No. 756,750. PATENTED APR. 5, 1904.

H. N. & J. E. WEAVER.

FIFTH WHEEL.

APPLICATION FILED JUNE 25, 1903.

NO MODEL.

Fig. 1.

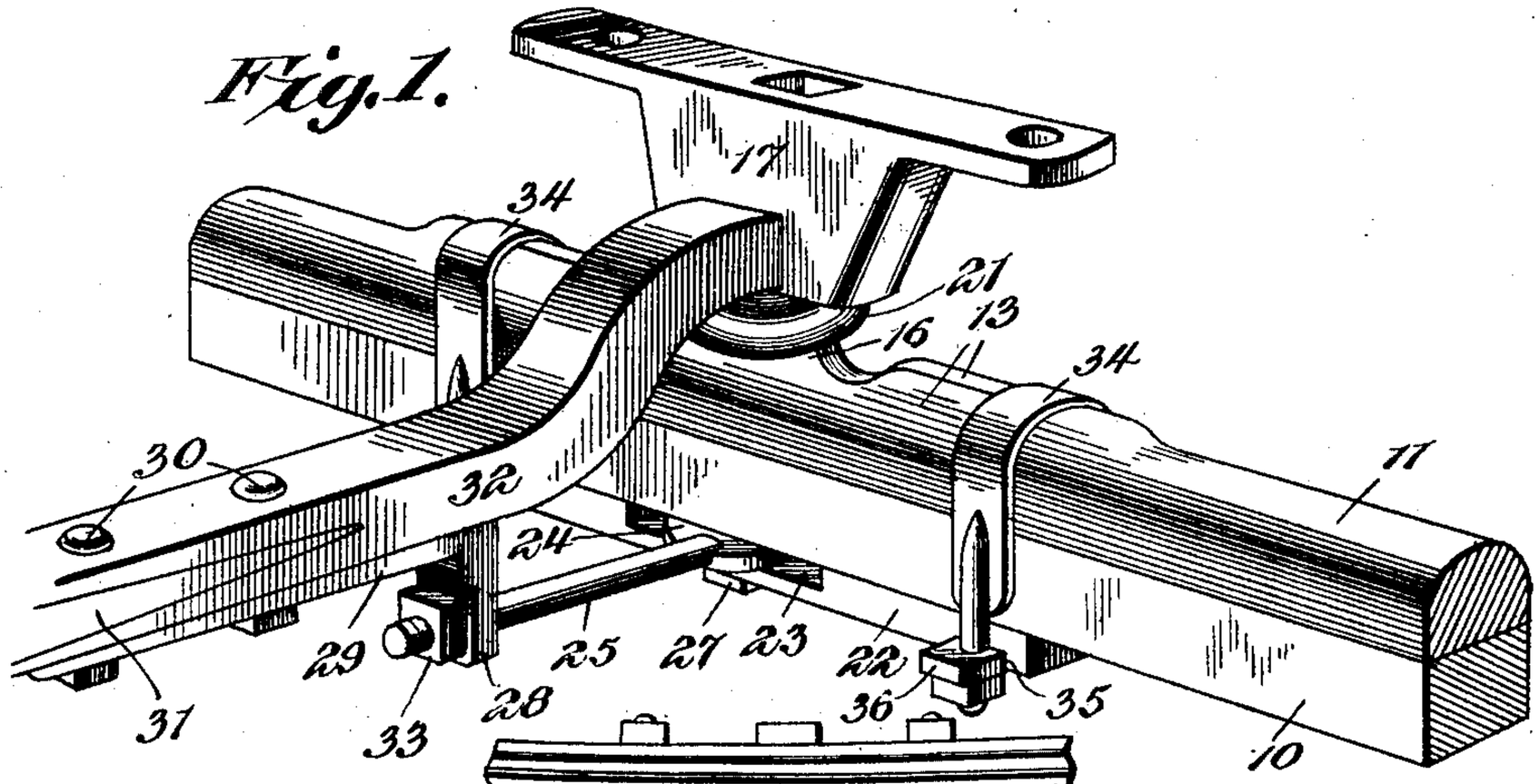


Fig. 2.

