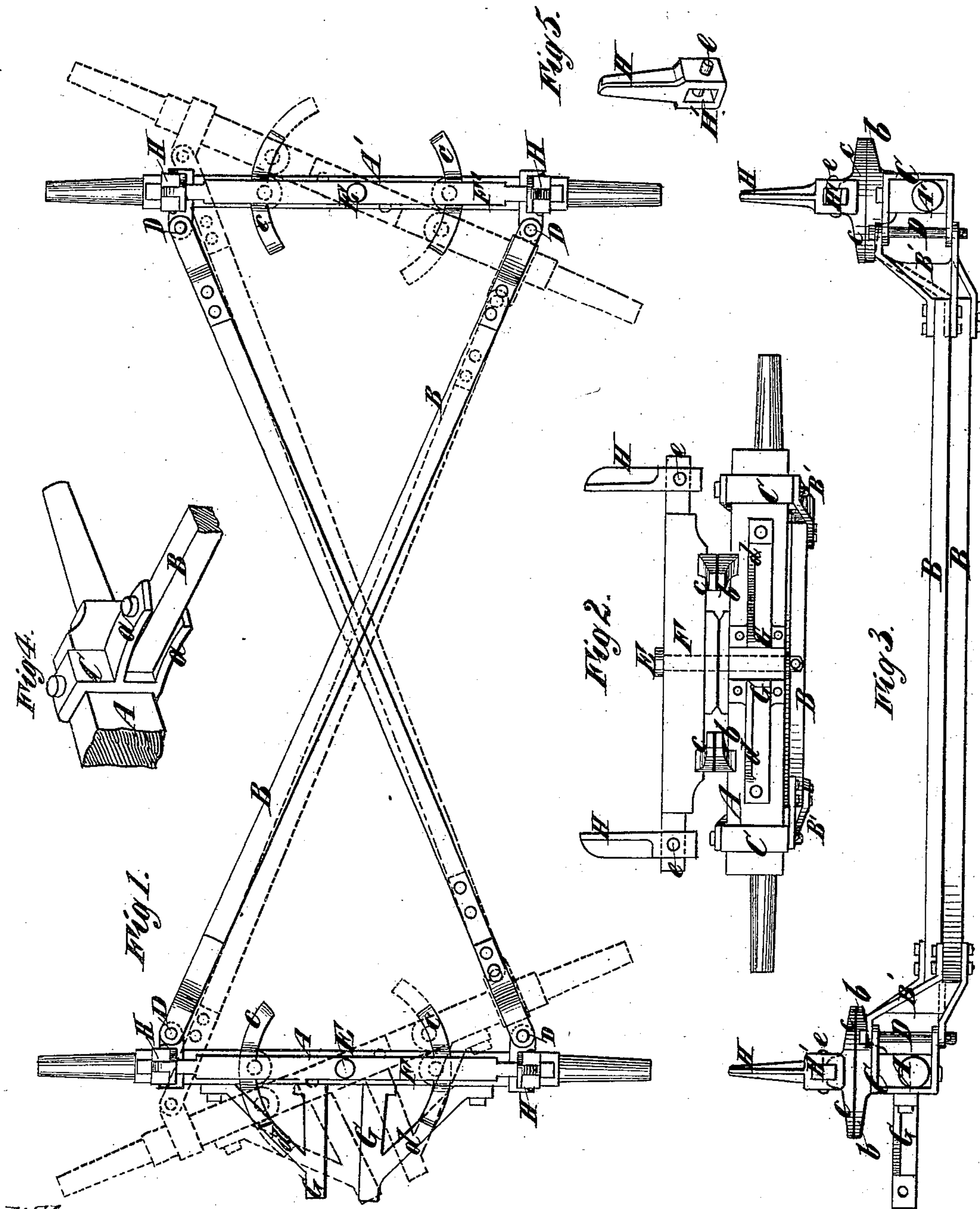


G. W. BURR.
Running-Gear for Wagons.

No. 228,311.

Patented June 1, 1880.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE W. BURR, OF EAST LINE, NEW YORK.

RUNNING-GEAR FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 228,311, dated June 1, 1880.

Application filed December 26, 1879.

To all whom it may concern:

Be it known that I, GEORGE W. BURR, of East Line, in the county of Saratoga and State of New York, have invented certain new and
5 useful Improvements in the Running-Gear of Wagons and other Vehicles, of which the following is a specification.

