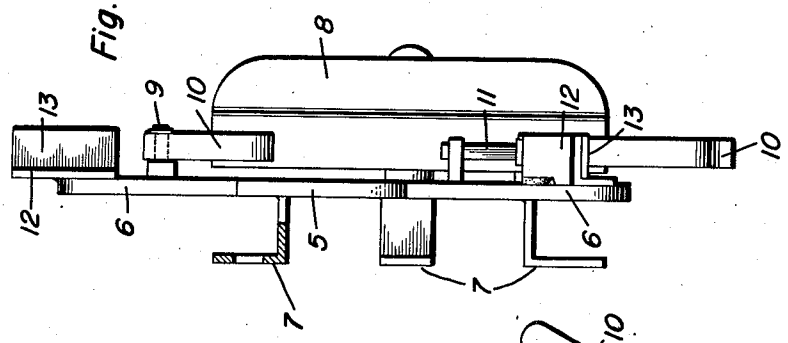
Sept. 24, 1957 W. H. BOOKWALTER 2,807,229

REVERSE ALARM

Filed July 29, 1955

Fig. 2



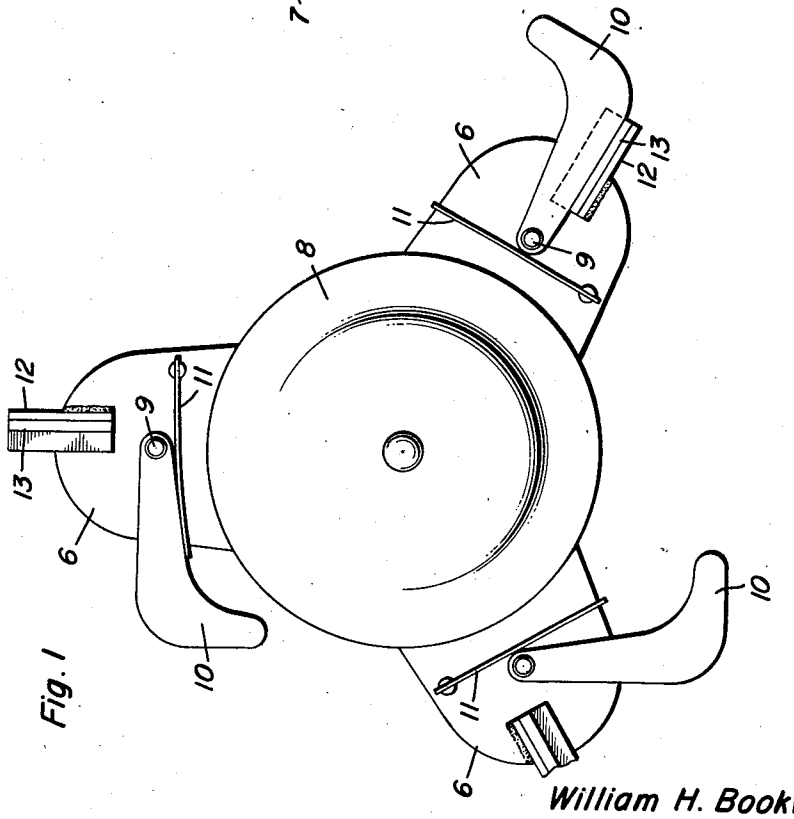


Fig. 1

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REVERSE ALARM

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Application July 29, 1955, Serial No. 525,251

10 Claims. (Cl. 116—35)

The present invention relates to new and useful improvements in reverse alarms, particularly for motor trucks, tractors, etc., and has for its primary object to provide, in a manner as hereinafter set forth, a novel mechanical device adapted to be expeditiously mounted for operation on a wheel of the vehicle for automatically giving an audible signal when said vehicle is backed or reversed.

Other objects of the invention are to provide an automatic, mechanical reverse alarm of the aforementioned character which will be comparatively simple in construction, strong, durable, compact, reliable in operation and which may be manufactured at low cost.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a view in front elevation of a reverse alarm constructed in accordance with the present invention; and

Figure 2 is a view in side elevation thereof, one of the mounting brackets being broken away in section.

Referring now to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a circular plate 5 of suitable material and dimensions. Radiating from the periphery of the plate 5 is a plurality of integral arms 6. Affixed to the back of the plate 5 is a plurality of apertured, angular brackets 7 for mounting the device on a wheel. A bell 8 is mounted centrally on the front of the plate 5.

Forwardly projecting pins 9 are mounted on the arms 6 at intermediate points. Hammers 10 are journaled on the pins 9 for engagement with the bell 8. Leaf springs 11 on the arms 6 disengage the hammers 10 from the bell 8. Angular stop bars 12 are mounted on the arms 6 and project beyond the free or outer ends thereof for limiting the swinging movement of the hammers 10 away from the bell 8. Pads or cushions 13 are provided on the bars 12.

It is thought that the operation of the device will be readily apparent from a consideration of the foregoing. Briefly, when the wheel on which the device is mounted is rolling forwardly, or clockwise, as viewed in Figure 1 of the drawing, the springs 11 maintain the hammers 10 out of engagement with the bell 8. As the speed of rotation increases, the hammers 10 are swung outwardly by the action of centrifugal force. When the wheel is reversed or turned counter-clockwise, as viewed in Figure 1 of the drawing, the bars 12 engage the hammers 10 and support same in an extended position until approximately the uppermost point is reached. The hammers 10 then swing downwardly by gravity and strike the bell 8, the weight and force of said hammers being sufficient to overcome the springs 11. However, after striking the bell 8, the hammers 10 are immediately disengaged therefrom by the springs 11. It will thus be seen that a mechanical alarm has been provided which will give a distinct audible signal so long as the vehicle is being backed but which will be silent when said vehicle is moving forwardly.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation described and claimed, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A reverse alarm for vehicle wheels comprising: a support mounted on the wheel for rotation therewith, a bell mounted on said support, a plurality of hammers pivotally mounted on said support, and means for holding the hammers in a predetermined position away from the bell during their upward travel with the wheel turning in a reverse direction when the vehicle is backing, said hammers being engageable by gravity with said bell during their downward travel with the wheel turning in said reverse direction.

