(No Model.)

E. P. McKAIG.

PILOT FOR RAILWAY CARS.

No. 602,226. Patented Apr. 12, 1898.

Fig. I.

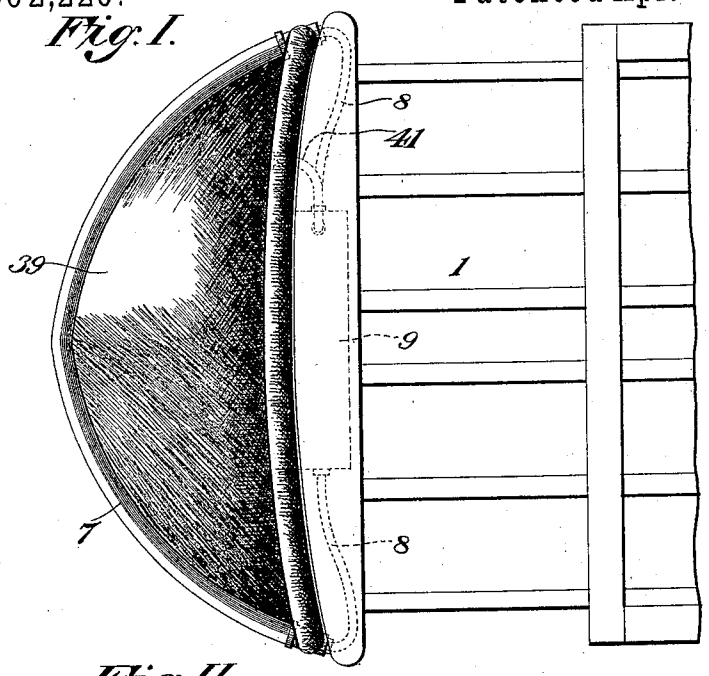


Fig. II.

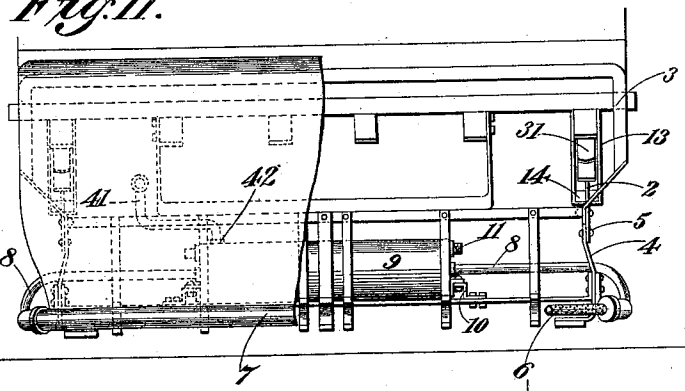


Fig. V.

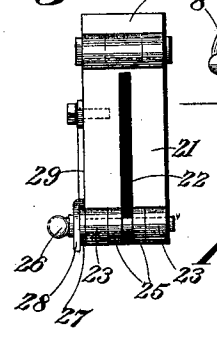


Fig. III.

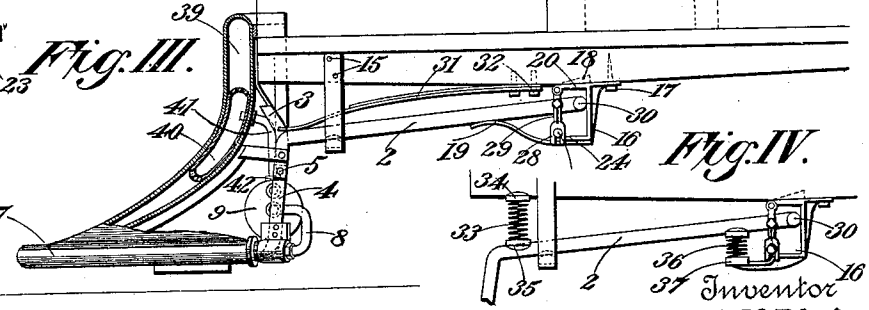


Fig. IV.

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UNITED STATES PATENT OFFICE.

ELTHERA P. McKAIG, OF RICHMOND HILL, NEW YORK.

PILOT FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 602,226, dated April 12, 1898.

Application filed June 1, 1896. Serial No. 593,855. (No model.)

To all whom it may concern:

Be it known that I, ELTHERA P. McKAIG, of Richmond Hill, county of Queens, State of New York, have invented certain new and useful Improvements in Pilots for Railway-Cars, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce a self-contained pneumatically-cushioned reversible pilot for railway-cars, or a pilot provided with protective pneumatic cushions which may be removed from one end of a car to another, and which as a pilot or fender is complete in itself, requiring no other adjustments in changing its position upon a car than such as are necessary to fasten it in the supports provided for it.

In the accompanying drawings, Figure I is a top plan view of a portion of a car with my pilot attached. Fig. II is a front elevation of the same, partly in section. Fig. III is a side elevation with the pneumatic apron in section. Fig. IV is a modified form of the frame-support. Fig. V is a front elevation of the frame-supporting mechanism.

