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SAFETY-SHOE FOR RETRACTABLE SUPPORT ASSEMBLIES FOR SEMI-TRAILERS

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Fig. 1

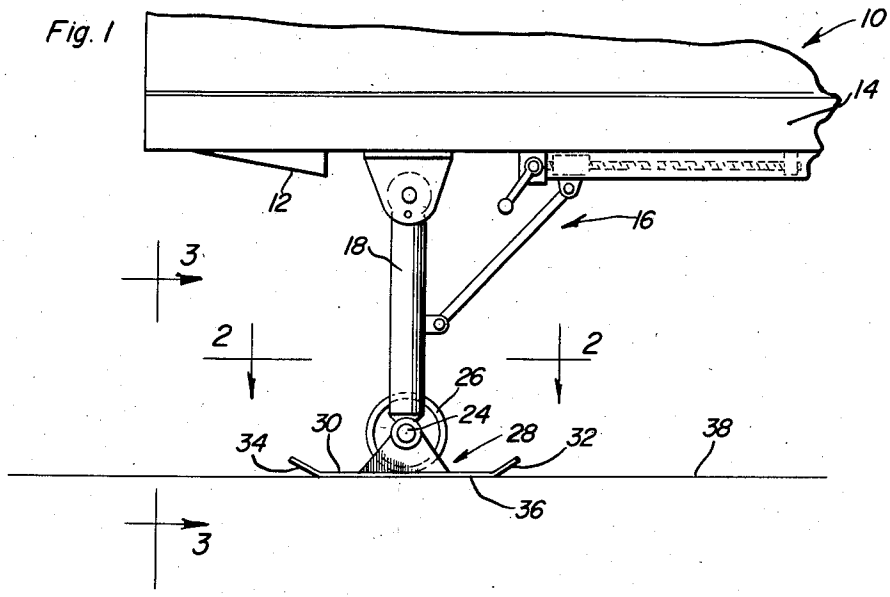


Fig. 3

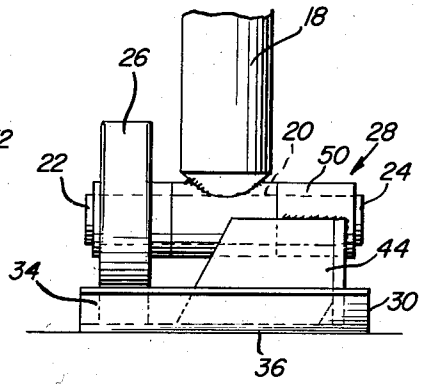
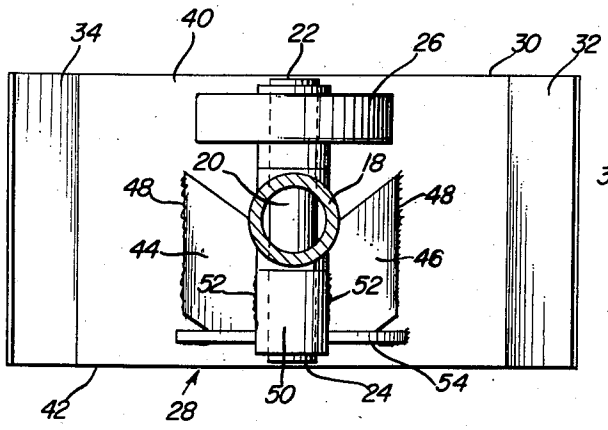


Fig. 2



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SAFETY-SHOE FOR RETRACTABLE SUPPORT ASSEMBLIES FOR SEMI-TRAILERS

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4 Claims. (Cl. 280—150.5)

This invention relates generally to semi-trailer vehicles, and is more particularly concerned with a safety-shoe conversion assembly for retractable semi-trailer support assemblies.

Retractable semi-trailer support assemblies conventionally incorporate a bearing or shoe portion which after disposed on the ground for a substantial period of time, in mud, for example, become imbedded resulting in a delay in freeing the same for connecting the semi-trailer to a tractor. Generally the shoe portion must be disposed on a plank or the like to prevent the same from becoming imbedded.

A primary object of invention is to overcome the shortcomings of the prior art providing a novel safety-shoe conversion assembly for retractable semi-trailer support assemblies which incorporates a foot-plate member which may be journalled on a lateral axle portion of the semi-trailer support assembly providing a lower increased bearing portion and including a portion upon which a bearing wheel of the retractable assembly may be supported thus uniformly transmitting the load of the semi-trailer to the lower bearing surface portion of the foot-plate member.

Other objects of invention reside in specific details of the various cooperating parts of the safety-shoe conversion assembly as heretofore set forth.

And yet another object of invention in conformance with that set forth resides in providing a sefety-shoe conversion assembly of the character set forth which is readily and economically manufactured, easily installed and maintained, and highly practical, serviceable and satisfactory for the purpose intended.

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 fragmentary side elevational view of a semi-trailer, showing the retractable semi-trailer support assembly and the novel safety-shoe conversion assembly thereon;

Figure 2 is an enlarged sectional view taken substantially on line 2—2 of Figure 1; and

Figure 3 is an enlarged fragmentary elevational view looking substantially from line 3—3 of Figure 1.

Referring to the drawing in detail, a fragmentary portion of a semi-trailer is indicated generally at 10, said semi-trailer including a fifth wheel portion 12 suitably secured on the frame 14 thereof, and suitably secured on a lower surface portion of said semi-trailer is a retractable semi-trailer support assembly indicated generally at 16. Said support assembly 16 includes a pair of pivoted leg member portions 18 (only one shown) having secured on a lower end portion thereof a transverse shaft portion 20 which includes opposite journal end portions 22 and 24. The aforementioned structure is conventional and well known in the art.

