J. BURT.

FIFTH-WHEEL.

No. 176,770. Patented May 2, 1876.

Fig. 1.

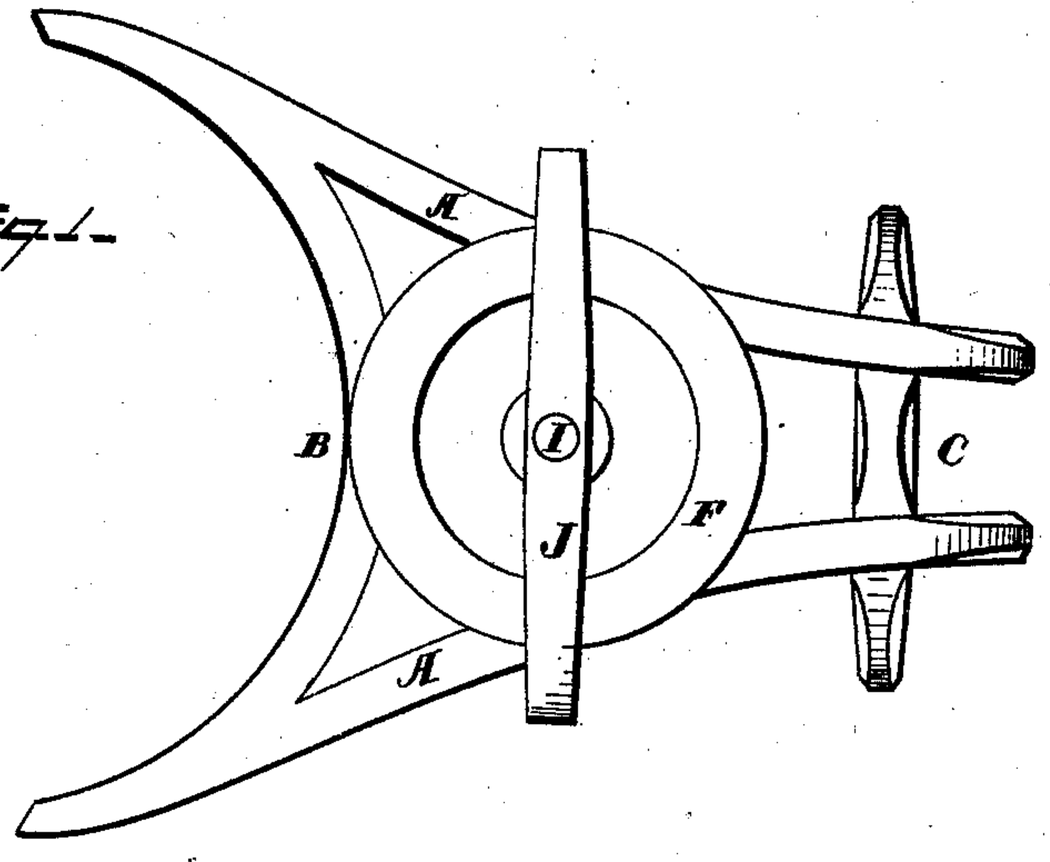


Fig. 2.

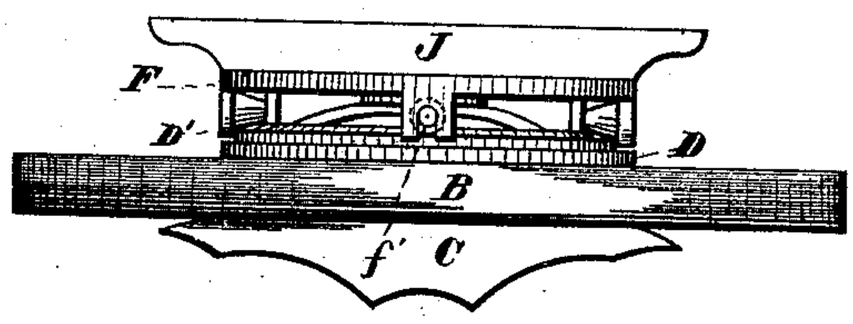
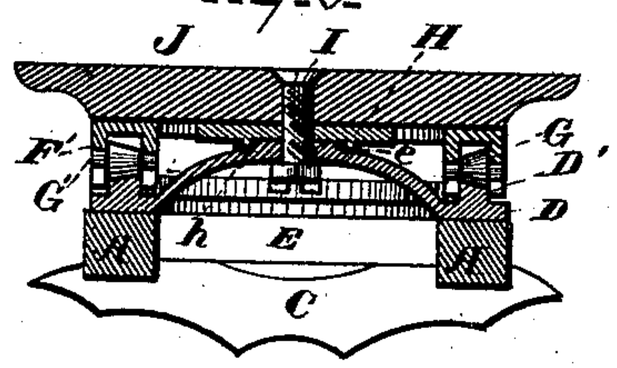


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN BURT, OF SANDUSKY, OHIO.

IMPROVEMENT IN FIFTH-WHEELS.

Specification forming part of Letters Patent No. **176,770**, dated May 2, 1876; application filed March 31, 1876.

