

(No Model.)

3 Sheets—Sheet 1.

G. E. BARTHOLOMEW.
VEHICLE RUNNING GEAR.

No. 470,232.

Patented Mar. 8, 1892.

FIG. 1.

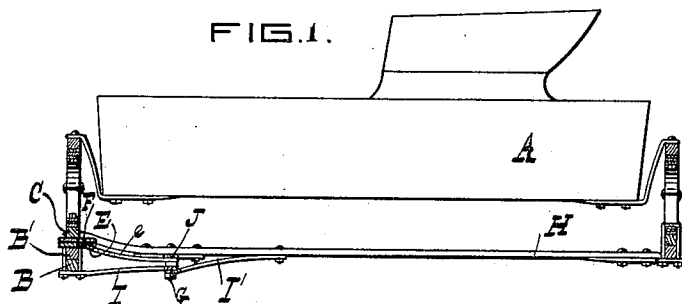


FIG. 2.

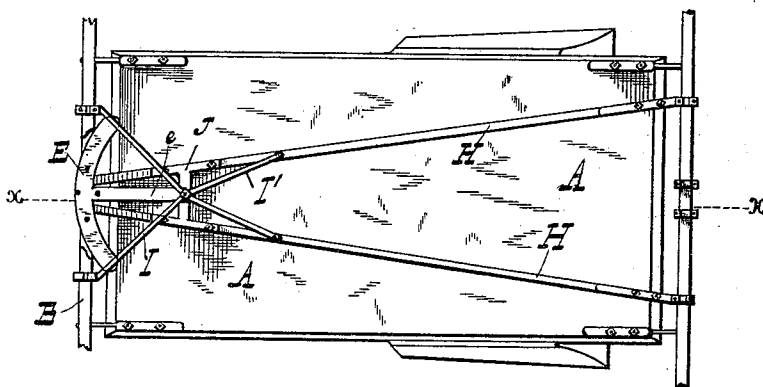


FIG. 3.

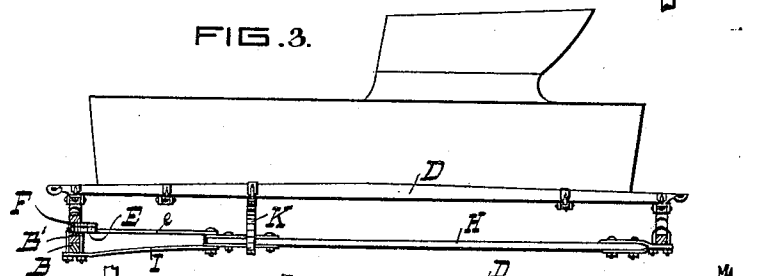
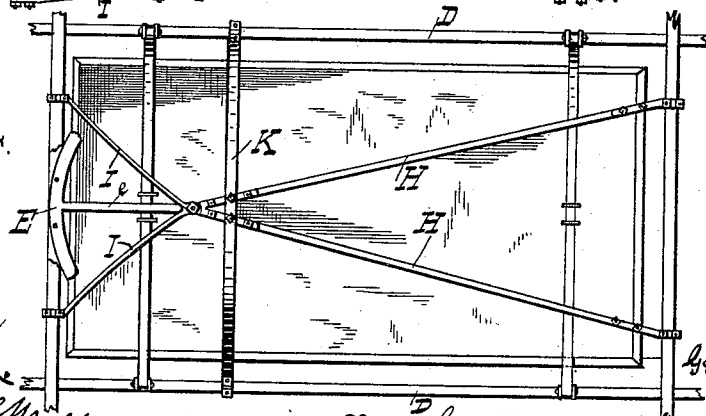


FIG. 4.



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3 Sheets—Sheet 2.

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FIG. 5.

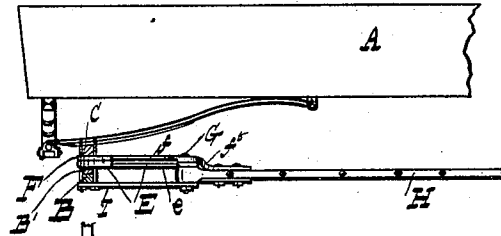


FIG. 6.

