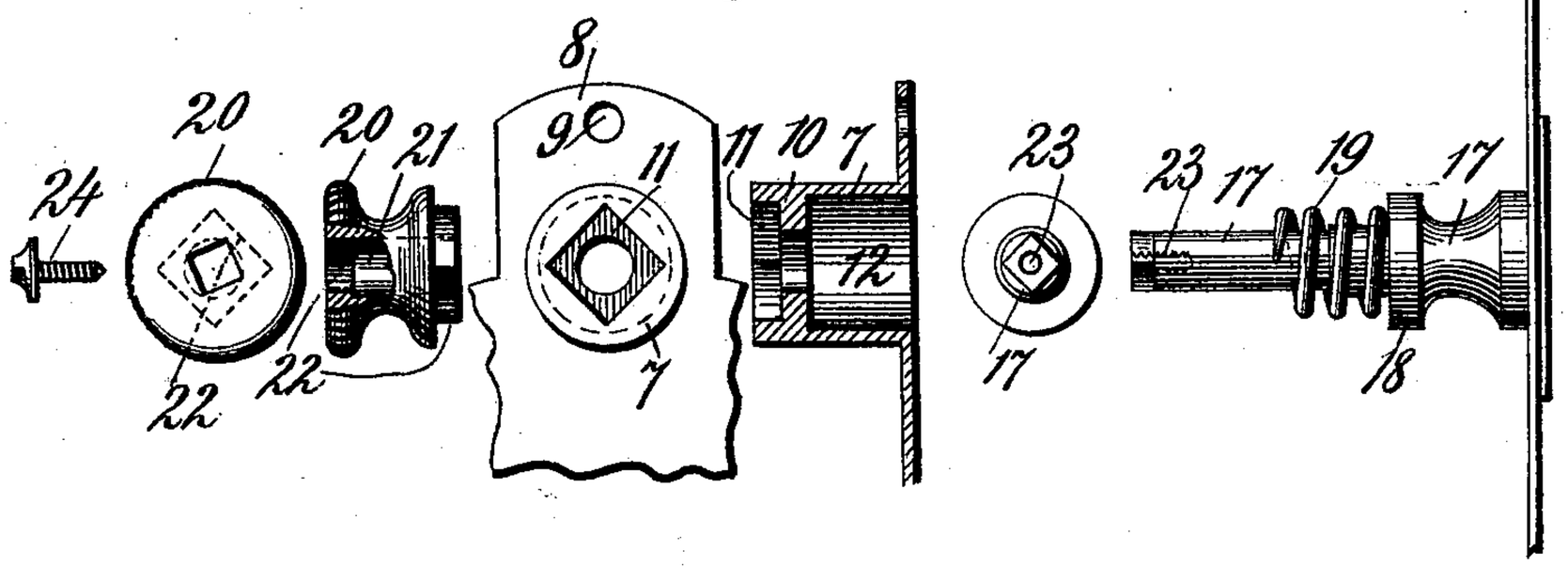


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY S. TEAL, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE ADAMS & WESTLAKE COMPANY, OF SAME PLACE.

CAR-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 547,868, dated October 15, 1895.

Application filed July 2, 1894. Serial No. 516,294. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. TEAL, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Signal-Lights for Street-Cars, &c., of which the following is a specification.

My invention relates to signal-lights adapted specially for use on street-cars, the object being to provide a simple and effective device whereby the visual signal usually displayed at the front and rear ends of a street-car may be readily changed from one color to another from the respective platforms of the car, thus avoiding the necessity of either the driver or conductor entering the car for the purpose of shifting the signals.

A further object of the invention is to combine with a suitable shifting-disk carrying the required varying signals a locking device, which will operate automatically to lock the disk in its adjusted position as soon as the adjustment of the disk is effected.

The invention consists in the combination, with a signal box or casing provided with the usual light and with a bull's-eye of transparent material, of a disk carrying two or more signals of different colors and supported between the light and bull's-eye upon a rotatable shaft and a knob or finger piece projecting through the end wall of the car within easy reach of the driver or conductor.

The invention also consists in the combination, with the rotating disk and shaft, of an operating-knob serving the double purpose of a lock and rotating device and constructed, as hereinafter fully described, to co-operate with the shaft.

In the accompanying drawings, Figure 1 is a front elevation of a signal-light casing or box partly broken away to illustrate the parts more clearly. Fig. 2 is a vertical central section of the same. Fig. 3 is a view in perspective illustrating the revolving disk and its supporting and locking mechanism removed from the casing, and Fig. 4 is a detail view showing the shaft and locking-knob detached.

