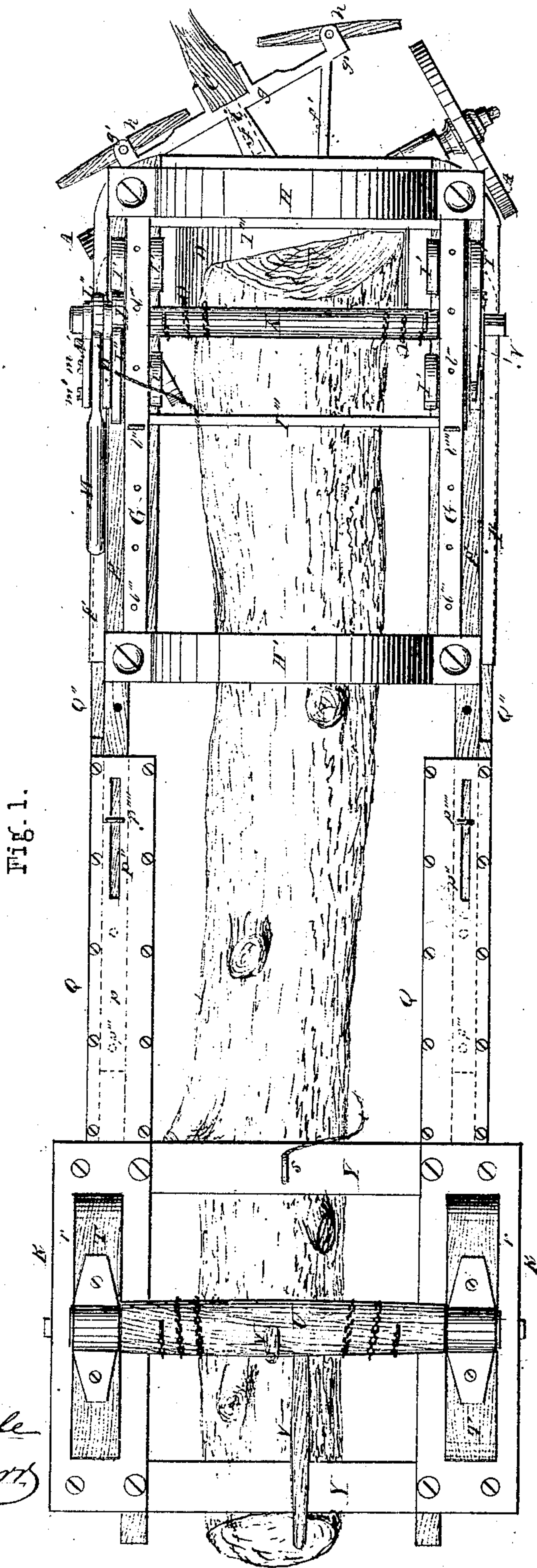


J. SKEEN.
Lumber Wagon.

No. 112,186.

Patented Feb 28, 1871.



Witnesses.

Edw. L. Mearns
W. S. Martin

Inventor.

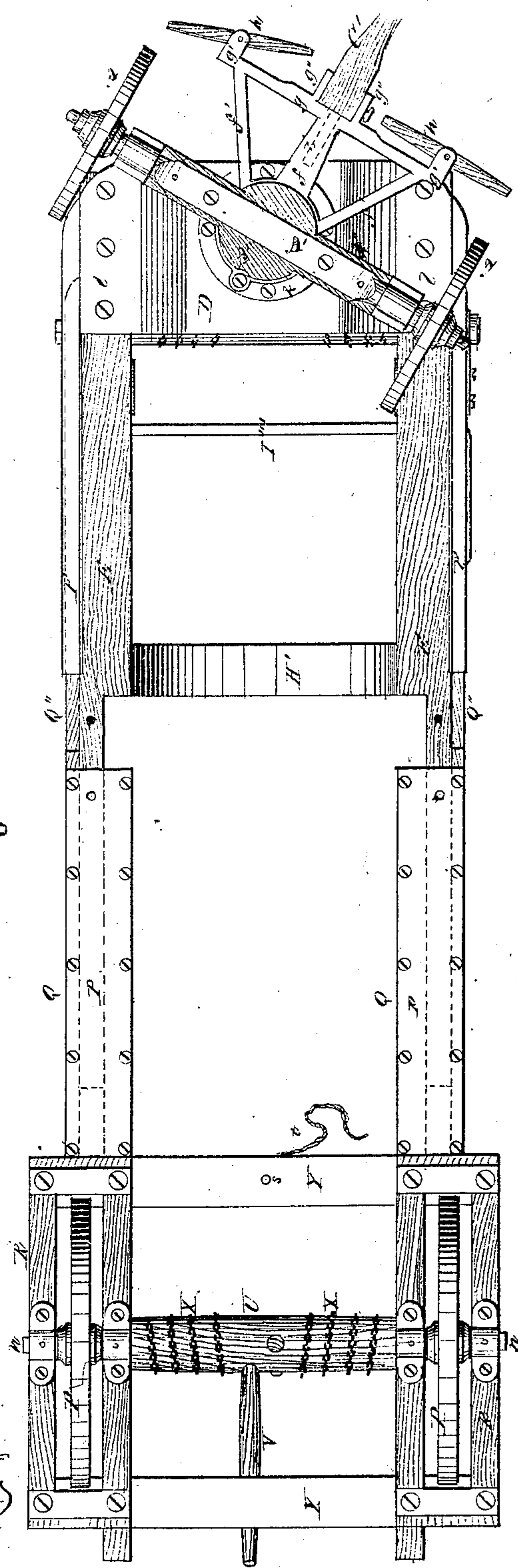
Jacob Skeen
Wm. Pringle
Atty.

