Sept. 26, 1950 L. L. STEPHENS 2,523,733

TRAILER COUPLING STABILIZER

Filed March 23, 1949

Fig. 1.

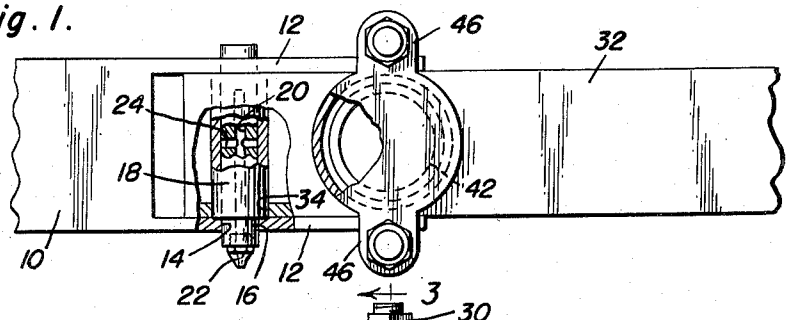


Fig. 2.

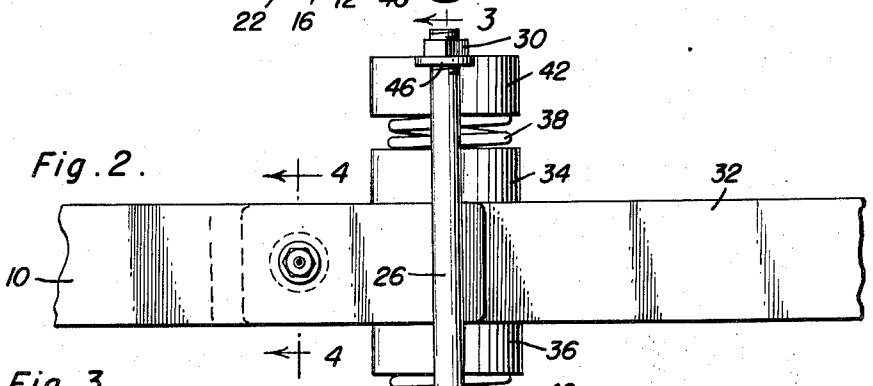


Fig. 3.

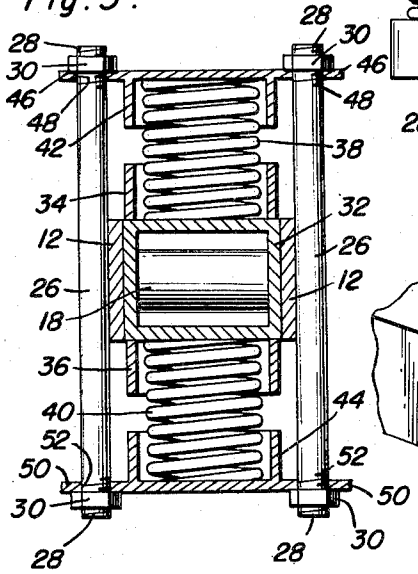


Fig. 5.

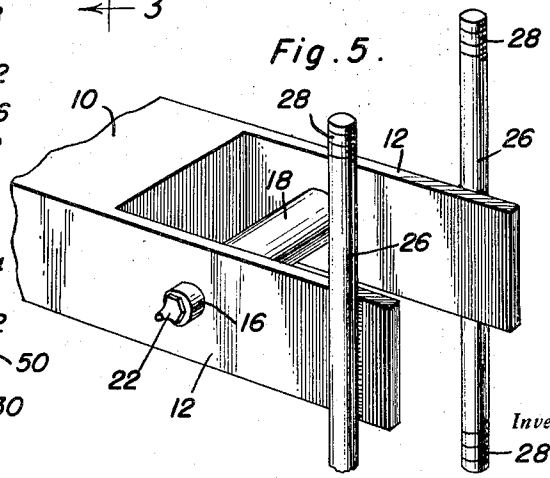
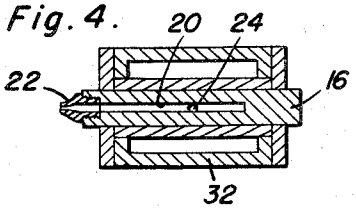


Fig. 4.



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TRAILER COUPLING STABILIZER

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Application March 23, 1949, Serial No. 83,088

3 Claims. (Cl. 280—33.9)

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This invention relates to a trailer coupling stabilizer and has for its primary object to retain the draft tongues of a traction vehicle, and a trailing vehicle in substantial alignment and yet permit relative movement of said tongues in a vertical arc.

Another object is to regulate the yielding pressure under which the tongues are held in substantial alignment.

The above and other objects may be attained by employing this invention which embodies among its features opposed springs bearing on opposite sides of a pivoted draft tongue in spaced relation to its pivotal connection, and means carried by an adjacent draft tongue for engaging the springs and regulating the pressure exerted by said springs on the draft tongue with which they are in contact.

In the drawings:

Figure 1 is a top plan view of a pair of connected draft tongues illustrating this improved stabilizer in use thereon,

Figure 2 is a side view in elevation of the connected draft tongues illustrated in Figure 1,

Figure 3 is a vertical sectional view taken substantially along the line 3—3 of Figure 2,

Figure 4 is a vertical sectional view taken substantially along the line 4—4 of Figure 2, and

Figure 5 is a fragmentary perspective view of one of the draft tongues.