Certain of my improvements relate to wagons and other vehicles in which the two axles
10 are connected by cross-reaches which extend diagonally from each end of one axle to the opposite ends of the other axle; and such improvements consist in a novel means of pivoting the ends of the reaches to the axles, and
15 in making such reaches of a length between their pivots equal to the distance between the king-bolts.

Certain other of my improvements consist in various details of construction and combinations of parts whereby a running-gear is provided in which all the parts are well supported and the durability of the wagon increased.

In the accompanying drawings, Figure 1 represents a plan of a wagon-gear embodying
25 my improvements. Fig. 2 represents an end view thereof. Fig. 3 represents a side view thereof. Fig. 4 represents a modified form of connection for the reach, and Fig. 5 represents a perspective view of a stake for use in
30 connection with the bolster of box-wagons.

Similar letters of reference designate corresponding parts in all the figures.

A A' designate, respectively, the forward and hind axles of the wagon-gear, and B designates reaches extending diagonally across
35 from near the end of each axle to near the opposite end of the other axle. When the axles of a wagon are so connected it greatly facilitates the turning of the wagon, as both the
40 axles change their position instead of the forward axle, and assume a position like that shown in dotted outline in Fig. 1.

B' designates a skeleton-frame or clevis securely bolted to the end of each reach, and C designates clips embracing the axles and
45 securely bolted thereto. D designates a bolt connecting the clevis or frame B' with the clip C, so that the reach may readily swing upon it. As this bolt is made very long, the axles
50 are kept in their upright position when the wagon-gear is used without a box.

The reaches B are made of a length, between their pivots D, equal to the distance between the king-bolts E of the wagon, which unite the forward and back bolsters, F F',
55 with the axles A A'—that is, the pivots and the king-bolt of each axle are on the same arc of a circle, taking the point of intersection of the reaches B as a central point.

The object of this construction is to enable
60 the wagon to be turned without increasing or lessening the distance between the king-bolts and moving the bolsters upon the wagon-box, as would be the case were the reaches greater or less in length than the distance between
65 the king-bolts.

A cheaper form of reach-connection is shown in detail in Fig. 4, in which the clip C is provided with extending lips a, between which
70 the end of the reach is bolted.

As both the axles A A' are diverted from their parallel position in turning the wagon, both the bolsters F F' are made to swivel on the axles. As here represented, arc-shaped
75 plates b are secured to the axle, and corresponding arc-shaped plates c are secured to the bolsters. This affords an extensive bearing-surface for each bolster, and prevents their tipping or canting upon the axles.

G designates the hounds of the wagon, attached to the front axle, A, between which
80 the end of the pole is secured. These hounds are made of malleable iron or other metal, and are constructed with braces d extending therefrom, and made in the same piece of metal
85 therewith.

H designates the stakes for use in connection with the bolsters. As clearly represented in Fig. 5, they are made of malleable iron or other metal, and are provided at the lower
90 end with a socket, H', adapted to slip over the end of a bolster, and secured thereto by a pin, e. When so constructed the ends of the bolster may be provided with a series of holes, in
95 any of which the pin may be inserted for securing the stake in position for holding a narrow or wide wagon-box.

By my invention I produce a wagon-gear in which the parts are very well supported, which is very strong, and which may be turned
100 with ease and without subjecting any part of the wagon to injurious strains.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the axles of a wagon or other vehicle, of the cross-reaches B, provided at the ends with the skeleton-frames B', the clips C, embracing the axle, and the bolts D, connecting the reaches with said clips, and forming a pivot upon which the reaches turn, substantially as specified.
2. The combination, with the axles, of the cross-reaches pivoted thereto, and made of a length between their pivots equal to the distance between the king-bolts in the forward and rear axles, whereby the said king-bolts are maintained at a uniform distance apart whatever the position of the axles, substantially as and for the purpose specified.

3. The combination, with the axles A A' and cross-reaches B, of the bolsters F F', pivoted to said axles, the arc-shaped plates *b*, secured to the axles, and the correspondingly arc-shaped plates *c*, secured to the bolsters, substantially as specified.

4. The combination, with the axle, of the hounds G, made of metal, and having the braces *d*, made in one piece therewith, substantially as specified.

GEORGE W. BURR.

Witnesses:

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