To all whom it may concern:

Be it known that I, JOHN BURT, of Sandusky, in the county of Erie and State of Ohio, have invented certain new and useful Improvements in Fifth-Wheels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improved fifth-wheel, designed, more especially, for use on what are termed platform-trucks, wherein the bolster admits of being turned about the king-bolt to any extent whatever.

My invention consists in certain details of construction, as hereinafter specified and claimed.

In the drawing, Figure 1 is a plan view of my invention. Fig. 2 is an end elevation. Fig. 3 is a sectional view, by a vertical plane passed longitudinally through the bolster and the arched cross-bar, and showing parts in elevation.

A is any ordinary frame, truck, or gear, composed of the four parts A B C, A being the side pieces, B the back, and C the front, cross-pieces.

Heretofore the construction of the fifth-wheel has been such, when made upon the principle here involved, that one was obliged to support it upon cross-pieces, and longitudinal pieces resting upon the gear A B C. In my device D is the lower plate, resting directly upon the pieces A and B, and secured thereto by bolts and clips, or otherwise. D′ is an elevated inclined way, upon which the rollers traverse. E is a cross-piece, extending from one side of the lower plate diametrically across to the other side, and made, preferably, in a single piece or casting with the said lower plate. This cross-bar E is arched, as shown, so that, without making the structure too heavy and unwieldy, it possesses sufficient strength to sustain the entire load that is superposed upon it. So, also, it will be observed that the elevated inclined way D′ serves the double purpose of a roller-way to stiffen the lower ring against the outward thrust of the arched cross-piece E, and also stiffens the lower ring against any unusual vertical strain.

F is the upper circular plate, and depending from it at different points about its circumference are trunnion-seats F′, into which the trunnions G′ of the rollers G are situated and retained. These trunnion-seats F′ extend well down, so that the lower ends preferably embrace the inclined way between them, the object being as follows: The trunnions G′ are not fastened in any way in the seats; therefore they always rest on the way D′, no matter whether the upper plate may be tilted or not; but, if the upper plate is tilted over to one side slightly, then the seats F′, extending down so far, will retain the trunnions within the slot or throat *f′*. G are the rollers, and are made, preferably, of conical form, the said apices of the cones being at the center of motion, so that the rollers will have no tendency to slide. H is a block resting upon the cross-bar E, and having a firm bearing thereon, and adjusted to turn about the king-bolt I. The plate H is, preferably, provided with an annular recess, *h*, into which the annular tongue *e* projects from the cross-bars that jointly serve to hold the parts always in the same relation with each other. J is the bolster, to which the front of the vehicle-body is attached. This bolster is likewise attached to the plate H, and to the upper circular plate F.

It will be noticed that the cross-bar E in my fifth-wheel is so arched and adjusted, with respect to the plate H and the bolster J, that the weight of the front of the vehicle will rest entirely upon the arched bar E, and not upon the rollers G. The rollers G serve only to receive and sustain the weight when the vehicle is turned over to either side. The trunnion-seats F′, since they depend from the upper plate F, will prevent all grit from collecting therein and grinding upon the trunnions G′. So, also, the inclined way D′, because of its inclination, will serve, in a great measure, to keep itself clean of grit. It will be observed, also, that this structure enables me to entirely dispense with cross-pieces extending from one piece, A, to the other piece, A, or of longitudinal pieces extending between the braces

B and C; and the arched form of the cross-bar permits of the structure being made very light, and of neat appearance.

By constructing the rollers and way inclined, as set forth, any side thrust brought to bear on the rollers will be restricted by the shape of the rollers and their way, and the wheel will turn on its bearing notwithstanding any lateral pressure brought to bear on the same. The trunnions, slotted as described, allow of the ready attachment of the rollers, and also prevent the accumulation of grit about the journals of the trunnions.

I do not limit myself to the precise number of rollers that are here shown, there being six shown in the drawings; whereas, there might be more or less than that number, as desired.

What I claim is—

1. The circular plate D, constructed with an inclined track or roller-way, D′, and provided with the arched cross-piece E, the crown of the arch formed with a raised flat bearing for supporting the upper plate F, substantially as and for the purpose set forth.

2. The combination, with the lower plate D, of the elevated outwardly-inclined roller-way D′, substantially as and for the purpose specified.

3. The combination, with the upper plate F, the rollers G, and the dependent trunnion-seats F′, of the slots *f*′, substantially as and for the purpose described.

4. The combination of the lower plate D, upper plate F, and inclined rollers G, with the open-slotted trunnion-seats F′, substantially as and for the purpose described.

5. The combination of the bolsters J, the upper plate F, the lower plate D, provided with an inclined roller-way, inclined rollers G, and the arched cross-bar E, the said parts so constructed, substantially as described, that the direct weight shall be borne by the said cross-bar E, substantially as and for the purpose described.

6. The fifth-wheel, composed of the lower plate D, with the inclined elevated way D′, the upper plate F, with the dependent trunnion-seats F′, the inclined rollers G, the arched bar E, the plate H, the bolster J, and the king-bolt I, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN BURT.

Witnesses:

FRANCIS TOUMEY,

JAMES P. WALSH.