

No. 859,265.

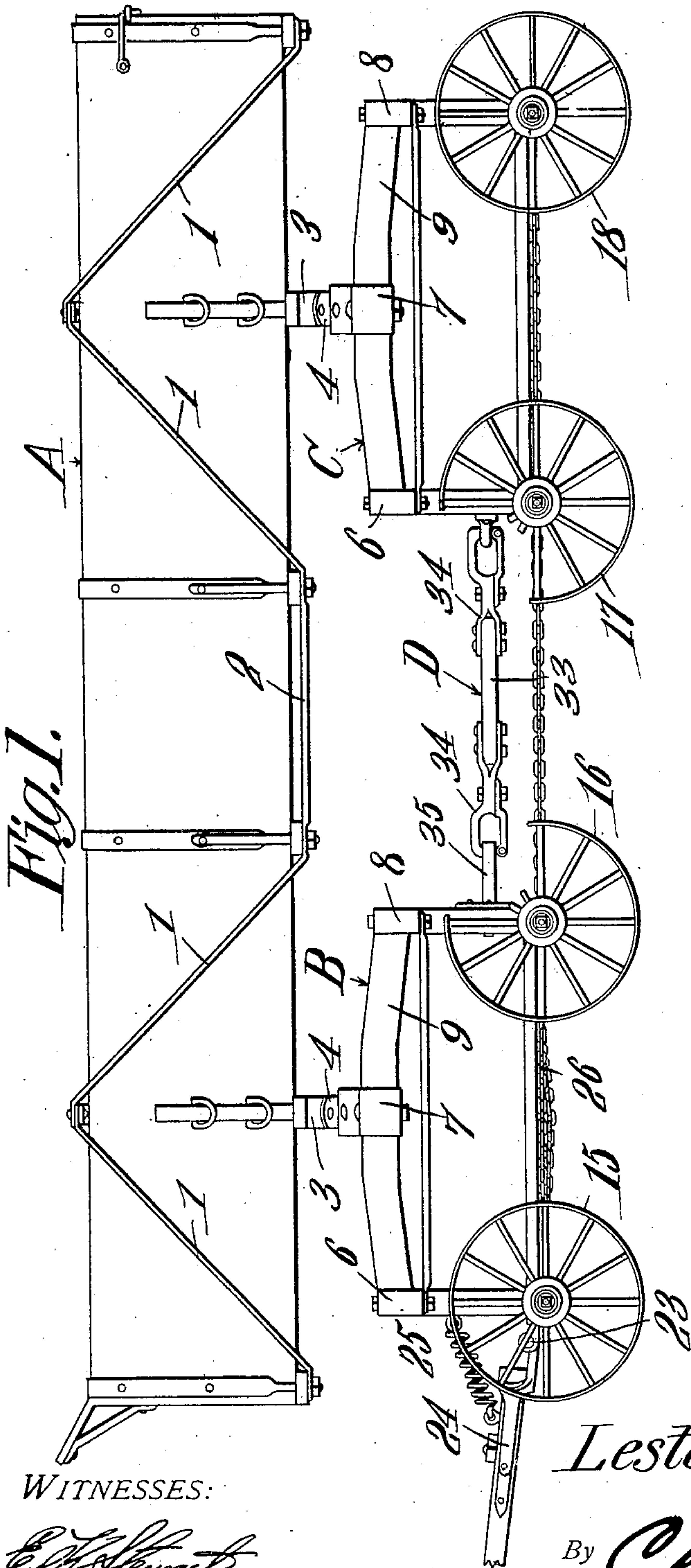
PATENTED JULY 9, 1907.

L. L. TYRRELL.

WAGON.