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Fig. 2.



Witnesses.

W. S. Merkle
W. S. Marr

Inventor.

Jacob Skeen
by R. M. Leach
Atty.

United States Patent Office.

JACOB SKEEN, OF MOUND CITY, MISSOURI.

Letters Patent No. 112,186, dated February 28, 1871.

IMPROVEMENT IN LUMBER-WAGONS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JACOB SKEEN, of Mound City, in the county of Pulaski and in the State of Illinois, have invented certain new and useful Improvements in Timber-Wagons; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a top plan view of my timber-wagon;

Figure 2, a bottom plan view of the same;

Figure 3, a side elevation of the same with the forward wheels in perspective;

Figure 4, a front-end elevation of the same;

Figure 5, rear-end elevation of the same with a portion of the wheel-frame broken out to show the friction-rollers to the wheels;

Figure 6, a vertical longitudinal central section of the forward axle, bolster, and fifth-wheel;

Figure 7, a top plan view of the lower portion of the fifth-wheel and hounds; and

Figure 8, a vertical longitudinal central section of one end of the truck and the mechanism for operating it.

Like letters of like kinds denote similar parts in each figure.

The object of my invention is the construction of a wagon for the purpose of carrying logs, trees, steam-boilers, columns of stone or iron, or other single heavy bodies conveniently and safely, and for loading and unloading the same without the use of machinery other than that connected with the vehicle; and

My invention consists in the novel construction of the fifth-wheel and hounds combined; in the manner in which the several parts of the same are connected, and in which the tongue is attached to the same; in the means by which the length of the wagon is changed and adjusted; in the devices by which the load is raised from the ground and moved into the desired position for carriage; in the devices used for relieving the hind wheels from strain or fracture when they do not stand in a vertical position; in the arrangement of the hind wheels with reference to their axles; in the construction and arrangement of the wagon-body; and in the combination of the various operative parts, all as more fully hereinafter described and set forth.

In the drawing—

A represents the forward wheels of my wagon;

A', the axle upon which they turn; and

A'', the bolster secured upon said axle, which bolster has its center expanded into a disk of a size corresponding to the under part B of the fifth-wheel, which rests upon and is secured to it. This under part B of the fifth-wheel is cast in two pieces, the front and larger portion having the hounds C east with it.

The part B has a central disk, *a*, with a circular re-

cess, *b*, in its center, which recess has at its lower part in its side walls an annular groove, *c*, entirely surrounding it. The part B has also radial arms *d* and *d'* extending from either side, an ear, *e*, from its rear, and a radial arm, *f*, extending directly to the front, where it is connected to the cross-bar *g*, making a portion of the same casting, and radial arms *f'* extending forward diagonally and connected to said cross-bar *g* near either outer end thereof.

The cross-bar *g* has at its outer ends ears *g'*, to which the single-trees *h* are pivoted, and central lugs *g''*, to which the tongue C' is secured.

The central forward arm *f* is cast hollow with an opening into it through the cross-bar *g*, into which the dowel *i* of the tongue enters, and holds said tongue stiffly and prevents a pivotal motion vertically. A portion of the rear upper central part of the wheel B and the arms *d* *d'* is cut away to a point as low as the bottom of the recess *b*, to which the part B', which is cast separately, is fitted, and is secured in place to the part B by screws *j*, as shown in fig. 7. When the part B' is thus secured in position it coincides in all respects with the remainder of the disk *a* and arms *d* and *d'* with the recess *b* and its grooves *c*, and completes each of the same.

