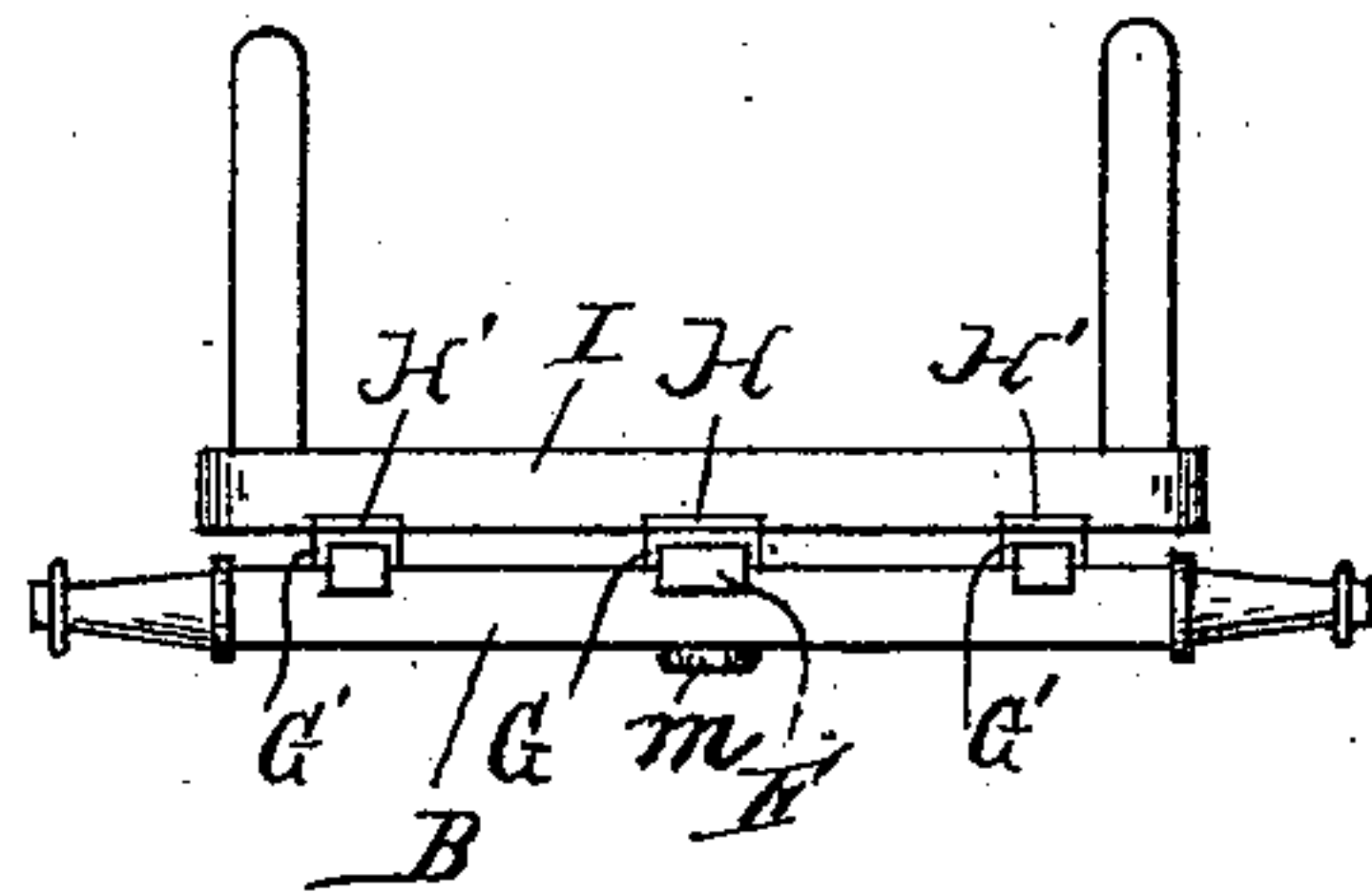
