

(No Model.)

2 Sheets—Sheet 1.

A. HADAM & C. WOLF.
STREET INDICATOR.

No. 530,768.

Patented Dec. 11, 1894.

Fig. 1.

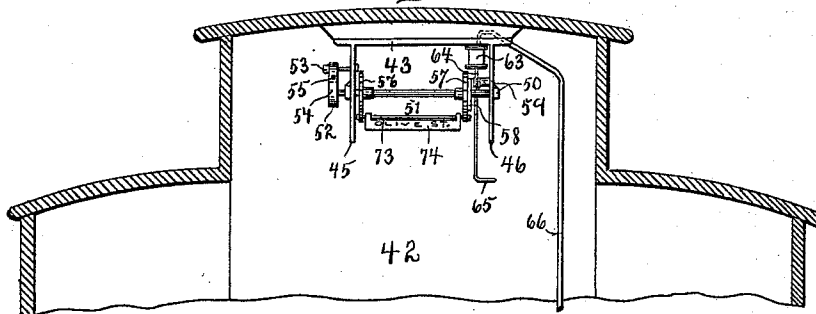


Fig. 3.

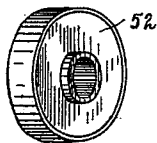


Fig. 4.

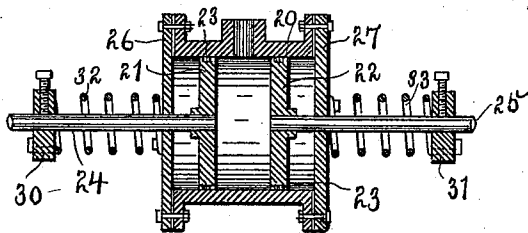


Fig. 5.

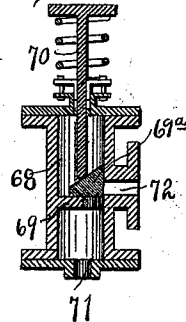
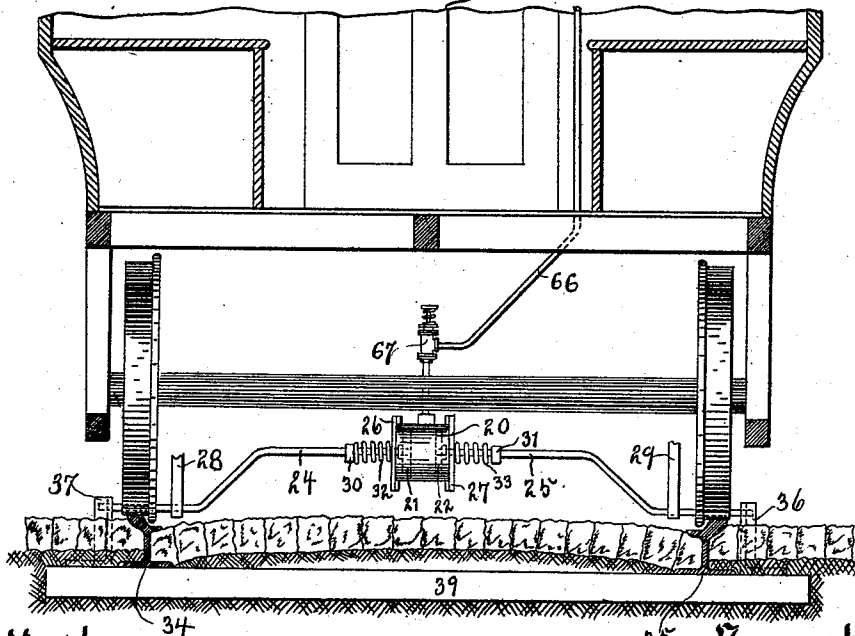


Fig. 2.



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Fig. 6.

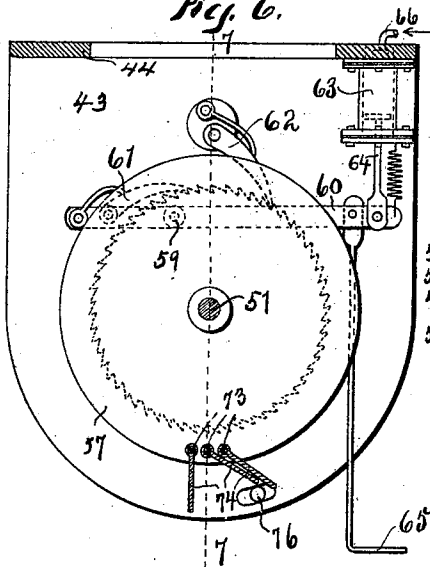


Fig. 7.