The upper portion B'' of the fifth-wheel is cast in one piece, consisting of a disk, *k*, having dependent from it a central circular neck, *k'*, the lower part of which is provided with an annular flange, *k''*, to engage with and fit into the groove *c* in the recess *b* of the lower portion of the fifth-wheel. This neck is thus engaged with and fitted into said recess and its groove by first removing the part B', inserting the neck *k'*, and replacing the part B', which thus locks the neck into the recess and its flanges into the groove at all points, and requires no king-bolt or other contrivance for its operation. The part B'' is in turn secured to the under part of the plate D, which is a broad and strong piece of metal bent upward and outward toward its ends, and at its extreme ends *l* bent outward in horizontal planes and secured to the under sides of the front ends of the side rails E. These side rails, which are preferably of suitable wood, extend to a point a little short of the front of the casing for the hind wheels, and have secured to each outside a metallic sleeve, F.

Upon the front top ends of each side rail E a block, E', is secured, and at a point opposite the rear end of the sleeve F other similar blocks E'' are secured upon the side rails E. A metallic bar, G, is secured to the top of each of the blocks E' and E'' and connects them. Arching cross-bars H and H' of suitable wrought-metal are also secured upon the blocks E' and E'' respectively, and secure the side rails in position.

A portion of the top of the rails E is cut away or

each side between the block E' and E'', and serves as bearings to the wheels I' of the truck I, which traverse them between said blocks. These wheels turn with connecting-shafts l' and l'', one wheel being on each side of the rail E, and have side pieces I'' and cross-bars I''', which make the truck-frame.

The side pieces I'' have vertical holes in them, which correspond with other holes l''' in the bars G, in which pins l''' are placed.

A shaft, K, is pivoted in the top of the side pieces I'' midway between the front and rear wheels I', and extends at each end beyond the sides of the wagon. At one of its ends it is provided with a pair of ratchet-wheels, L and L', the inner one of which, L, engages with a pawl, L'', pivoted upon the rear end of one of the side pieces I'', and the outer one of which engages with a pawl which forms the inner end of the lever M. This lever is pivoted between two arms, M', which are, in turn, pivoted upon the outer end of the shaft K in such a way that one of the arms M' is between the ratchet-wheels L and L', and the other arm is outside of the ratchet-wheel L'. The pivoting of the lever M to the arms M' is by means of the screws m and m', the first of which serves as a pivot upon which the lever moves, and the second one, m', moves in an oblong slot, m'', in the lever, which gives the lever a vertical motion restrained within certain limits. The shaft l'' projects outwardly a little beyond its proper wheel, so as to act as a rest for the arm M, and when resting upon it the outer heavy end of the lever M pressing down disengages its pawl-end from its proper ratchet-wheel, and keeps it always disengaged when in this position, while at the same time the pawl L'' is always in engagement with its proper ratchet-wheel unless disengaged for any purpose.

At the opposite end of the shaft K is a suitable brake, N, pivoted to one of the side pieces, I'', and arranged so as to bear down upon and restrain the turning of said shaft. This end of the shaft is also made square, so that if additional power is required in turning the shaft a crank-lever may be attached to it. The shaft K is also provided with chains, O, secured to it, which chains, in turn, are provided with hooks and rings so that they may be united.

The hind wheels P of the wagon turn in a casing, R, which incloses the upper half of them upon spindles n secured to the lower part of said casing. The outside of this casing o is preferably of a single piece of wood, and extends horizontally a little in front of and behind the center of the wheel. The inside of the casing o, preferably of wood, extends as far forward as the rear end of the metallic sleeve F, and forms the inside of the hollow rail Q, in which the rear portions of the rail E traverse, the outside Q' of which rail is secured at its rear end within the casing R, and its forward end Q'' is cut away above and below, so as to fit into and traverse in the sleeve F. This hollow rail Q is strengthened on its top by a metallic plate, p, and on its bottom by a similar plate, p'.