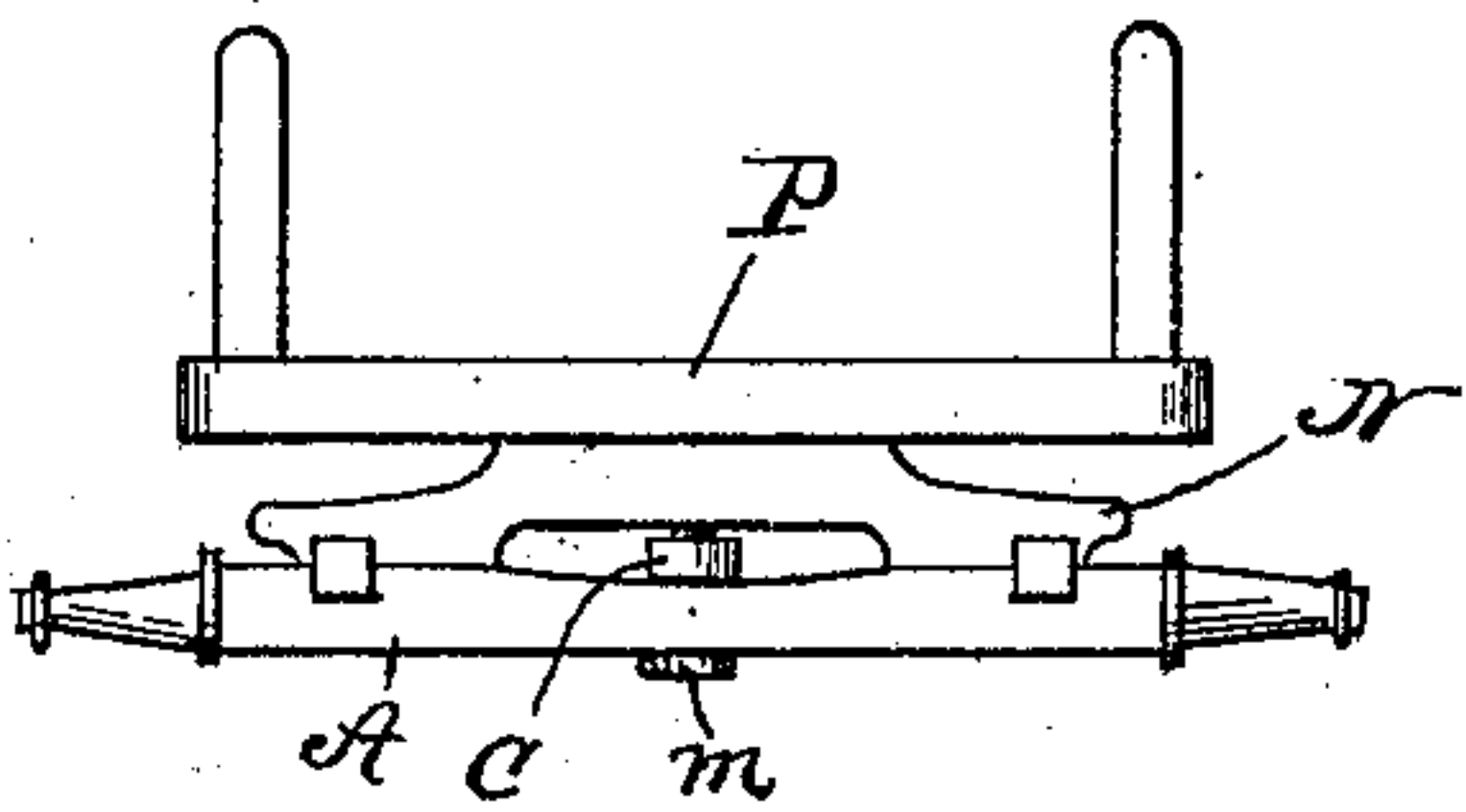