Referring to the drawings in detail, the draft tongue 10 carries at one end a pair of spaced parallel longitudinally extending ears 12 which are pierced with aligning openings 14 for the reception of a suitable pivot bolt 16. Encircling the pivot bolt 16 between the ears 12 is a bearing sleeve 18, and the pivot bolt is provided with a longitudinally extending axial bore 20 which opens through one end thereof and is equipped with a conventional grease fitting 22 of the type through which grease may be introduced into the bore. Opening radially through the pivot pin 16 intermediate its ends and communicating with the bore 20 are radial bores 24 by means of which lubricant admitted to the bore 20 will be distributed on the surface of the pivot pin 16 with which the sleeve 18 contacts. Welded or otherwise attached to the ears 12 in spaced relation to the pivot bolt 16 are perpendicular studs 26 which extend beyond opposite side edges of the ears 12 and are provided adjacent opposite ends with screw threads 28 on which nuts 30 are threaded.

A second draft tongue 32 is provided adjacent one end with a transverse opening 34 for the reception of the sleeve 18 previously referred to

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in order pivotally to couple the draft tongues 10 and 32 together. Carried by the draft tongue 32 on the upper and lower sides thereof are aligned spring receiving cups 34 and 36 respectively, and the axes of these cups lie in a plane which intersects the axes of the studs 26 previously referred to. Seated in the cup 34 is a compression coil spring 38 and a similar compression coil spring 40 is seated in the cup 36. A spring receiving cup 42 engages the end of the spring 38 remote from the cup 34 and a similar spring receiving cup 44 engages the end of the spring 40 remote from the cup 36. Extending laterally from the cup 42 in diametrically opposed relation are supporting ears 46 which are pierced as at 48 to receive the upper ends of the studs 26, and similar ears 50 are carried by the cup 44, and like the ears 46 are pierced with openings 52 for the reception of the lower ends of the studs 26. It will thus be seen that with the cups 42 and 44 seated on their respective ends of the studs 26, with the nuts 30 bearing on the ears 46 and 50 respectively, the cups 42 and 44 may be advanced toward the tongue 32 by turning the nuts 30 in order to regulate the pressure of the springs 38 and 40 on the tongue 32. Inasmuch as the axis of the springs 38 and 40 is offset with relation to the axis of the pivot pin 16, it will be evident that the tongues 10 and 32 may be yieldingly held in substantial longitudinal alignment. Obviously if so desired the pressure on the springs 38 or 40 may be varied by turning the nuts 30 on their respective ends of the studs 26, so that the tongue 32 may be held under the effort of the springs in angular relation to the tongue 10 should such a relationship be desired.

From the foregoing it will be obvious that one tongue may move against the yielding pressure exerted by one or the other of the springs as changing road conditions may require.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

1. In a trailer coupling, a draft tongue, a pair of spaced parallel ears on the draft tongue, said ears extending longitudinally from one end of said draft tongue, a second draft tongue entering the space between the ears and being pivotally connected to said ears for movement in a

vertical arc, stabilizing means yieldingly to hold the draft tongues in longitudinal alignment, said stabilizing means comprising opposed springs bearing on opposite sides of the second mentioned draft tongue in spaced relation to the pivotal connection, studs carried by the ears, the axes of the studs lying perpendicular to the ears and in a plane which intersects the axis of the springs, and means adjustably mounted on the studs and lying across the springs to engage the ends thereof remote from the second mentioned draft tongue and hold said springs in contact with said draft tongue.

2. In a trailer coupling, a draft tongue, a pair of spaced parallel ears on the draft tongue, said ears extending longitudinally from one end of said draft tongue, a second draft tongue entering the space between the ears and being pivotally connected to said ears for movement in a vertical arc, stabilizing means yieldingly to hold the draft tongues in longitudinal alignment, said stabilizing means comprising opposed springs bearing on opposite sides of the second mentioned draft tongue in spaced relation to the pivotal connection, studs carried by the ears, the axes of the studs lying perpendicular to the ears and in a plane which intersects the axis of the springs, spring receiving cups adjustably mounted on the studs adjacent the ends thereof remote from the ears, said cups receiving the ends of the springs remote from the second mentioned draft tongue and nuts threaded on the studs to engage the cups and advance them toward the second mentioned draft tongue to regulate the pressure of the springs thereon.

3. In a trailer coupling, a draft tongue, a pair of spaced parallel ears on the draft tongue, said ears extending longitudinally from one end of said draft tongue, a second draft tongue entering the space between the ears and being pivotally connected to said ears for movement in a vertical arc, stabilizing means yieldingly to hold the draft tongues in longitudinal alignment, said stabilizing means comprising opposed springs bearing on opposite sides of the second mentioned draft tongue in spaced relation to the pivotal connection, studs carried by the ears, the axes of the studs lying perpendicular to the ears and in a plane which intersects the axis of the springs, spring receiving cups having integral transversely extending apertured ears slidably mounted on the studs adjacent the ends thereof remote from the ears, said cups receiving the ends of the springs remote from the second mentioned draft tongue, and nuts threaded on the studs to engage the apertured ears and to advance them toward the second mentioned draft tongue to regulate the pressure of the springs.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
671,698	Hennessey	Apr. 9, 1901
1,908,711	Kuchar	May 16, 1933