Upon the top plate p is a longitudinal slot, p'', provided with holes p''' corresponding with similar holes in the rail E, in which are used stay-pins p'''. The casing R is also covered with a metallic plate, r, upon the under side of which and within the casing are secured friction-rollers S, one on each side of the rim of wheels P, near the highest portion thereof. Bearings T are placed horizontally upon the plate r, upon which are journaled the windlass U, provided with bars V and chains X. Cross-bars Y extend across the wagon from both ends of the plate r and connect its two sides together. An eye-bolt, s, in the center of the forward cross-bar Y has attached to it a rope, t, for the purpose of securing the windlass from turning under certain conditions.

In the operation of my device the wagon is placed lengthwise over the body to be carried, and the for-

ward chains placed around its front end. It is then raised by means of the shaft on the truck to the desired height. The team is then backed, which causes the truck to roll forward, and brings the front end of the object to be carried between the fore wheels of the wagon, and the truck can then be secured in its position forward by its stay-pins, as it may be in other positions. Where it is desirable to have the fore wheels turn entirely under the body to be carried, the front of this body may rest upon a block, as shown in fig. 4. If the body to be carried is very long and the wagon needs extension, the proper stay-pins may be removed, the hind wheels trigged, and the side rails drawn out (by starting the team forward) to the extent desired, when they may be again secured in position by replacing the stay-pins. The rear end of the body to be carried may then be slung with the rear chains and raised by the rear windlass to the desired point of elevation.

In unloading, the rear end of the body carried may be dropped or lowered to the ground by means of the windlass, and by removing the stay-pins to the truck and starting up the team, the truck will roll back, so that the front of the body carried may be clear of all obstacles, when it may be lowered to the ground by means of the operation of the brake upon the truck-shaft.

The advantage of the fifth-wheel and hounds combined consists in its simplicity, effectiveness, and strength, dispensing with the use of a king-bolt, and enabling the forward wheels of the wagon to be turned completely around.

The advantage of the friction-rollers to the hind wheels consists in their removing friction of the upper rims of the wheels against the inside of the casing, when said hind wheels are not in a vertical position, thus enabling the use of lighter wheels than could otherwise be done.

The advantage of construction in the frame of the wagon lies in dispensing with the hind axle, so that a large body may be carried under the wagon between said wheels; and the advantage of the truck lies in its convenient arrangement for loading and unloading and for moving the body to be carried so that a great part of its weight will rest upon the forward wheels, which are very strong. Other advantages of construction and arrangement will be apparent upon inspection.

Having thus described the construction and operation of my wagon,

What I claim as new therein is—

1. The combination of the fifth-wheel B B' B'', the plate D, the rails E, and the arch cross-bar H, all constructed and arranged substantially as described and shown, for the purpose set forth.

2. The fifth-wheel B, B', and B'', constructed substantially as described and shown.

3. The combination of the lower portions B B' of the fifth-wheel made in two pieces, constructed and arranged substantially as described and shown, for the purposes set forth.

4. The combination of the lower portion B of the fifth-wheel and hounds C, made together in one piece, and the part B', all constructed and arranged substantially as described and shown, for the purposes set forth.

5. The combination of the tongue C', provided with the dowel i, with the hounds C provided with the hollow radial arm f, all constructed and arranged substantially as described and shown, for the purposes set forth.

6. The means employed for lengthening and adjusting the length of the wagon, consisting of the rails E, provided with sleeves F, the hollow rails Q, the slot p'', stay-pins p''', and holes p''', all constructed and arranged substantially as described and shown.

7. The means employed for raising the load to be carried, consisting of the truck I, provided with the

shaft K, lever M, ratchet-wheels L L', pawl L'', and chains O, all constructed and arranged substantially as described and shown.

8. The means employed for moving the load to be carried into a desired position, consisting of the truck I, rails E, and pins I'', all constructed and arranged substantially as described and shown.

9. The combination of the casing R, the hind wheels P, and the spindles n, all constructed and arranged substantially as described and shown, for the purposes set forth.

10. The combination of the casing R, hind wheels P, the spindles n, and the friction-rollers S, all constructed and arranged substantially as described and shown, for the purposes set forth.

11. The combination of the windlass U, provided with bars V, the casing R, and the hind wheels P, ar-

ranged with an open space between them, all constructed and arranged substantially as described and shown, for the purposes set forth.

12. The arrangement of the side rails Q and E, the cross-bars Y, the rails G, and the plate D, all constructed and arranged substantially as described and shown, for the purposes set forth.

13. The timber-wagon above described and shown, as an entire organization, with its several parts constructed, combined, arranged, and connected substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of December, 1870.

JACOB SKEEN.

Witnesses:

W. S. MARR,

EDM. F. BROWN.