(No Model.)

F. J. BUFF.

VEHICLE GEAR.

No. 522,401. Patented July 3, 1894.

Fig. 1.

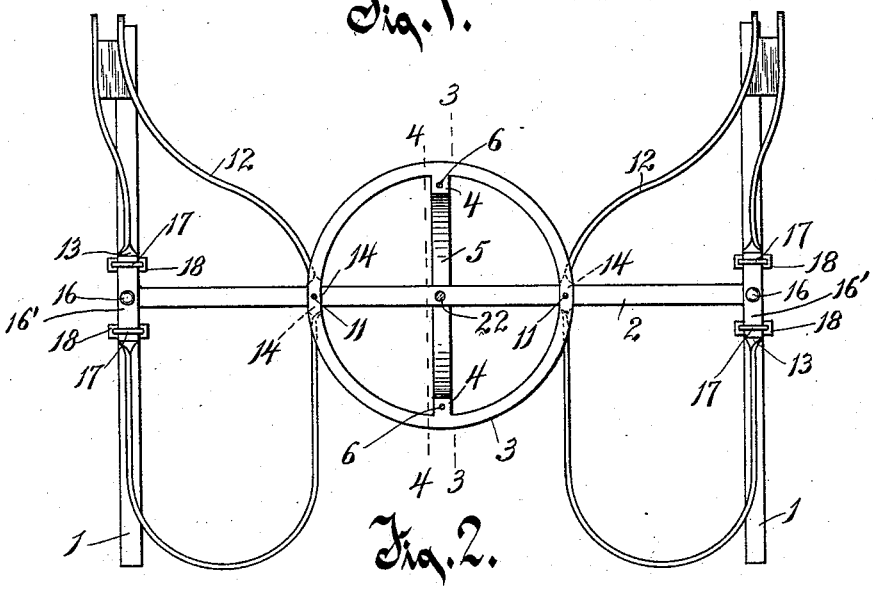


Fig. 2.

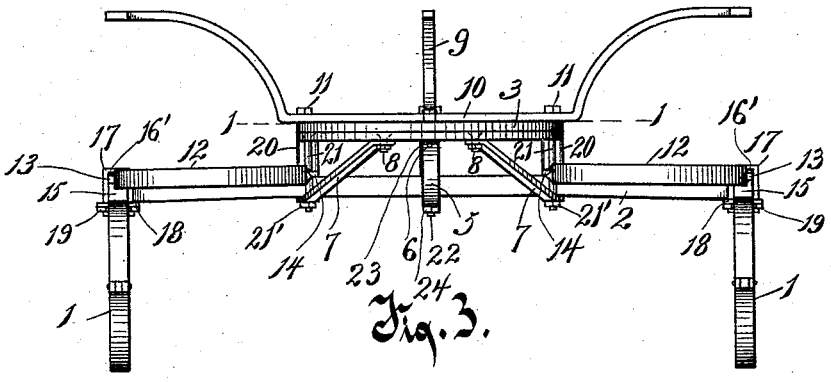


Fig. 3.

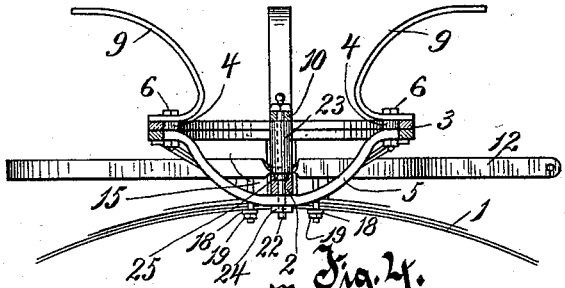
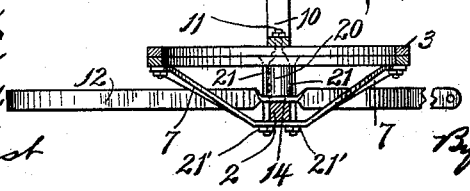


Fig. 4.



Witnesses.

C. H. Kenny

Anna C. Faust

Inventor.

Frank J. Buff.

By Benedict & Morsell.

Attorneys.

UNITED STATES PATENT OFFICE.

FRANK J. BUFF, OF MILWAUKEE, WISCONSIN.

VEHICLE-GEAR.

SPECIFICATION forming part of Letters Patent No. 522,401, dated July 3, 1894.