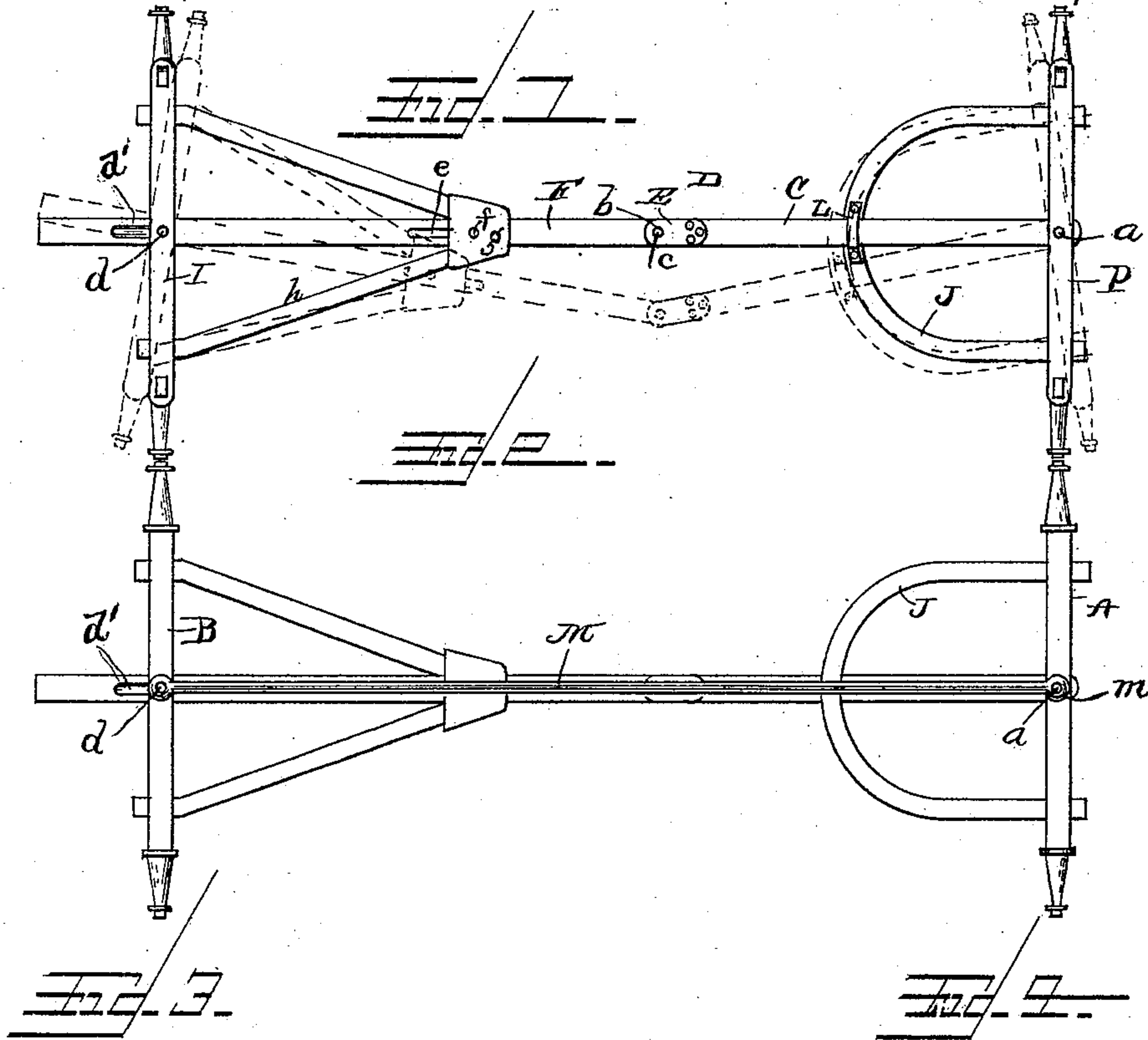