2. A reverse alarm for vehicle wheels comprising: a plate mounted vertically on the wheel for rotation therewith, a bell mounted on said plate, a plurality of hammers pivotally mounted on the plate, and means for holding the hammers in a predetermined position away from the bell during their upward travel with the wheel turning in a reverse direction when the vehicle is backing, said hammers being engageable by gravity with said bell during their downward travel with the wheel turning in said reverse direction, said means including stops mounted on the plate and engageable beneath the hammers during the aforementioned upward travel thereof for limiting the swinging movement of said hammers away from the bell.

3. A reverse alarm for vehicle wheels comprising: a plate mounted vertically on the wheel for rotation therewith, a bell mounted on said plate, a plurality of hammers pivotally mounted on the plate, means for holding the hammers in a predetermined position away from the bell during their upward travel with the wheel turning in a reverse direction when the vehicle is backing, said hammers being engageable by gravity with said bell during their downward travel with the wheel turning in said reverse direction, and resilient means on the plate for yieldingly disengaging the hammers from the bell.

4. A reverse alarm for vehicle wheels comprising: a plate mounted vertically on the wheel for rotation therewith, a bell mounted on said plate, a plurality of hammers pivotally mounted on the plate about the bell for engagement therewith, stops on the plate engageable beneath the hammers for holding same in a predetermined position away from the bell during their upward travel when the wheel is turning in a reverse direction and the vehicle is backing, said hammers being engageable by gravity with the bell during their downward travel with the wheel turning in said reverse direction, and means for disengaging the hammers from the bell.

5. A reverse alarm for vehicle wheels comprising: a plate mounted vertically on the wheel for rotation therewith, a bell mounted on said plate, a plurality of hammers pivotally mounted on the plate about the bell for engagement therewith, stops on the plate engageable beneath the hammers for holding same in a predetermined position away from the bell during their upward travel when the wheel is turning in a reverse direction and the vehicle is backing, said hammers being engageable by gravity with the bell during their downward travel with the wheel turning in said reverse direction, and means for disengaging the hammers from the bell, said means including springs mounted on the plate between the bell and the hammers and engageable with the latter.

6. A reverse alarm for vehicle wheels comprising: a plate mounted vertically on the wheel for rotation therewith, a bell mounted on said plate, and a hammer pivotally mounted on the plate and swingable by gravity away from the bell during its upward travel with the wheel turning in a reverse direction when the vehicle is backing, said hammer being engageable by gravity with the bell during its downward travel with the wheel turning in said reverse direction.

7. A warning device adapted to be mounted on a vehicle wheel which is normally rotated in a vertical plane, said device comprising a bell adapted to be mounted concentrically with the axis of rotation of the wheel for rotation with the wheel, a plurality of hammers, means supporting each hammer radially with respect to the bell and for independent rotational movement with respect to the bell, and stop means limiting the rotational movement of the hammers upon rotation of the wheel in one direction, each hammer moving gravitationally from engagement with a stop to strike the bell upon rotation of the wheel in the opposite direction.

8. A warning device adapted to be mounted on a vehicle wheel which is normally rotated in a vertical plane, said device comprising a bell adapted to be mounted concentrically with the axis of rotation of the wheel for rotation therewith, a plurality of hammers, means supporting each hammer radially with respect to the bell and for an independent rotational movement with respect to the bell, stop means for limiting the rotational movement of the hammers upon rotation of the wheel in one direction, each hammer moving gravitationally from engagement with a stop to strike the bell upon rotation of the wheel in the opposite direction, and a spring cooperatively positioned with respect to each hammer to disengage said hammer from the bell immediately upon the hammer striking the bell upon rotation of the wheel in said opposite direction.

9. A warning device adapted to be mounted on a vehicle wheel which is normally rotated in a vertical plane, said device comprising a bell positioned on the wheel concentrically with the axis of rotation of the wheel, a plurality of L-shaped hammers, means supporting each hammer at an outer end of one leg of the L-shaped hammer for rotational movement with respect to the bell, and stop means for limiting the rotational movement of the hammers upon rotation of the wheel in one direction, each hammer moving gravitationally from engagement with a stop to strike the bell with the other outer end of an L-shaped hammer upon rotation of the wheel in the opposite direction.

10. A warning device adapted to be mounted on a vehicle wheel which is normally rotated in a vertical plane, said device comprising a bell positioned on the wheel concentrically with the axis of rotation of the wheel, a plurality of L-shaped hammers, means supporting each hammer at the outer end of one leg of the L-shaped hammer and for rotational movement with respect to the bell, stop means for limiting the rotational movement of the hammers upon rotation of the wheel in one direction, each hammer moving gravitationally from engagement with a stop to strike the bell upon rotation of the wheel in the opposite direction, and a spring cooperatively positioned with respect to each hammer to disengage said hammer from the bell immediately upon the other outer end of an L-shaped hammer striking the bell.

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