Application filed January 22, 1894. Serial No. 497,647. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. BUFF, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Vehicle-Gearings, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in vehicle gearings, having particular reference to what is known as "platform" gears.

The primary object of the invention is to provide a gearing which relieves the king-bolt of all direct strain, and at the same time, in case of breakage to or loss of said king-bolt, will act entirely independent thereof to retain the parts in their locked position.

A further object is to provide an improved construction of tongue hounds, involving the maximum amount of simplicity, lightness, and durability.

With the above, and other, objects in view, the invention consists of the devices and parts as hereinafter described and claimed, or their equivalents.

In the accompanying drawings, Figure 1, is a horizontal section on the line 1—1 of Fig. 2. Fig. 2, is a front elevation. Fig. 3, is a transverse section on the line 3—3 of Fig. 1, looking toward the left, and Fig. 4, is a transverse section on the line 4—4 of Fig. 1, looking in the same direction.

Like numerals of reference denote like parts throughout the several views.

Referring to the drawings, the numerals 1, 1 indicate the forward side springs, 2 the bolster, and 3 the fifth-wheel, the upper circle of said fifth-wheel being provided, at diametrically opposite points, with inward-extending lugs 4, 4.

The numeral 5 indicates a central longitudinally extending downward curved brace-bar, the opposite extremities of said bar being straightened so as to fit beneath, and to be secured to, the lugs 4, 4, by means of bolts 6, 6. By this arrangement of the central brace-bar, its opposite extremities are secured to the upper circle of the fifth-wheel, while the edges of the opposite straight ends bear directly against opposite points of the inner side of the lower circle. Other brace-bars 7, 7, on each side of the central brace, bear at their ends against the under side of the lower circle of the fifth-wheel, and are secured thereto by means of countersunk bolts 8, 8.

The forward part of the bed or body of the vehicle is supported, at central points above the fifth-wheel, by means of front and rear curved arms 9, 9, having their lower ends, preferably, secured to the lugs 4, 4, by the same bolts 6, 6 which secure the ends of the central brace-bar 5 thereto. A bar 10 intersects the upper circle of the fifth-wheel transversely, and is secured thereto by means of bolts 11, 11. This bar on opposite sides of the fifth-wheel is curved or bent upward to form supports at opposite sides for the forward part of the vehicle bed or body.

The numerals 12, 12 indicate tongue hounds, each of which consists of a single strap of iron bent to the loop form shown, and stands up edgewise throughout its length, excepting at the points 13 and 14, respectively, at which points the iron is twisted flat, or, if preferred, hammered flat. It will be noticed that the opposite ends of the bolster 2 are T-shaped, as indicated at 15, and clearly shown in Figs. 2 and 3. These T-shaped ends fit beneath the outer flat surfaces 13, and between the same and the upper sides of the springs 1, 1. The flat surfaces 13, are secured directly to the T-heads by means of bolts 16, 16, which also pass through plates 16′ on top of the flat surfaces 13. Clips 17, 17 are provided for connecting these parts to the springs 1, 1. The clips extend across opposite ends of the flat plates, and their legs embrace the T-heads and opposite edges of the springs. The lower threaded ends of the legs of the clips pass through tie-bars 18, 18 which extend transversely across the under sides of the springs, the extremities of said legs receiving locking nuts 19, 19.

The inner flat surfaces 14 of the hounds lie on top of the bolster 2, and blocks 20, 20 are interposed between said flat surfaces and the inner side of the lower circle of the fifth-wheel. It will be noticed that the side brace bars 7, 7 pass beneath the bolster at points directly below the flat surfaces 14, 14. The side braces, the bolster, the flat portions 14 of the hounds, and the interposed blocks 20 are held

to their relative positions by means of front and rear bolts 21, 21. These bolts have their heads countersunk in the lower circle of the fifth-wheel, and their shanks embrace the blocks 20, and fit in grooves therein and then pass through the flat surfaces of the hounds, embracing opposite sides of the bolster, and finally passing through the lower portions of the braces 7, receiving upon their threaded ends the nuts 21′, 21′.

The numeral 22 indicates a king-bolt, said bolt passing centrally through the transverse bar 10, thence through a block 23, beneath said transverse bar, through the bolster and finally through the center of the central brace-bar 5, receiving upon its threaded extremity a nut 24. It will be noticed that the lower end of the block 23 is tenoned, as indicated at 25, said tenoned end fitting into a complementary recess in the bolster.

