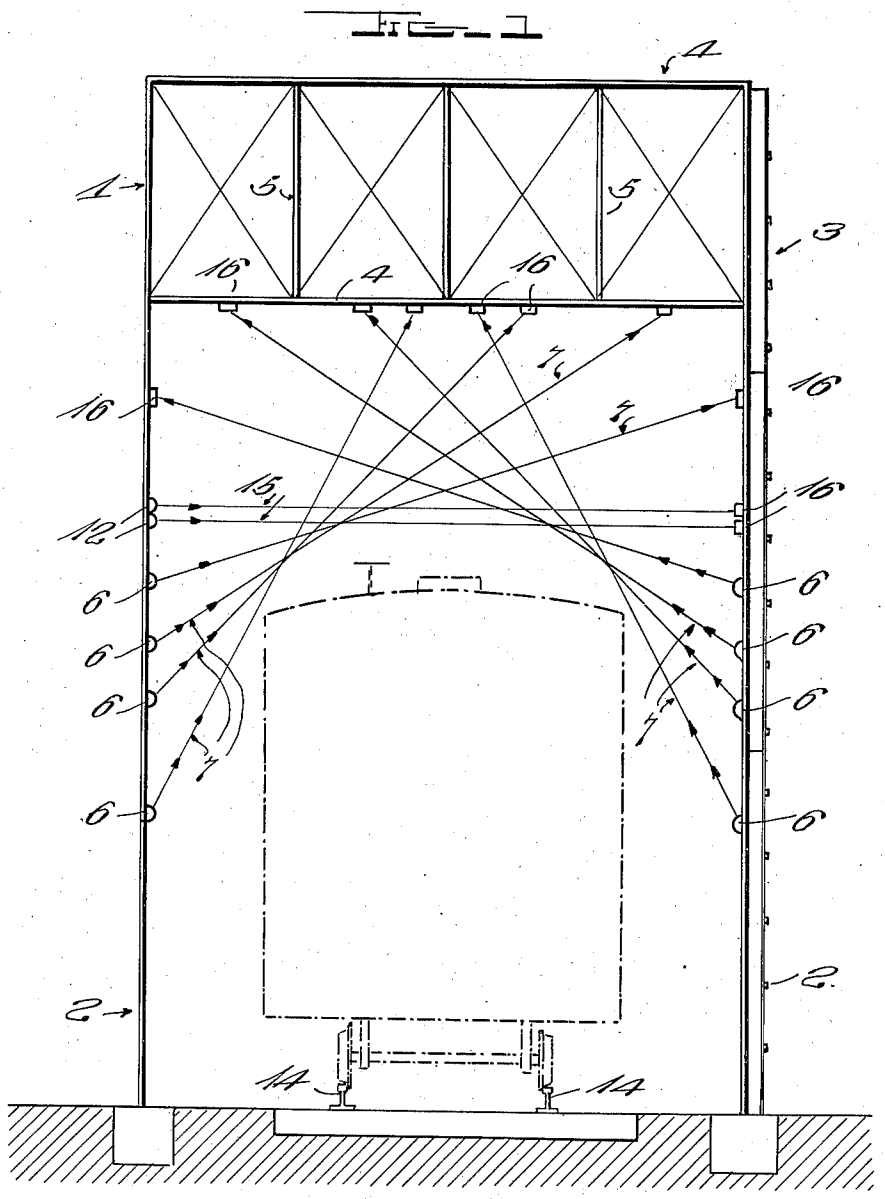
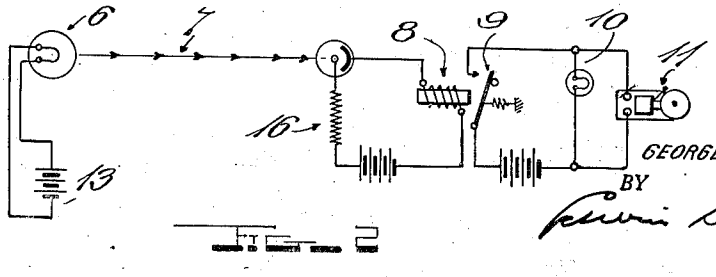
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SYSTEM AND APPARATUS FOR DETECTING HIGH AND WIDE RAILROAD CARS AND OPEN TOP LADING

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SYSTEM AND APPARATUS FOR DETECTING HIGH AND WIDE RAILROAD CARS AND OPEN TOP LADING

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1 Claim. (Cl. 177—311)

It is well known that the clearance of bridges, tunnels, et cetera, vary, therefore, in making up a train it is necessary to have all cars in the train of a height and width within the clearances of the bridges and tunnels on the route over which the train is to be despatched. This is also true of open top ladings, such as engines, machinery, et cetera, loaded on flat cars. Heretofore such classification has entailed considerable labor and time both of which elements are difficult to obtain.