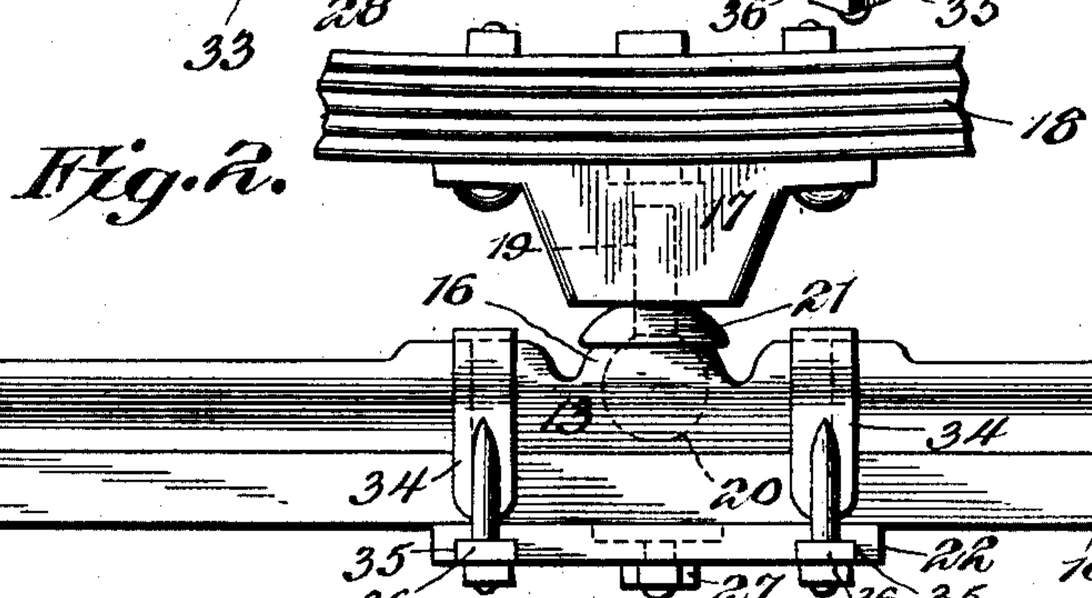


Fig. 3.

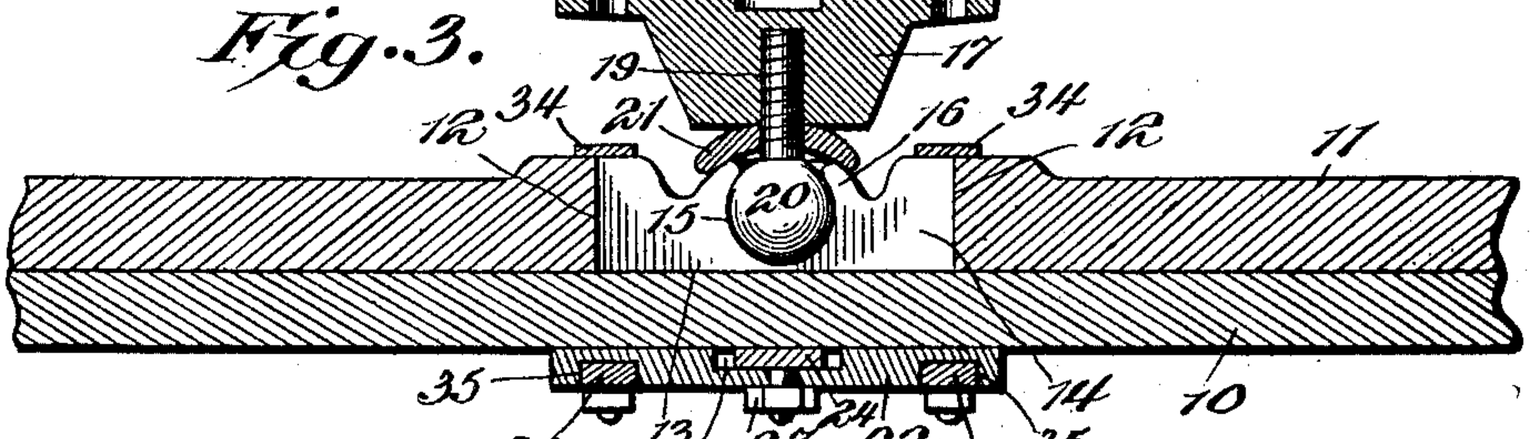


Fig. 4.