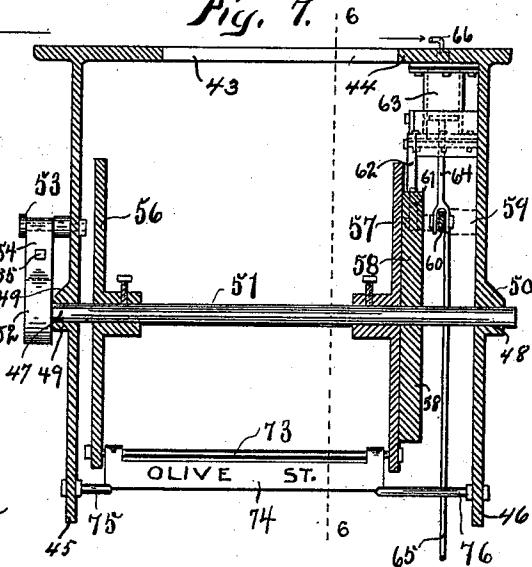


Fig. 8.

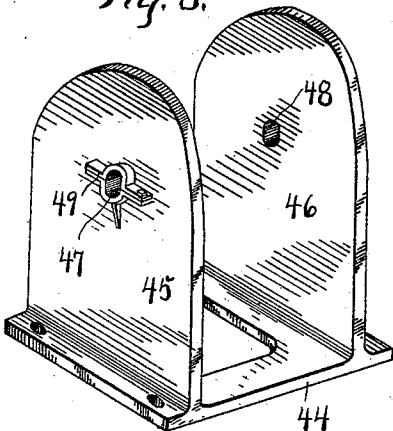


Fig. 9.

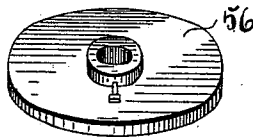


Fig. 10.

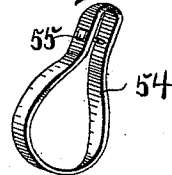


Fig. 12.

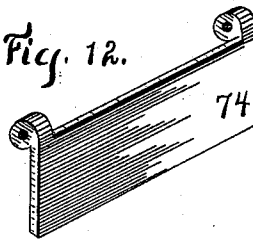


Fig. 11.

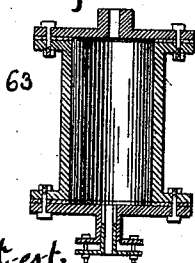


Fig. 14.

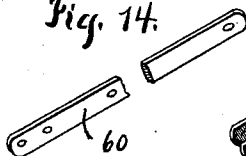
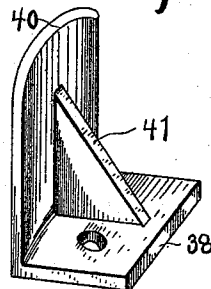


Fig. 15.



Fig. 13.



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UNITED STATES PATENT OFFICE.

AUGUST HADAM AND CHARLES WOLF, OF ST. LOUIS, MISSOURI.

STREET-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 530,768, dated December 11, 1894.

Application filed April 11, 1894. Serial No. 507,188. (No model.)

To all whom it may concern:

Be it known that we, AUGUST HADAM and CHARLES WOLF, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Street-Indicators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

10 The object of this invention is to provide improved means for visually designating the street, or station, about to be approached by a moving passenger car.

Our invention consists in the construction, 15 arrangement and combination of parts hereinafter set forth, pointed out in our claims, and illustrated by the accompanying drawings, in which—

Figure 1 is a transverse sectional elevation 20 of the upper portion of a car, showing our device applied, as required for practical use. Fig. 2 is a transverse sectional elevation of the lower portion of a car, showing the automatic operating devices employed to actuate indicating devices. Fig. 3 is a perspective 25 view of a brush-wheel. Fig. 4 is a longitudinal sectional elevation of a pneumatic cylinder, and connected operating devices. Fig. 5 is a sectional elevation of a pneumatic 30 valve. Fig. 6 is a transverse sectional elevation of the indicator, a portion of the indicating-cards being removed, which Fig. 6 is taken on the line 6—6 of Fig. 7. Fig. 7 is a sectional elevation of the indicator on the line 35 7—7 of Fig. 6. Fig. 8 is a perspective view of the indicator frame detached from the other parts. Fig. 9 is a perspective view of one of the indicator reel-heads. Fig. 10 is a perspective view of a tension spring. Fig. 11 40 is a sectional view of one of the pneumatic cylinders. Fig. 12 is a perspective view of one of the indicating cards. Fig. 13 is a perspective view of one of the actuating lugs. Fig. 14 is a perspective view of a lever. Fig. 15 is a perspective view of the piston employed in the cylinder, shown in Fig. 11.