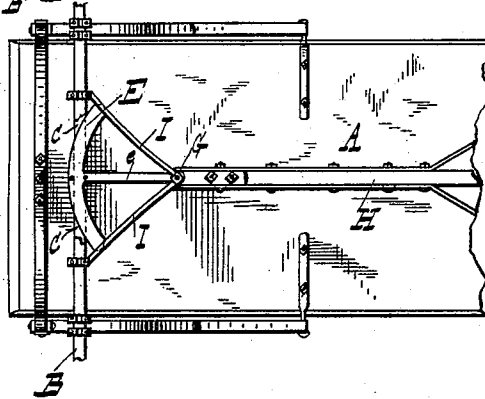


FIG. 7.

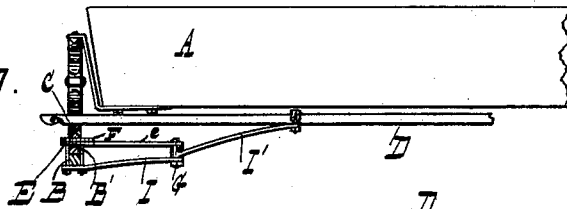
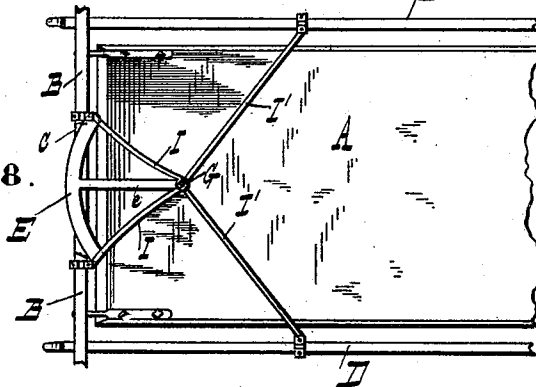


FIG. 8.



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FIG. 9.

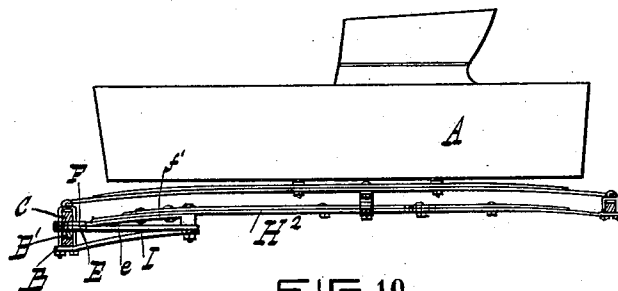


FIG. 10.

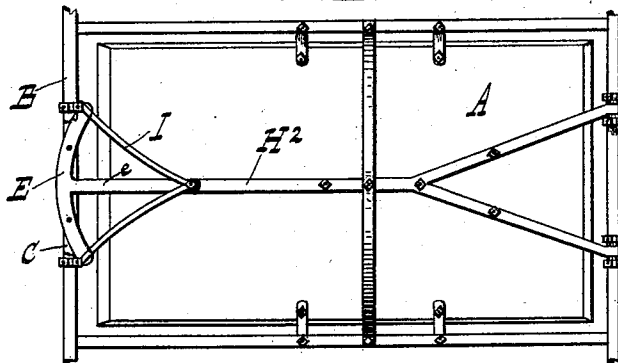


FIG. 11.