Suitably mounted on the journal end portion 22 is a bearing wheel member 26 which constitutes the inner bearing wheel normally found on conventional dual-wheel bearing wheels of retractable semi-trailer support assemblies of the character involved, and normally a similar wheel will be journaled on the journal end portion 24 of the shaft 20, however, this wheel is not shown and is replaced by the novel safety-shoe conversion assembly indicated generally at 28.

The safety-conversion assembly 28 includes a foot-plate member 30 including upwardly turned end portions 32 and 34, having a lower enlarged bearing surface portion 36 engaging a support surface 38 upon which the semi-trailer has been parked. Extending upwardly from the upper surface 40 of the foot-plate member and extending toward one side edge 42 of said foot-plate member is a pair of converging web plate elements 44 and 46 which are secured to the upper surface 40 of the foot-plate member by means of welds 48, for example, said web elements 44 and 46 being suitably secured on opposite longitudinal outer peripheral side portions of a tubular journal sleeve element 50, being secured thereto by means of welds 52, for example. To provide additional rigidity, the safety-shoe conversion assembly includes a vertically extending web element 54 which is secured at its lower edge to the upper surface portion 40 of the foot plate member, the upper end of which being suitably secured to a lower outer peripheral portion of the journal sleeve element.

The journal sleeve element 50 will occupy the space normally occupied by a dual bearing wheel (not shown) similar to the bearing wheel 26, and the wheel 26 will rest on the upper surface portion 40 of the foot-plate member on the side opposite the web elements 44, 46 and 54. The load of the semi-trailer which is transmitted through the leg members 18 will be transmitted therefrom to the wheel member 26 and the aforementioned web elements and thence to the foot-plate member providing increased bearing and equal distribution of the load.

The novel safety-shoe conversion assembly thus replaces various planks, steel plates and the like which normally must be disposed beneath dual bearing wheel members conventionally found on retractable semi-trailer support assemblies. Thus the safety-shoe conversion assembly may be readily substituted for the outer bearing wheel member of dual-bearing wheel assemblies of retractable support assemblies for semi-trailers and accordingly fully conforms with the objects of invention heretofore set forth.

Various positional directional terms such as "inner," "upper," "lower," etc. are utilized herein to have only a relative connotation to aid in describing the device and it is not intended to require any particular orientation with respect to any external elements.

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 shown and described, 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. In a retractable semi-trailer support assembly including dual bearing wheels, a leg member including a lower transverse axle portion including opposite journal end portions, a bearing support wheel journaled on one end portion of the transverse axle portion, and a safety-shoe conversion assembly journaled on the other journal end portion of the transverse axle portion, said safety-shoe conversion assembly including a foot-plate member including an enlarged lower bearing surface portion en-

gageable with the support surface upon which the semi-trailer rests, a support web portion extending from an upper surface portion of said foot-plate member, and a tubular journal sleeve element secured on an upper portion of the support web portion, said journal sleeve element being received on said other journal end portion of the transverse axle portion and replacing a bearing wheel normally carried thereon.

2. In a retractable semi-trailer support assembly including dual bearing wheels, a leg member including a lower transverse axle portion including opposite journal end portions, a bearing support wheel journaled on one end portion of the transverse axle portion, and a safety-shoe conversion assembly journaled on the other journal end portion of the transverse axle portion, said safety-shoe conversion assembly including a foot-plate member including an enlarged lower bearing surface portion engageable with the support surface upon which the semi-trailer rests, a support web portion extending from an upper surface upon which the semi-trailer rests, a support web portion extending from an upper surface portion of said foot-plate member, and a tubular journal sleeve element secured on an upper portion of the support web portion, said journal sleeve element being received on said other journal end portion of the transverse axle portion and replacing a bearing wheel normally carried thereon, said support web portion extending from one side of the foot-plate member, said bearing wheel member engaging an upper surface portion of the foot-plate member on a side opposite said web portion, said journal sleeve element being disposed in overlying relationship to the support web portion whereby the load of the semi-trailer is transmitted to the foot-plate member through both the bearing wheel and the support web portion.

3. For use on a semi-trailer having dual support wheels, a safety-shoe conversion assembly comprising a foot-plate member including an enlarged lower bearing surface engageable with a support surface upon which the semi-trailer is adapted to rest and an upper wheel bearing surface for receiving one of the dual wheels of

the semi-trailer, a support web extending vertically from one side of the foot-plate member, a tubular journal sleeve element secured at one end to an upper portion of the support web portion and extending laterally from the one side of the foot-plate member and terminating above the upper wheel bearing surface portion, said journal sleeve element including an internal bore portion receivable on a journal end portion of a lateral axle portion of a fifth-wheel support assembly for replacing a dual bearing wheel normally carried on said axle portion.

4. For use on a semi-trailer having dual support wheels, a safety-shoe conversion assembly comprising a foot-plate member including an enlarged lower bearing surface portion engageable with a support surface upon which the semi-trailer is adapted to rest and an upper wheel bearing surface for receiving thereon one of the dual wheels of the semi-trailer, a support web portion extending vertically from one edge of the foot-plate member, and a tubular journal sleeve element secured at one end on an upper portion of the support web portion and extending laterally from the one side edge portion of the foot-plate member and terminating above the upper wheel bearing surface portion, said journal sleeve element including an internal bore portion receivable on a journal end portion of a lateral axle portion of a fifth-wheel support assembly for replacing a bearing wheel normally carried on said axle, said foot-plate member providing a broad bearing surface distributing the load of the trailer for transmitting a portion of the load of the trailer through the medium of the vertically extending web and one of the dual wheels resting upon the upper wheel bearing surface of said foot-plate member.

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