

(No Model.)

H. SNOWMAN.
FIFTH WHEEL.

No. 507,602.

Patented Oct. 31, 1893.

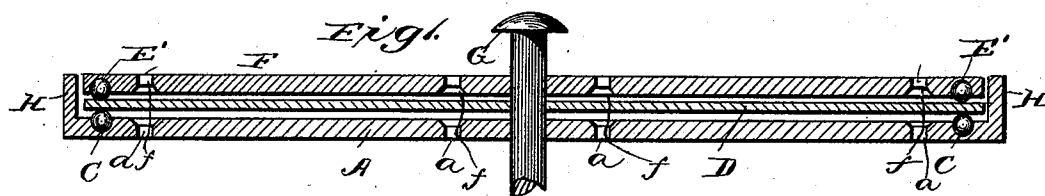


Fig. 2.

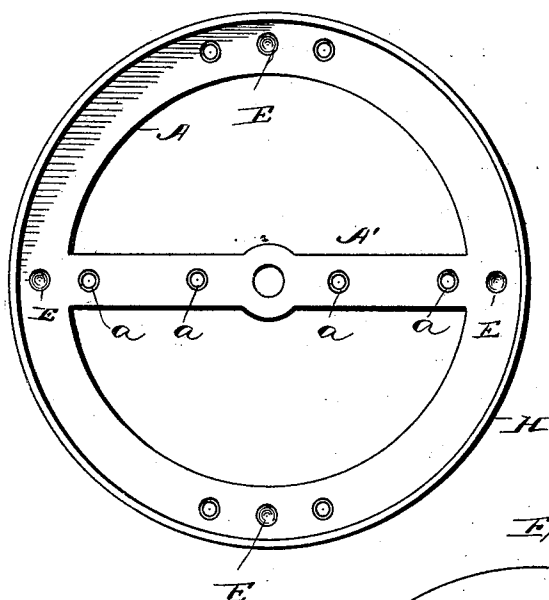


Fig. 3.

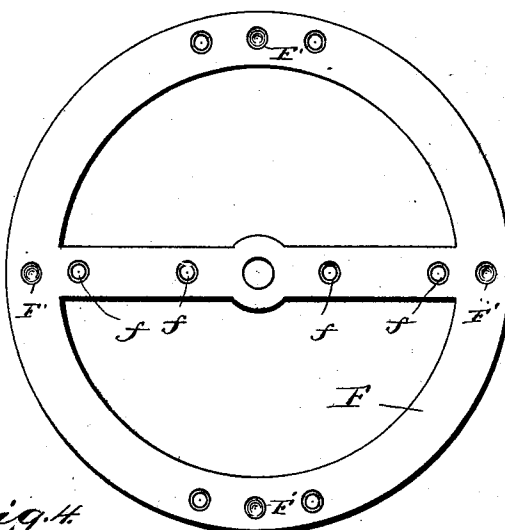
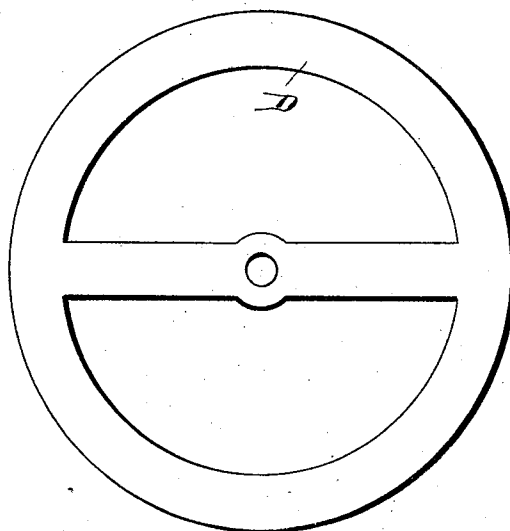


Fig. 4.



Witnesses

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FIFTH-WHEEL.

SPECIFICATION forming part of Letters Patent No. 507,602, dated October 31, 1893.

Application filed May 6, 1893. Serial No. 473,267. (No model.)