APPLICATION FILED OCT. 15, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

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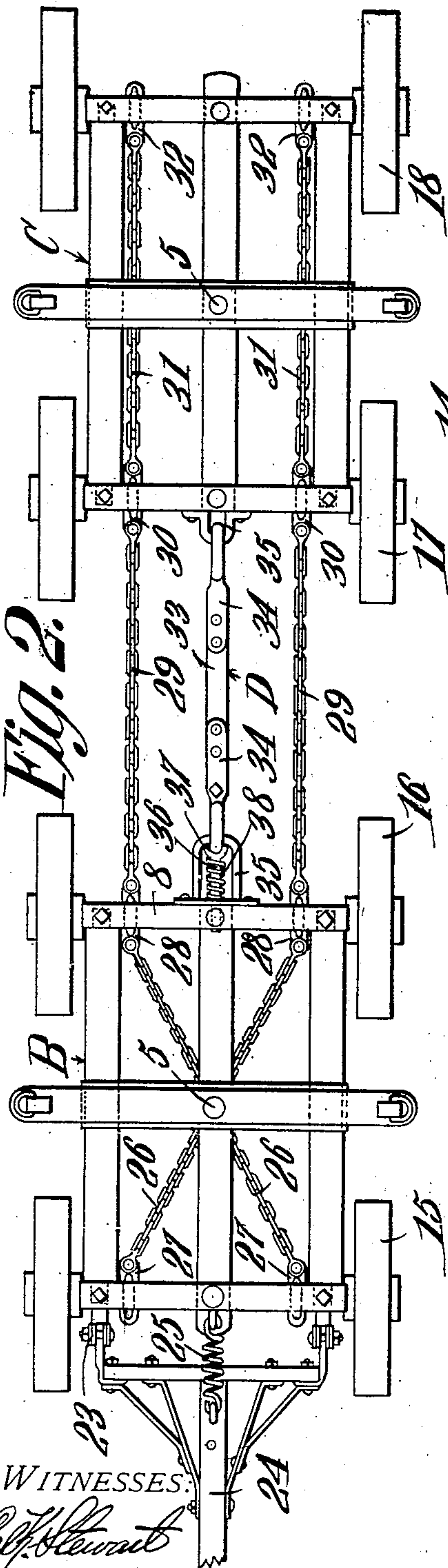


Fig. 2.