(No Model.)

I. B. OWENS & D. C. BALL.
WAGON RUNNING GEAR.

No. 486,351.

Patented Nov. 15, 1892.



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UNITED STATES PATENT OFFICE.

IRA BENJAMIN OWENS AND DANIEL C. BALL, OF GLEN ELDER, KANSAS.

WAGON RUNNING-GEAR.

SPECIFICATION forming part of Letters Patent No. 486,351, dated November 15, 1892.

Application filed April 23, 1892. Serial No. 430,409. (No model.)

To all whom it may concern:

Be it known that we, IRA BENJAMIN OWENS and DANIEL C. BALL, citizens of the United States, residing at Glen Elder, in the county of Mitchell and State of Kansas, have invented certain new and useful Improvements in Wagon Running-Gears; and we 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 appertains to make and use the same.

Our invention has relation to an improved wagon running-gear; and it consists in the peculiar construction, certain novel combinations, and the adaptation of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of our improved running-gear, the parts being shown in their adjusted positions by dotted lines. Fig. 2 is an inverted plan view of the same. Fig. 3 is a front elevation. Fig. 4 is a rear elevation, and Fig. 5 is a detail side elevation.

In the said drawing similar letters designate corresponding parts throughout the several views, referring to which—

A indicates the front axle of a running-gear, and B indicates the rear axle thereof, both of which may be of the ordinary or any approved construction. Pivotally connected at its forward end to a vertically-disposed pin *a*, carried by the axle A, is the forward section C of the sectional coupling-pole D. This pole-section C, which is preferably of the proportional length illustrated, is provided at its rear end with two horizontal fixed plates E, which are extended beyond the end of said pole-section and are provided with vertically-disposed aligned apertures *b*, through which takes a pivot-bolt *c*, which also takes through the rear pole-section F and serves to pivotally connect the same to the section C. This pole-section F, which is pivotally connected to the rear axle B by the bolt *d*, as shown, is provided at an intermediate point in its length with a longitudinal slot *e* for the passage of the bolt *f*, carried by the cap *g* of the rear hounds *h*, which are connected at their rear ends to the axle B, as shown. This slot *e* in the section F admits of a lateral play of said section, which is necessary to the bending of the pole D and the

turning of the wagon. The section F is also slotted, as at *d*, for the purpose of permitting longitudinal play of said section.

By the provision of a coupling-pole, as D, comprising two sections having their contiguous ends pivotally connected, it will be readily perceived that the rear wheels will always follow in the paths of the front wheels, whether the wagon is traveling in a straight line or turning, whereby it will be readily perceived that a turn may be effected in much less space than with the ordinary gear.

Spanning or straddling the pole-section F and the hounds *h*, which rest in notches in the upper side of the rear axle B, are shield-castings G G', which are preferably formed of iron and are suitably connected to the upper side of the said axle B by bolts, screws, or the like, as shown. These shield-castings G G', which are designed and adapted to prevent frictional wear of the pole-section and hounds, are designed and adapted to be engaged by friction-plates H H', embedded in the under side of the bolster I, which is mounted and adapted to turn upon the rear pivot-bolt *d*, as shown. By this construction, it will be readily perceived that the strength and durability of the axle and bolster will be increased and frictional wear of the same will be effectively prevented.

J indicates the front hound, which is of a general U form, as shown, and is provided at about the middle of its length with a bridge-casting L, which spans the pole-section C and serves to connect the hound thereto. This hound J, which is connected at intermediate points in its length to the axle A, serves when the axle is turned as a lever to swing the pole-section C for the purpose before mentioned.

Suitably connected to the upper side of the axle A is a bolster-bed N, upon which rests the front bolster P, which is pivotally mounted upon the bolt *a*, as shown.

M indicates a connecting or draft rod, which is provided at its ends with eyes *m*, which are designed to receive the pivot-bolts *a* *d*, as shown. This rod M, which rests beneath the coupling-pole, as better shown in Fig. 2 of the drawings, serves in practice to always hold the front and rear axle the same distance apart, and thereby equally distribute

the shaking and jar incidental to travel over a rough road.

From the foregoing description, taken together with the drawings, it will be readily
5 perceived that we have provided a cheap, simple, and durable running-gear, and one adapted to turn in a small space and capable of resisting strain and frictional wear.

Although we have specifically described
10 the construction and relative arrangement of the several elements of our improved running-gear, yet we do not desire to be confined to the same, as such changes or modifications may be made as fairly fall within the scope
15 of our invention.

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

In a wagon running-gear, the combination, with the front and rear axles and their
20 hounds, the rear hounds having a cap-plate secured to their inner ends, of the pivoted sectional coupling-pole, the rear section thereof having slots *e* and *d'*, the former connected
25 to the cap-plate by a bolt *f* and the latter connected to the rear axle by a bolt *d*, and the draft-rod *M*, connecting the front and rear axles, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

IRA BENJAMIN OWENS.
DANIEL C. BALL.

Witnesses:

MAYO KOUSE,
A. S. BALL.