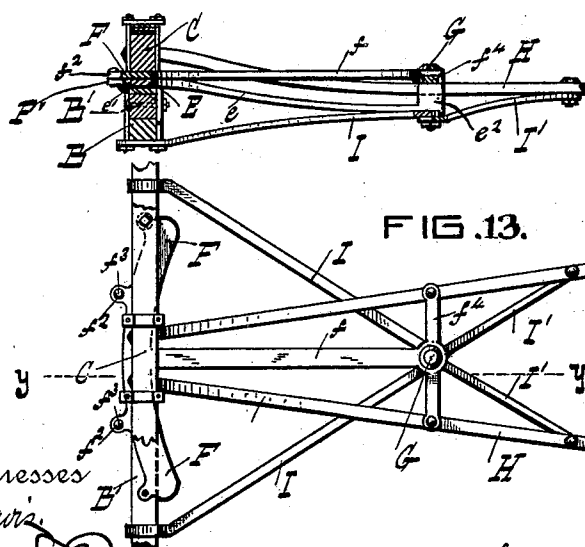


FIG. 12.

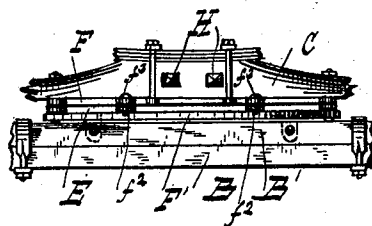
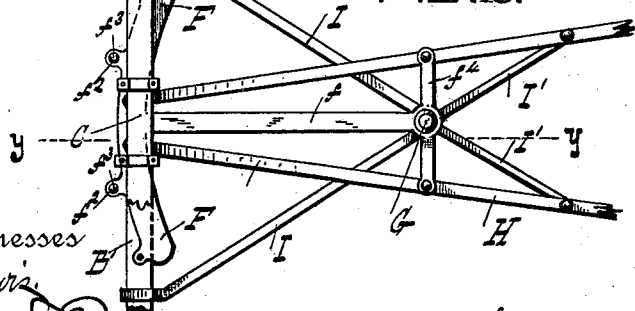


FIG. 13.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE E. BARTHOLOMEW, OF CINCINNATI, OHIO, ASSIGNOR TO EDWARD WENNING, OF SAME PLACE.

VEHICLE RUNNING-GEAR.

SPECIFICATION forming part of Letters Patent No. 470,232, dated March 8, 1892.

Application filed May 4, 1891. Serial No. 391,541. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. BARTHOLOMEW, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Vehicle Running-Gears, of which the following is a specification.

The object of my invention is to provide a durable short-turn gear for spring-wagons, which is adapted for use with any of the well-known spring-couplings.

The invention will be first fully described in connection with the accompanying drawings, and will then be particularly referred to, and pointed out in the claims.

Referring to the drawings, in which like parts are indicated by similar reference-letters wherever they occur throughout the various views, Figure 1 is a longitudinal section through a gear constructed according to my invention, section being taken through line *x x* of Fig. 2, the body being shown in side elevation and coupled to the gear by the customary end elliptic springs. Fig. 2 is an inverted plan view of the same. Fig. 3 is a side elevation of my gear applied to a Brewster wagon. Fig. 4 is an inverted plan view of the same. Fig. 5 is a side elevation of my gear with the body mounted upon what are known as the "half platform-springs." Fig. 6 is an inverted plan view of the same. Fig. 7 is a side view of the gear applied to a side-bar wagon without perch, the body being coupled to the gear by end elliptic springs. Fig. 8 is an inverted plan view of the same. Fig. 9 is a side elevation of my gear adapted to side-spring and spring-perch wagons. Fig. 10 is an inverted plan view of the same. Fig. 11 is a longitudinal sectional view, upon an enlarged scale, of my preferred form of the fifth-wheel device or short-turn irons, taken through line *y y*, Fig. 13. Fig. 12 is a view in front elevation of the same. Fig. 13 is a plan view.

Referring by reference-letters to the parts common to all vehicles, A represents the body; B, the front axle; B', the axle-bed; C, the head-block or bolster, and D the side bars.

My invention relates particularly to the means for coupling the front axle to the gear and bracing the moving parts against strain,

so that the gear may be made light and neat in appearance without danger of becoming shakky.

In the views, E represents the segmental plate secured upon the axle-bed, and F a companion plate secured to the under side of the head-block or bolster.