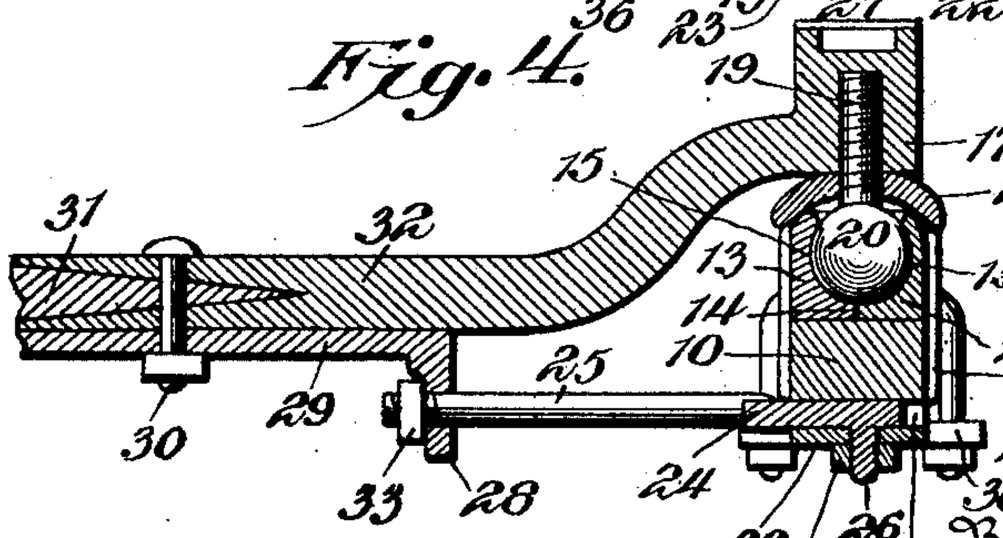
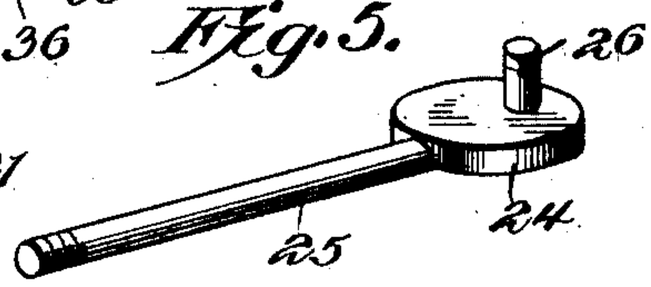


Fig. 5.



Witnesses
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No. 756,750. Patented April 5, 1904.

UNITED STATES PATENT OFFICE.

HENRY NEWTON WEAVER AND JOSEPH ERB WEAVER, OF LANCASTER, PENNSYLVANIA.

FIFTH-WHEEL.

SPECIFICATION forming part of Letters Patent No. 756,750, dated April 5, 1904.

Application filed June 25, 1903. Serial No. 163,137. (No model.)

To all whom it may concern:

Be it known that we, HENRY NEWTON WEAVER and JOSEPH ERB WEAVER, citizens of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented a new and useful Fifth-Wheel, of which the following is a specification.

This invention relates to fifth-wheels for vehicles of various kinds, though perhaps useful more particularly on buggies and carriages.

The object is to provide a novel and simple combination of parts wherein the friction is reduced to a minimum and which will permit the wheels to assume different upright angular relations with respect to the body without twisting or straining the latter, thus obviating the "force" cracks in the paint and varnish and also preventing the panels being forced away from the sill and opening at the corners.

The present embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of the improved fifth-wheel. Fig. 2 is a front elevation of the same. Fig. 3 is a vertical longitudinal section. Fig. 4 is a vertical transverse sectional view. Fig. 5 is a detail perspective view of the bridle employed.

Similar reference-numerals indicate corresponding parts in all the figures of the drawings.

In the embodiment illustrated the usual metal axle 10 is employed, having thereon a cap 11, which is formed of sections, the inner ends 12 of said sections being spaced apart, as illustrated particularly in Fig. 3. Between these ends 12 and bearing upon the upper face of the axle is a box formed of sections 13, both sections resting upon the axle and having their inner upright faces 14 together and provided with coacting recesses 15, which recesses constitute a socket having its upper end open, the portion 16 of the box about said opening being rounded in the manner shown.