The present invention is especially adapted with a minimum of time and labor to accurately classify all cars and open top ladings in the train to safely pass within the clearances on the train route, in other words.

The purpose of this invention is to detect high and wide cars or open top ladings which exceed the permissible clearances through tunnels, under bridges, et cetera. The principle upon which it operates is the interruption of beams of light, focused upon photo-electric cells. Upon interruption of the beams the photo-electric relay will actuate a suitable warning signal.

In the drawing:

Figure 1 is a vertical end view of an automatic telltable for high and wide cars relating to my invention.

Figure 2 is a diagrammatic view of the circuits.

The reference numeral 1 designates a signal bridge erected over a railroad track and is provided with uprights 2, a ladder 3, and a transverse beam 4, there being rigidifying beams 5 extending between the beam 4 and the top member of the bridge.

In the use of my invention the frame of the signal bridge 1 is erected over a railway track, as illustrated, and a train of miscellaneous cars is passed under the frame for the purpose of classifying the cars in the train for different routes, and automatically selecting cars for the various routes according to height and width of the cars, or open top ladings on the cars, so that cars can be picked out for a designated route within the permissible clearances through tunnels, under bridges, et cetera, on a route selected.

Normally the photoelectric cells are exposed to the light beams from the light sources and are influenced thereby so that their relays are governed to normally prevent operation of the signal devices 10 and 11.

As the cars pass under this frame, or signal bridge, the contact 9 of the photo-electric relays 8 is actuated if the beam of light 7 or 15 from the lights 6 or 12 are interrupted by the heighth or width of a car passing under the bridge, or open top ladings on the cars, thus operating the warning signal 10 and the bell 11, as shown in the diagrammatic view. The lights 6 and 12 are connected to the source of electric current 13.

As shown in the drawing, the lights 12 are positioned to direct their rays 15 at substantially right angles to the track rails 14 across the roadbed and are directly in line with the photo-electric relays 16 to determine the maximum heighth of cars and open top laden on the cars.

While I have shown the lights 12 and photo-electric relay 16 connected with the warning light and bell in the diagram, it is understood that the photo-electric relays 8 are also connected to the warning light and bell.

It will be seen from the drawing that there are four lights on each side of the bridge 1 from which the light beams project upwardly at various angles and contact with the photo-electric relays 8, it being obvious that additional lights may be used.

The photo-electric relays are disposed at angles coinciding with the angles of their respective light sources.

From the above it will be seen that the rays 7 not only detect the heighth and width of cars, but also the heighth and width of open top lading cars, while the rays 15 are restricted in their action to detect the maximum heighth of cars and open top ladings on cars.

When any of the beams are interrupted the photo-electric relays 8 and 16 actuate a signal warning bell 11. The operator watching the signal warning will immediately mark the car, or cars, which operates the warning in a suitable manner, whereby these detected cars may readily be classified for a route having permissible clearances for such cars. Heretofore such classification of cars and open top ladings on the car has necessitated the use of complicated apparatus or has entailed considerable labor and time and some guess work, all of which are eliminated by the use of this invention.

What I claim is:

In a system for detecting high and wide cars and ladings on open topped cars which exceed permissible clearances, a frame comprising uprights disposed at opposite sides of a trackbed and a bridge portion extending over the trackbed, two sets of normally active light sources disposed at different levels on each of said uprights, one of said sets of light sources being arranged to direct light beams at different angles upwardly and inwardly and the other set of said light sources being arranged to direct light beams inwardly in different horizontal planes, a signal means, and sets of photoelectric relays disposed on said bridge portion and on said uprights of the frame for cooperation with the respective sets of light sources and so as to be influenced by and responsive respectively to the angularly and horizontally directed beams of light from said sources to normally maintain the signal means in an inactive condition, each photoelectric relay being individually operative when its influencing beam is intercepted by car or lading to render said signal means active to give a signal.

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