In Figs. 1 and 2 the segment E has a rear extension *e*, terminating in a perforated boss to receive the king-bolt G. H represents the reach. I I' represent angle-braces having perforated bosses at their angles. The diverging ends of the brace I are clipped underneath the front axle. The ends of brace I' are bolted or clipped upon the reach. J is a crab extending transversely from one reach to the other and centrally perforated. The king-bolt G passes through this crab, the perforated end of the arm *e*, and the two braces I I'. The crab may be made integral with the inward extension of the plate, as shown in Figs. 11 and 13.

In the form shown in Figs. 3 and 4 the plates E and F are the same as above described, except the inwardly-extended arm *e* is straight instead of curved. The reaches H terminate at the king-bolt, which passes through the end of arm *e*, the reaches H, and the angle of the brace I. K is a spring-brace, which has its ends clipped to the side bars D, from which points it bends downward, rests upon and is bolted to the reaches H.

The form shown in Figs. 5 and 6 differs from that shown in Figs. 3 and 4 in having an arm *f*, similar to arm *e*, extending inward from the upper plate F. The king-bolt passes through both arms *e* and *f* and the end of the single-braced perch or reach H H'. The arm *f* has a rear extension *f*⁵, which is bolted upon the reach.

In the forms shown in Figs. 7 and 8 the reach or perch is dispensed with. The brace I' in this case extends up to the side bars, which are rigidly secured upon the rear axle and the head-block.

In the form shown in Figs. 9 and 10 the upper segment F has a rearwardly-extending arm *f*, curved to conform to the shape of the forward end of the spring-perch H², to the under side of which it is bolted, making that part of the spring practically rigid. The rear-

ward extension F terminates in a perforated boss. The king-bolt passes through the perforated boss of the arm f' , the lower extension-arm e , and the end of the brace I.

- 5 In each of the above-described views the segments E F are shown as plain flat plates; but I prefer to make them as illustrated in Figs. 11 to 13. The lower segment E has its outer edge beveled or rounded, as seen at e' .
 10 The upper segment F extends beyond the lower one and is provided with perforated lugs f^2 . F' is a concavo-convex segment, also provided with perforated lugs. This segment F' is secured to the under side of the segment
 15 F by bolts f^3 , passing through the perforated lugs. The segment F thus embraces the beveled or rounded edge of the lower segment and insures a steady even movement. The concave side of the segment F' and the
 20 rounded edge of the segment E are dressed off smooth.

- In the preferred form of my invention (shown in Figs. 11, 12, and 13) the double reaches H are tenoned through the head-block.
 25 The rearwardly-extending arm f of the upper plate F has a cross-head f^4 at its rear end, which rests upon and is secured to the reaches. The rearwardly-extended arm e of the plate E has an upwardly-projecting boss e^2 , upon
 30 which the cross-head f^4 rests. The king-bolt passes through cross-head boss e and the angles of the braces I I' and secures the parts together.

I claim—

1. The combination of the gear-frame, the 35 segments E F', secured, respectively, to the front axle and head-block, one of said segments having a rearwardly-extending perforated arm to receive the king-bolt, the brace I, having its front ends secured to the front 40 axle, the brace I', having its ends secured to the gear, the angles of both braces terminating in perforated bosses to receive the king-bolt, and the king-bolt passing through the segment-arms and the bosses of both braces 45 I I', substantially as shown and described.

2. The combination of the gear-frame, the segment E, having rounded edge and secured upon the axle, the segment F, secured upon the head-block and extending beyond the 50 segment E, the concavo-convex segment F', secured to the under side of the segment F and embracing the rounded edge of the lower segment, one of said segments having a rearwardly-extending perforated arm to re- 55 ceive the king-bolt, the braces I I', having perforated bosses secured, respectively, to the front axle and gear-frame, and the king-bolt passing through both braces and the rearwardly-extended arm of the fifth-wheel 60 plate, substantially as shown and described.

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