The head-block 17, upon which the usual springs 18 are secured, tapers toward its lower end, and threaded into said end is a stem 19, carrying a bearing-ball 20, that fits in the socket 15. The stem 19 carries a sand-cap 21, threaded upon the stem beneath the head-block and covering the open end of the socket, being curved to conform to the shape of the adjacent face of the box, so that the free swinging of the stem will not be interfered with.

Arranged against the under face of the axle 10 is a bridle-plate 22, having its upper face recessed, as shown at 23, the upper portion of the recess being covered by the axle. In this recess is fitted the head 24 of a bridle 25, said head having a depending pivot 26, passing through an opening in the plate 22 and having a nut 27 threaded on its lower end. The rear end of the bridle-shank is threaded and passes through a downturned ear 28, forming part of a heel-bracket 29, that is attached, by means of bolts 30, to the perch, said bolts constituting means for securing the perch-pole 31 to the neck 32, which neck extends from the head-block. The rear end of the bridle-shank carries a nut 33, bearing against the ear 28 and serving to hold the bridle against forward longitudinal movement. The box-sections 13 are secured together and fastened to the axle by clips 34, which also fit over the inner ends of the caps 11 and likewise hold them in place. These clips, furthermore, embrace the bridle-plate 22, and said plate is provided with transverse seats 35, receiving the cross-bars 36 of the clips. As a result said clips constitute common means for holding the various elements upon the axle, and thus greatly simplify the structure. It will be apparent from the drawings that the axle can turn on a vertical axis the same as with an ordinary fifth-wheel, while the friction is reduced to a minimum because of the comparatively small bearing-ball employed. Further than this, said axle can tilt in a vertical direction, so as to pass over obstructions without tilting the box. The result is that no strains are imparted to the box, and cracking or checking of the paint or varnish from this cause is prevented. Furthermore, there is not the liability of the corners drawing apart or the panels being separated from the sills, as in the ordinary construction, wherein the

axle can have no vertical movement without carrying the box with it. The various elements going to make up this combination are very simple, so that there is little chance of derangement. The sand-cap serves to prevent the entry of grit, dirt, and dust into the bearing, while the bridle prevents the forward tilting of the axle, though permitting of its swinging in both horizontal and vertical directions.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a vehicle fifth-wheel, the combination with an axle, of a boxing comprising sections, both of which rest upon the axle, a bearing journaled in the boxing and located partially in each of the sections, and clips surrounding the sections and axle and securing the sections together and the boxing to the axle.

2. In a vehicle fifth-wheel, the combination with an axle, of cap-sections located thereon and having their inner ends spaced apart, a boxing fitted between said ends and comprising sections, both of which bear upon the axle and having coacting cavities in their adjacent upright faces, a head-block, a shank threaded into the under side of the head-block and having a ball enlargement journaled in the cavities of the box, and clips surrounding the boxing-sections, the adjacent ends of the axle-cap sections and the axle.

3. In a vehicle fifth-wheel, the combination with an axle, of a perch having a pivotal bearing located upon the upper portion of the axle, a bridle-plate attached to the under side of the axle and having a recess in its upper face, and a bridle attached to the perch and having its front end located in the recess, said end being provided with a depending pivot engaging the plate directly beneath and in line with the pivotal bearing.

4. In a vehicle fifth-wheel, the combination with an axle, of cap-sections located thereon and having their inner ends spaced apart, a boxing fitted on the axle between the cap-sections and comprising sections having a seat, a head-block, a ball carried by the head-block and journaled in the seat of the boxing, and means for securing the sections together and fastening the boxing to the axle.

5. In a vehicle fifth-wheel, the combination with an axle, of a perch having a ball-and-socket connection with the upper side of said axle, a bridle-plate attached to the under side of the axle, said plate having a recess in its upper face, and a downwardly-extending opening leading from the recess and in line with the ball-and-socket connection, a bridle having a pivoted connection at its rear end with the perch, and a depending pivot located at the front end of the bridle and engaged in the opening of the bridle-plate, said bridle having its front end seated in the recess of said plate.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

HENRY NEWTON WEAVER.
JOSEPH ERB WEAVER.

Witnesses:
S. R. ZIMMERMAN,
JOHN H. PRICE.