By employing the central brace-bar 5 attached to the lugs of the upper circle of the fifth-wheel, and having its ends bearing against the inner side of the lower circle of the fifth-wheel, the strain instead of being entirely on the king-bolt is directed against the front of the lower circle. In view of this construction, the liability of the king-bolt breaking is reduced to the minimum. It will also be obvious that the king-bolt is not essential to safety, inasmuch as should the same break, or work out of place, the central brace 5 alone is sufficient to hold the parts in locked position. Not only are they interlocked, but they also maintain the same relative position with respect to each other, the tenon 25 preventing any sidewise slipping, and the block 23 any upward movement.

Another important advantage of my invention is the fact that accident is insured against by the sudden turning or shying of the horses, and the consequent careening of the vehicle. The front gearing can be turned in such a contingency only a limited distance, inasmuch as the bolster will be brought into contact with the central brace 5, which of course is held stationary to the upper circle of the fifth-wheel.

I also claim that the improved construction and arrangement of the hounds herein shown and described secures important advantages in point of lightness, simplicity and general efficiency. They are each constructed of one piece of iron, which is bent or hammered flat at the points 13 and 14 to form a convenient means for attachment, at the same time making it possible to dispense with a number of parts which have heretofore been necessary in order to secure the proper attachment of these hounds. It will be apparent that the entire gearing can be, and in practice is, composed of steel, the construction rendering it possible to readily construct the same of that metal. This, as is obvious, provides a gearing possessing the maximum amount of strength, and one not affected either by the hot sun, or rainy weather. The gearing, at the same time, is so spanned that it is far lighter than any other style of gear made.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a vehicle gearing, the combination, of a fifth-wheel, a bolster, brace bars having their ends secured to the lower circle of the fifth-wheel, blocks between the bolster and the lower circle, and bolts for securing the lower circle, side blocks, bolster, and side braces together, substantially as set forth.

2. In a vehicle gearing, the combination, of a bolster, a fifth wheel, the upper circle thereof provided at opposite points with inwardly extending lugs, a brace bar passing beneath the bolster and having its ends curved up and extended beneath and secured to the inwardly extending lugs of the upper circle of the fifth wheel, said ends of the brace bearing against the inner side of the lower circle of the fifth wheel, a bar arranged transversely over the upper circle of the fifth wheel, a central block interposed between said transverse bar and the bolster, a king bolt passing through the transverse bar, block, bolster and brace bar, side blocks interposed between the lower circle of the fifth wheel and the bolster, brace bars on each side of the first mentioned brace bar, said side brace bars passing beneath the bolster, and having their upper ends secured to the lower circle of the fifth wheel, and bolts for securing the lower circle, side blocks, bolster, and side braces together, substantially as set forth.

3. In a vehicle gearing, the combination, of a bolster, tongue hounds each arranged edgewise, and formed at an inner point into a flat surface, a fifth wheel, braces passing beneath the bolster and having their ends secured to the lower circle of the fifth wheel, blocks interposed between the flat surfaces of the hounds and said under circle of the fifth-wheel, and means for securing the under circle, blocks, flat surfaces of the hounds, and the bolster together, substantially as set forth.

4. In a vehicle gearing, the combination of a bolster, a fifth wheel, the upper circle thereof provided at opposite points with inwardly extending lugs, a brace bar passing beneath the bolster, and having its ends curved up and extended beneath and secured to the inwardly extending lugs of the upper circle of the fifth wheel, said ends of the brace bar bearing against the inner side of the lower circle of the fifth wheel, a bar arranged transversely over the upper circle of the fifth wheel, a central block interposed between said transverse bar and the bolster, front springs, tongue hounds each bent into loop form, and arranged edgewise throughout its length, except at opposite points where it is formed into flat surfaces, clips embracing the outer flat surface of each hound and also embracing the ends of the bolster and the edges of the springs, blocks arranged between the inner flat surfaces of the hounds and the lower circle of

the fifth wheel, braces on opposite sides of the central brace, said braces passing under the bolster, and having their upper end secured to the under circle of the fifth wheel, and bolts for securing the lower circle, side blocks, bolster, and side braces together, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK J. BUFF.

Witnesses:
ARTHUR L. MORSELL,
ANNA V. FAUST.