In the construction of the device as shown, the numeral 20 designates a pneumatic cylinder, having open ends and adapted for location 50 beneath the car-body, and attachment to the car-trucks, within which cylinder 20 are

mounted piston-heads 21, 22, which said piston-heads are provided with compensating packing-rings 23. Fixed to the central portions of the piston-heads 21, 22, and leading 55 in opposite directions, relative to each other, are reciprocating piston-rods 24, 25, which said rods are supported in cross-bars or head-plates 26, 27, located transversely of, and secured to, the open ends of the cylinder 20, and 60 also in brackets 28, 29, adapted for attachment to the truck frames. Adjustably mounted upon the respective reciprocating piston-rods are collars 30, 31, and expansive springs 32, 33 are mounted upon said piston-rods, and interposed between, and in impingement with, 65 the cross-bars 26, 27 and the said collars.

Located adjacent to the track rails 34, 35 are lugs 36, 37, shown in detail in Fig. 13, which said lugs each comprise a base portion 70 38, adapted for attachment to the cross-ties 39, and a horizontally curvilinear standard 40, formed on the base portion and vertically extending therefrom, the connection between the base portion 38 and standard 40 being 75 strengthened by a web 41.

The indicator proper is located in the upper portion of a car-body 42, and comprises a frame 43, preferably made of cast metal, and shown in detail in Fig. 8, which said 80 frame comprises a top portion 44, adapted for attachment to the car-body, and depending portions 45, 46 integrally formed with the top portion 44, the said top portion being lightened by cutting away a section thereof, 85 as shown.

Formed in the depending portions 45, 46 are apertures 47, 48, and formed on, or fixed to, the outer surfaces of the depending portions, concentric with said apertures and registering therewith, are bearings 49, 50. 90

Mounted for rotation within the apertures 47, 48, and bearings 49, 50, is a shaft 51, one end of which shaft projects outside the bearing 49, and has mounted thereon a wheel 52, 95 the periphery of which wheel is faced with leather, rubber, or other substance capable of a high degree of frictional contact with a contacting surface.

Located upon the depending portion 45, 100 and extending outwardly therefrom, parallel to the projecting portion of the shaft 50, is a

headed bolt 53, upon which bolt is mounted a spring-yoke 54.

A contracting bolt 55 is transversely positioned in the yoke 54, and is adapted to approximate the sides of said yoke, and cause the same to bind upon, and engage with, the periphery of the wheel 52, the tension of the engagement being regulated by the variation of the bolt 55, relative to its seat.

Removably and replaceably mounted upon the shaft 51, between the depending portions 45, 46, and adjacent to the said depending portion 45, is a disk, or head, 56, and removably and replaceably located on said shaft, adjacent to the depending portion 46, is a disk, or head, 57, said disks or heads, being of approximately the same diameter. Mounted upon the face of the head 57, adjacent to the depending portion 46, is an annular ratchet-plate 58.

Fulcrumed on a stud 59 (Fig. 1) is a lever 60 (Fig. 14), horizontally positioned for reciprocation, which said lever is provided with a spring-pawl 61, and adapted for engagement with the ratchet-teeth on the plate 58. Pivotally mounted on an adjacent support is a spring-actuated detent 62, adapted for engagement with the ratchet-teeth on the plate 58, whereby a reverse movement of said ratchet-plate is prevented. Located adjacent to the end of the long arm, of the lever 60, is a pneumatic cylinder 63 (Fig. 11), within which is mounted a piston 64 (Fig. 15), the lower end of the rod of which piston is bifurcated and pivotally connected to the said long arm of the lever 60. Fixed to, and depending from, the long arm of the lever 60, adjacent to the piston 64, is a rod 65, adapted for manual operation.

The cylinder 63 communicates with the cylinder 20 through the pipe 66, in the lower end portion of which pipe is mounted a check-valve 67, comprising a casing 68 (Fig. 5), a transverse partition 69 in said casing having a vertical aperture therein, which said vertical aperture is normally closed by a vertically and horizontally movable plug 69^a engaged by, and providing, a seat for a vertically positioned spring-retained valve-stem 70.

An induction port 71 is formed in the lower portion of the casing 68, and an eduction port 72 is provided in the upper portion of said casing, the aperture in the partition 69 providing communication between the said ports, the port 72 being normally closed by the plug 69^a.

A plurality of rods 73 are located transversely of, and supported in, the peripheral portions of the heads 56, 57, respectively, on which rods are pivotally mounted for oscillation, relative thereto, a plurality of cards 74 (Fig. 12), which said cards bear upon one face symbols, designating the name, or number, of one of the streets crossed, or traveled upon, by the car.