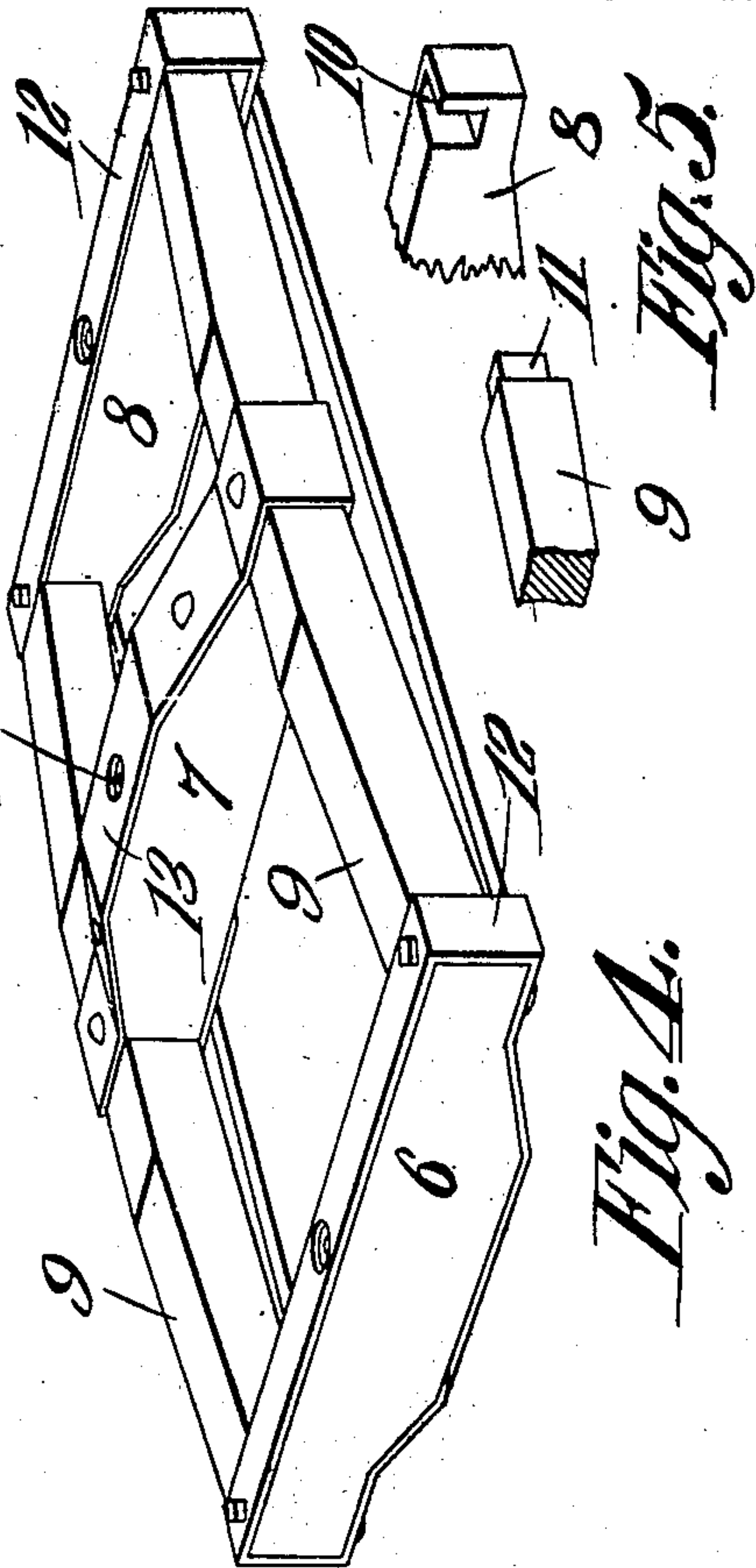


Fig. 4.