Referring to the figures on the drawings, 1 indicates the forward end of the frame of a car-body to which is secured the frame of my pilot, which consists, preferably, of side frame-pieces 2, completed by the upwardly-extending frame 3 and the downwardly-extending frame 4, bolted to the forward end of the side pieces, as indicated at 5. The downwardly-extending frame 4 preferably carries a perforated pneumatic supply-pipe 6, surrounded by an inflatable bag or cushion 7, substantially as shown in my Patent No. 553,787, dated January 28, 1896. The pipe 6 communicates through branch pipes 8 with an air-reservoir 9, that is supported, as by supports 10, upon the depending frame 4 of the pilot. It is by that means entirely carried upon the pilot and made part thereof.

The reservoir 9 may be provided with filling-valves 11 at its opposite ends. The side frame-pieces 2 are preferably supported at their forward ends, respectively, in hangers 13 upon a curved grooved block 14 in the bottom part of each hanger. The hangers themselves are secured, as by bolts 15, at their upper ends to the respective side frame-pieces of the car.

16 indicates brackets for the support of the rear end of each of the side frame-pieces 2. Each is firmly secured, as by screws 17 and a lug or tenon 18, to the bottom of one of the side frame-pieces and carries on its lower end an upwardly-acting spring 19. Each of the brackets, upon its upper jaw 20, carries a hinged plate 21, that is provided with a vertical slot 22 and on its lower end with knuckles 23. The lower jaw 24 of each bracket is provided with corresponding knuckles 25. A pin 26, passing through the knuckles 23 and 25, serves to secure the hinged plate in the fixed position. The pin may be provided with a flange 27, with which the bifurcated end 28 of a vertically-movable stop-piece 29, fastened to the side of the hinged plate 21, engages to prevent the accidental dislodgment of the pin. The width of each of the slots 22 is such as to accommodate the respective side frame-pieces 2, which when inserted in place and the plates locked upon the brackets by means of the pins 26 are firmly secured, the respective ends of the pieces 2 terminating in heads or balls 30, which prevent them from being liberated from the brackets 16, except by unfastening the hinged plates 21 and slipping the parts 2 out of the slots 22. One spring 19 holds the rear end of each of the frame-pieces 2 in the elevated position against the top of the slot 22.

Springs 31, secured to the bottom of the side frame-pieces of the car, respectively, as indicated at 32, press against the forward end of the respective frame-pieces 2 and hold them yieldingly against the grooved blocks 14 in the brackets 13, respectively.

The springs 19 and 31 are shown as leaf-springs; but in Fig. IV a slight modification is shown, in which the forward spring 33 is a coiled spring fixed between a seat 34 on the bottom of the car and a seat 35 on the top of the frame side pieces 2. A coiled rear spring 36 is in like manner seated against the bottom of each of the frame-pieces 2 and supported upon an arm 37 upon a bracket 16.

The springs 36 and 33 coöperate to hold the

side frame-pieces 2 yieldingly in position in the manner above-described with reference to the springs 19 and 31.

39 indicates an inflatable apron of shape and dimensions to fill the space above the cushion 7 to the top of the frame 3. It preferably consists of a rubber bag or bag of similar material that, being air-tight, is adapted to be inflated by internal air-pressure. Within this bag is preferably located a perforated metallic reservoir 40, to which is fastened at one end an air-supply pipe 41, that communicates at the other end, as indicated at 42, (clearly shown in Fig. II,) with the reservoir 9.

By means of the employment of the cushion 7 and the inflatable apron 39 my pilot is completely enveloped by a pneumatic cushion, constituting a protective covering. The front of the apron may be provided with an aperture and a flap (not illustrated) for accommodating a front draw-bar, if desired.

What I claim is—

1. In a pilot for railway-cars, the combination with a frame adapted to be secured to a car, of an inflatable protective cushion carried upon the forward part of the frame, and an air-reservoir also carried on the frame and communicating with the cushion supplied with air, substantially as set forth.

2. In a pilot for railway-cars, the combination with a frame adapted to be secured to a car, of a protective inflatable covering extending over the entire front portion of the frame, substantially as set forth.

3. In a pilot for railway-cars, the combination with a frame adapted to be secured to the car, of a protective inflatable covering extending over the entire front portion of the frame, and an air-reservoir communicating with the inflatable covering, substantially as set forth.

4. In a pilot for railway-cars, the combination with a frame adapted to be secured to a car, of a protective inflatable covering extending over the entire front portion of the frame, and an air-reservoir communicating with the inflatable covering and carried upon the frame, substantially as set forth.

5. In a pilot for railway-cars, the combination with a frame and air-supply reservoir thereon, of an inflatable apron carried upon the forward part of the frame, a perforated reservoir within the same, and a pipe uniting the perforated reservoir to the air-supply reservoir, substantially as set forth.

6. The combination with a railway-car, brackets and slotted hinged plates upon opposite sides thereof, of a pilot-frame provided with side frame-pieces entering, respectively, the slots in the hinged plates, enlarged ends upon the frame side pieces, and means for supporting the forward ends of the frame side pieces, substantially as set forth.

7. The combination with a railway-car, brackets and hangers upon opposite sides thereof, respectively, and frame side pieces, of a bolt passing through the hangers, enlarged ends upon the frame side pieces, a slotted hinged plate in each of the brackets adapted to engage the side frame pieces, respectively, means for fastening the hinged plates, and oppositely-acting springs secured to the car and acting upon the top and bottom, respectively, of the side frame-pieces, substantially as and for the purpose specified.

In testimony of all which I have hereunto subscribed my name.

ELTHERA P. McKAIG.

Witnesses:
E. J. HAMLET,
E. E. PORTER.