Studs 75, 76 are fixed to, and extend inwardly from, the depending portions 45, 46,

respectively, of the indicator frame 43, the adjacent end portions of which studs are adapted for successive engagement with lower corners of the respective cards 74.

The operation of this device is as follows: Upon the advance of a car along a line, the outer end portions of the reciprocating piston-rods 24, 25 respectively engage the curvilinear faces of the brackets 37, 37, and are moved inwardly thereby, thus approximating the piston-heads 21, 22, and compress the air between said heads within the cylinder 20; such compression of air setting up a current through the pipe 66 into the valve 67, elevating the valve-stem 70, passing through the aperture in the partition 69 in said valve, out through the port 72; thence along the pipe 66 into the cylinder 63, impacting with the piston-head 64, depressing said piston, oscillating the lever 60, causing the pawl 61 to engage the ratchet-teeth on the plate 58, and rotatably move said plate; rotating the shaft 51 and heads 56, 57, and bringing into contact with the studs 75, 76, the next indicating card 74 of the series. Upon the passage of the car beyond the studs 37, first acted upon, the pressure of said studs upon the end portions of the reciprocating rods 24, 25 being released, the springs 32, 33 will, by reason of their resiliency, re-position the said rods and piston-heads 21, 22 into a normally relative location, preparatory for contact with the next succeeding lugs 37, and the successive operation. The next succeeding operation of the parts resulting in a rotation of the indicator heads, carries the indicator card, heretofore resting in engagement with the studs 75, 76, past said studs, and brings the next succeeding indicator card into engagement with said studs.

It will be observed that the visual card, at all times, occupies an inclined position in engagement with the studs 75, 76, and in position for convenient examination by the passengers, and, upon the passage of the successive cards out of engagement with the studs 75, 76, the same assume a depending position, and are hidden from view.

The purpose of the depending rods 65 is, in the event of the failure of the indicator to automatically operate, the conductor of the car, upon which such indicator so failing to operate is located, may, by the application of manual force to the depending rod, actuate said indicator, and position the same for operation at the next succeeding crossing, or point of location of the studs 75, 76.

What we claim is—

1. The improved station indicator, comprising a pneumatic cylinder 20 mounted beneath the car and extending laterally of the same, two separate single-acting pistons 21 and 22 mounted within said cylinder to compress the air between themselves, long piston-rods 24, 25 connected one to each of said pistons and extending at each end of said cylinder to the track-rails, with the free end of one closely

adjacent oneside of the railway-track, and the free end of the other closely adjacent the opposite side of said track, suitable supports for said piston-rods, springs 32 and 33 mounted 5 on said piston-rods and arranged to return said pistons to their normal position at the outer ends of said cylinder, obstructions fixed oppositely along both sides of the railway track at determinate distances apart and 10 adapted to be struck by said piston-rods which project over the rails of the track, whereby both of said pistons will be simultaneously forced inward, or if one be out of order the remaining piston will be forced inward, an indicating apparatus mounted within the car, 15 and a pipe 66 connecting said indicating apparatus with the space between said pistons, substantially as herein specified.

2. In a station indicator, the combination 20 of two opposite depending portions 45, 46 having bearings, a horizontal shaft 51 mounted in said bearings, opposite disks or heads 56, 57 fixed on said shaft between said depending portions 45, 46, a plurality of horizontal 25 rods 73 connecting said opposite heads and spaced apart, a plurality of cards 74 marked upon corresponding faces with the names of streets or stations and loosely mounted at one edge, one upon each of said rods, so as to 30 pend therefrom by the action of gravity with the lower edges of said cards free, two studs

or pins 75 and 76 projecting oppositely upon the inner faces of said depending portions 45, 46 in the path of the lower edges of said cards and adapted for successive engagement 35 thereby, whereby said cards will be successively tipped face downward as the frame which carries them revolves in a given direction, a friction-brake for holding the card frame in a given position, and mechanism for 40 rotating the frame which carries said cards, substantially as herein specified.

3. In a pneumatically operated station indicator, the combination, of a pneumatically-operated indicating-mechanism, a pipe for 45 conveying air to said mechanism, a pump for forcing air into said pipe, a valve interposed in the line of the passage of the air, a transverse partition in said valve having a transverse aperture therein, a plug seated in said 50 aperture and in engagement with a valve-stem, and a spring acting upon said valve-stem and normally retaining the same in its seat.

In testimony whereof we affix our signatures 55 in presence of two witnesses.

AUGUST HADAM.
CHARLES WOLF.

Witnesses:

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JNO. C. HIGDON.