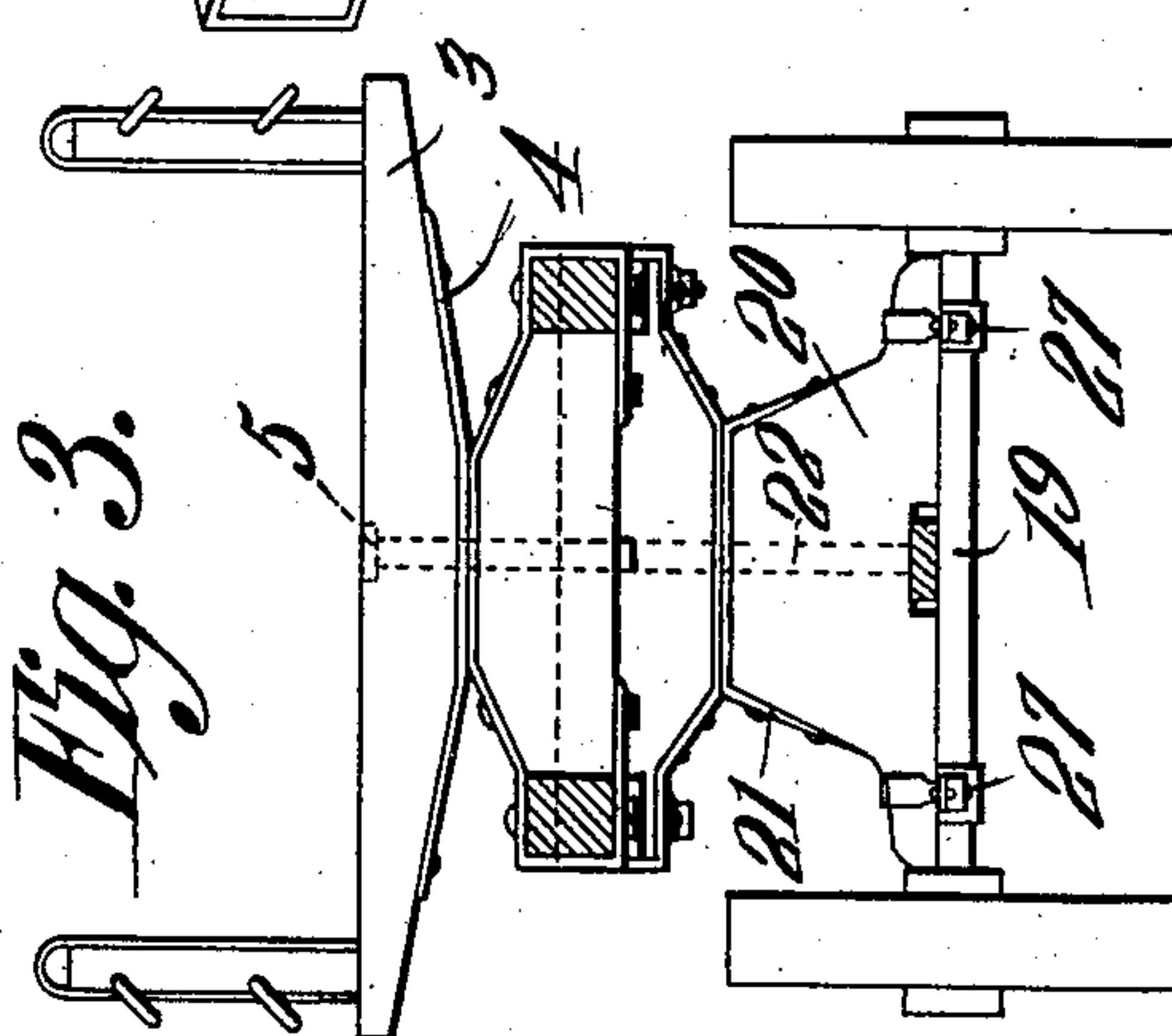


Fig. 3.

Fig. 5.

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# UNITED STATES PATENT OFFICE.

LESTER LAWRENCE TYRRELL, OF BUCODA, WASHINGTON.

## WAGON.

No. 859,265.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed October 15, 1906. Serial No. 339,050.

*To all whom it may concern:*

Be it known that I, LESTER LAWRENCE TYRRELL, a citizen of the United States, residing at Bucoda, in the county of Thurston and State of Washington, have invented a new and useful Wagon, of which the following is a specification.

This invention relates generally to wagons and particularly to that class of vehicles provided with a plurality of trucks and three or four sets of wheels.

The objects of the invention are to improve and simplify the construction of such wagons; furthermore, to increase their efficiency in use, and to decrease the expense attending their manufacture.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of the following claims without departing from the spirit of the invention or sacrificing any of its advantages.

In the accompanying drawings forming part of this specification:—Figure 1 is a side elevation of a wagon constructed in accordance with the present invention; Fig. 2 is a plan view of the trucks of the wagon with the body removed; Fig. 3 is a transverse vertical section through the wagon; Fig. 4 is a perspective view of one of the trucks; and Fig. 5 is a detail view showing one of the joints of the trucks.

Like reference numerals indicate corresponding parts in the different figures of the drawings.

The reference letter A indicates the body of a wagon constructed in accordance with the present invention; B, the front truck; and C, the rear truck. The wagon body A, which may be of any suitable form and construction, preferably is strengthened by means of diagonally-extending brace rods 1 which preferably are bolted together at their upper ends and are connected with each other at their lower ends by means of the link rods 2. On its under surface, the body A is provided with cross-beams 3 which are provided on their lower surfaces with wear plates 4, formed of strap iron or other suitable material. Extending through each of the cross-beams 3 of the wagon body A is a king-pin 5.

Each of the trucks B and C preferably is made up of a front cross-beam 6, an intermediate cross-beam 7, a rear cross-beam 8, and side beams or bolsters 9. The front and rear cross-beams 6 and 8 preferably are formed adjacent their ends with seats 10, such as shown in Fig. 5, to receive the reduced ends 11 of the side beams 9. The reduced ends 11 preferably are held in position in the seats 10 by means such as the strap iron 12 which extends longitudinally around the front and

rear cross-beams and is suitably bolted thereto so as to form wear plates on the lower surfaces of said cross-beams. The intermediate cross-beam 7 is secured to the side beams 9 by means such as the strap iron 13 which forms a wear plate at the upper end of the intermediate cross-beam adapted to co-operate with the wear plates 4 on the cross-beams 3 of the wagon body. The king-pins 5 of the cross-beams 3 extend downward into suitable sockets 14 in the intermediate cross-beams 7 of the front and rear trucks B and C.

The improved wagon is provided preferably with four pairs or sets of wheels, the front set being indicated by 15, the two intermediate sets by 16 and 17, and the rear set by 18. Each set of wheels is provided with a suitable axle 19 on which is clamped an axle beam 20 which is provided with a strap iron 21 forming a wear plate. The axle beam 20 of the front pair of wheels 15 is connected with the front cross-beam 6 of the front truck B by means such as a king-pin 22 so as to be capable of pivotal movement with respect to the truck. The intermediate pair of wheels 16 is similarly connected with the rear cross-beam 8 of said front truck B. The intermediate pair of wheels 17 is similarly connected with the front cross-beam 6 of the rear truck C, and the rear pair of wheels 18 is similarly connected with the rear cross-beam 8 of the rear truck C.