The numeral 1 indicates a box or casing secured within the car to the end wall thereof, an aperture 2 being provided in said end wall adapted to be covered by a bull's-eye 3. The bull's-eye is preferably of transparent glass, and is supported in a circular frame 4, having an annular rim or flange 5 formed with holes for the screws 6, which secure the frame to the outer side of the end wall of the car, as shown. The frame is also provided at its upper side with an integral sleeve or bearing 7 and a rim extension or lug 8, formed with a screw-hole 9. As illustrated in section in Fig. 2, the sleeve 7 is provided with an interior partition 10, having a central opening for the passage of the rotating shaft, and which divides the sleeve into two spaces 11 and 12. The forward part or space 11 of the interior of the sleeve is formed square or other polygonal form in cross-section for the purpose hereinafter explained, while the part of interior in rear of the partition 10 is cylindrical in cross-section.

13 indicates the revolving disk, preferably made of sheet metal, and having two or more circular openings 14, approximating the bull's-eye 3 in size. Disks or plates 15, of glass of different colors, are secured to the rear face of the disk 13 to register with the openings 14 in any preferred manner. In the drawings I have shown them held by sheet-metal lugs 16, soldered to the disk 13 and bent to embrace the edges of the glass. The disk 13 is secured centrally upon the inner end of a shaft 17, said shaft having an annular shoulder 18 to receive the impact of the coil-spring 19, which surrounds the shaft, the other end of said spring bearing against the rear face of the partition 10 of the sleeve. The shoulder 18 also serves as a stop for the frame of the bull's-eye, as shown. The shaft 17 extends through the sleeve 7 and projects beyond the outer end thereof to receive a knob or finger-piece 20. This knob is formed with a central unthreaded bore 21 and at its inner end with a square or other polygonal projection or integral nut 22, corresponding to and fitting snugly within the outer polygonal end of the sleeve 7, the number of sides of such polygonal projection 22 and corresponding socket 11 being made to correspond with the number of openings or signal-glasses in revolving disk 13. The outer end of the shaft 17 is provided with a threaded axial opening 23 to receive a screw-cap 24. In the rear of the disk

13, within the casing 1, a suitable lamp 25 is provided, the same being arranged horizontally opposite the bull's-eye 3 to illuminate the latter in different colors, according as the plates of glass carried by the revolving disk are brought between the lamp and the bull's-eye.

The operation and utility of the mechanism above described will be apparent. Normally the disk 13 is locked against rotation by the contact of the polygonal extension 22 of the knob with the polygonal seat of the sleeve 17. When it is desired to change the color of the signal-light, the driver or conductor pulls the knob outwardly to disengage the polygonal extension thereof from the sleeve and then gives the knob a partial revolution to turn the shaft and disk. When the glass of the required color is opposite the bull's-eye, the knob is released and the expansion of the spring 19 will at once force the disk rearwardly, thus restoring the knob to its normal engagement with the sleeve and again locking the shaft and disk. The periphery of the knob is preferably corrugated to facilitate the turning, and, if preferred, another form of finger-piece may be substituted for the knob.

It will be obvious that my improvement may be quickly and conveniently operated by the car attendant without the latter leaving the platform to enter the car, and that the parts are reliably locked in their adjusted positions and are not liable to accidental displacement or disarrangement.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a signaling device for cars, the combination with a lamp box having an opening and a bull's eye arranged to cover the same, of a frame for holding said bull's eye and having a bearing upon its upper side, a revoluble shaft mounted in said bearing, and the disk secured upon the inner end of said shaft, said disk being of a diameter greater than the bull's-eye, and carrying a plurality of color signals which are adapted to be brought opposite the bull's eye, and cover the same substantially as shown and described.

2. In a signaling device for cars, the combination with a box or casing adapted to hold the lamp and provided with an opening covered by a bull's eye, of a tubular bearing attached to said box, said bearing having the bore of its outer end polygonal in cross section, a shaft arranged to revolve in said bearing, a disk attached to the inner end of said shaft, and of a diameter greater than the bull's-eye carrying a plurality of color signals, and a knob attached to the outer end of the shaft, by means of which the shaft and signal disk are revolved, said shaft having a limited longitudinal movement and the knob being polygonal in cross section to fit into the end of the bearing and lock the shaft and disk in a fixed position, substantially as shown and described.

3. In a signaling device, the combination with a box having a bull's-eye arranged therein, a frame for holding said bull's-eye in place, a sleeve integral with said frame, a shaft mounted in said frame, a disk mounted upon the inner end of said shaft, said disk carrying a series of color disks each one being of a diameter sufficient to cover the bull's-eye, said color disk being adapted to be moved into coincidence with the bull's-eye and means for unlocking the disk in such position, substantially as shown and described.

4. In a signaling device for street cars, the combination with a lamp box or casing provided with an opening, said box being arranged within the car against the end wall thereof, of a bull's eye secured to the outer side of said end wall by a frame provided with a sleeve-bearing having a portion of its interior cylindrical and a portion polygonal in cross-section, a shaft supported in said bearing and carrying at its inner end a revolving disk provided with signal plates of different colors each of said plates being of a diameter equal to the bull's-eye and adapted to be brought in line with said bull's eye, and a spring and knob for locking and rotating said shaft and disk, substantially as described.

HENRY S. TEAL.

Witnesses:
CHAS. B. BOWEN,
M. E. SHIELDS.