To all whom it may concern:

Be it known that I, HERMAN SNOWMAN, of New Paltz, in the county of Ulster and State of New York, have invented certain new and useful Improvements in Fifth-Wheels for Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in fifth wheels and has for its object to provide a device which will not cramp or bind under any condition of use, and which will turn with the utmost freedom and at the same time afford an extended bearing for preventing the tilting of the vehicle body on the center of oscillation or king bolt, thus adapting the device especially for use upon heavy trucks, although its use, it will be understood, is not necessarily confined to this class of vehicles.

The invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described and pointed out particularly in the appended claims.

Referring to the accompanying drawings: Figure 1 is a vertical section taken through the center of a fifth wheel embodying the present improvements. Fig. 2 is a top plan view of the bottom plate. Fig. 3 is a bottom plan view of the top plate, and Fig. 4 a plan view of the intermediate plate.

Similar letters of reference in the several figures indicate the same parts.

In illustrating the preferred embodiment of my present invention, I have not deemed it necessary to show the running gear at all, inasmuch as it may be of any of the ordinary well known types, and forms no part of my present invention, which latter relates solely to the construction of the fifth wheel itself.

Referring now, to the drawings, the letter A indicates the bottom wear plate, preferably made in the form of a complete circle or annulus with a transverse bridge or cross piece A', the latter as well as the circle, having means for attachment to the hounds or axle, such as countersunk holes a, through which

bolts or equivalent fastening devices may be passed and clipped to the hounds or axle in the ordinary manner. In addition to the holes for the securing bolts, the circular bottom plate is provided with a series of concavities, preferably hemispherical, as shown at E in the drawings, and adapted for the reception of anti-friction balls C.

Above the bottom wear plate A, and resting upon the series of anti-friction balls C carried thereby, is an intermediate wear plate D, of substantially the same form as the plate A, and adapted to rest on the said anti-friction balls all the while, and in turn support a second series of anti-friction balls E' carried in recesses F' in a top wear plate F, also corresponding in shape to the bottom wear plate. This top wear plate is provided with a series of countersunk holes f through which bolts or equivalent fastening devices may be passed for attaching the same to the frame work or running gear of the vehicle body.

All the plates are centered and held against lateral movement by means of the king bolt G, passing through the central apertures in the plates, and into the running gear at top and bottom. The bottom plate, in the preferred construction is also provided with an upwardly extending flange H, of a height corresponding to the thickness of the upper plates. Thus when the parts are assembled the upper edge of said flange will lie substantially flush with the top surface of the upper wear plate.

The number of balls employed, it is obvious, is quite immaterial, so that there be a sufficient number to prevent any distortion of the plates when subjected to heavy strains, thus, if the plates be good and heavy, four balls, as illustrated, will be found sufficient, but if the plates are thin, or adapted for use on very heavy vehicles, then it is desirable that a greater number of balls be employed and in any event, it is essential to the successful, practical operation of the device that the center plate over which the balls can travel without obstructing each other and without creating any undue friction or wear, be employed.

With a fifth wheel constructed in accordance with this invention, it will be found that

the front wheels may be turned with the greatest facility under any and all circumstances, and practically irrespective of the weight in the truck body, inasmuch as the anti-friction balls form a rolling contact with the smooth intermediate plate and offer practically no resistance to the movements of the plates upon each other. Further, the intermediate plate distributes the weight evenly over the bottom and top plates and thus serves as a safeguard against fracturing or bending the latter.

Having thus described my invention, what I claim as new is—

1. In a fifth wheel for vehicles, the combination with the top and bottom plates having the concavities therein and adapted to be connected with the running gear and front axle respectively, of the balls seated in said concavities and the intermediate loose plate separating and forming bearing surfaces for said balls, substantially as described.

2. In a fifth wheel for vehicles, the combination with the bottom plate having the series of concavities in its upper surface, the

top plate having a series of concavities in its under surface, said plates being adapted to be secured to the running gear and front axle respectively, and the king bolt, of the intermediate plate mounted between the top and bottom plates, and the series of anti-friction balls seated in said concavities in the top and bottom plates respectively and bearing on the intermediate plate, substantially as described.

3. In a fifth wheel for vehicles, the combination with the annular plate having the peripheral flange and the concavities on its inner surface and the cooperating plate having concavities on its inner surface and adapted to fit within the annular flange on the first mentioned plate, of the series of anti-friction balls seated in the concavities in said plates and the loose intermediate plate separating and forming bearing surfaces over which said balls travel, substantially as described.

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Witnesses:

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