Pivotaly connected with the front pair of wheels 15, as indicated at 23, is a pole or tongue 24, which is held yieldingly in proper position by means such as the coil spring 25. When the front pair of wheels 15 is turned by the tongue 24 in rounding a curve, it is proposed that the remaining pairs of wheels shall be turned in the opposite direction so as to facilitate the proper turning of the wagon. The means for accomplishing this result preferably comprises a pair of chains or flexible elements 26 which are suitably connected at their forward ends with axle clips or brackets 27 on the front axle 19. The flexible elements 26, intermediate their ends, are crossed as shown in Fig. 2, and are connected with axle brackets 28 on the axle of the second pair of wheels 16. Connected with the brackets 28 is a pair of flexible elements 29 which, in turn, are connected with brackets 30 upon the axle of the third set of wheels 17. Secured to the brackets 30 is a pair of flexible elements 31 which, in turn, are connected with brackets 32 on the axle of the fourth or rear set of wheels 18. By reason of the fact that each of the forward flexible elements 26 is connected at its forward end with one end of the front axle and at its rear end with the opposite end of the second axle, it will be obvious that when the axle of the front wheels 15 is turned into one diagonal position with respect to the wagon body, the axles of the second, third, and rear sets of wheels, 16, 17 and 18, will be turned into oppo-



site diagonal positions. At the same time the trucks B and C will be capable of any necessary pivotal movement with respect to the wagon body.

For the purpose of limiting the turning movement of the trucks B and C, and, also, of spacing them properly away from each other, a link connection D is extended between the two trucks, as indicated in Figs. 1 and 2. This link connection preferably consists of an intermediate bar 33, with which are connected end brackets 34 that are engaged with loops or rings 35 secured respectively to the front and rear trucks. For the purpose of preventing rattling of the link connection D, a bar 36 is slidably extended through the rear cross-beam 8 of the front truck B and is bifurcated, as indicated at 37, so as to engage the front bracket 34 of the link connection D. The bar 36 is forced yieldingly rearward by means such as the coil spring 38.

The improved wagon of the present invention is strong, simple, durable and inexpensive in construction, as well as thoroughly efficient in operation.

What is claimed as new is:—

1. A wagon comprising a body, a pair of trucks pivotally connected with the body, a plurality of sets of wheels pivotally connected with each truck, means for turning the front set of wheels in one direction, and means for connecting the sets of wheels in series to effect turning of the remaining sets of wheels in another direction.

2. A wagon comprising a body, a pair of trucks pivotally connected with the body, a plurality of sets of wheels pivotally connected with each truck, a wagon tongue for turning the front set of wheels in one direction, and connections between the front set of wheels and the remaining sets of wheels for turning the said remaining sets of

wheels in a different direction from the front set of wheels.

3. A wagon comprising a body, a pair of trucks, king-pins connecting said trucks with said body, a plurality of sets of wheels for each truck, king-pins connecting each set of wheels with one of said trucks, a wagon tongue connected with the front set of wheels, crossed elements connecting the front set of wheels with the second set of wheels, means for connecting the second set of wheels with all the rear sets of wheels, and means for connecting the trucks.

4. A wagon comprising a body, a pair of trucks pivotally connected with the body, a plurality of sets of wheels pivotally connected with each truck, means for turning the front set of wheels in one direction, means for connecting the sets of wheels in series to effect turning of the remaining sets of wheels in another direction, and a connection between said trucks for limiting their pivotal movements.

5. A wagon comprising a body, a pair of trucks pivotally connected with the body, a plurality of sets of wheels pivotally connected with each truck, a wagon tongue pivotally connected with the front set of wheels, a spring for holding said tongue in proper position, a pair of crossed flexible elements connecting the front set of wheels with the second set of wheels, parallel sets of flexible elements connecting the second set of wheels with the third and fourth sets of wheels, and a link connection between said trucks comprising an intermediate bar, brackets secured to said bar, rings secured to said trucks and engaged by said brackets, a bifurcated bar engaged with one of said trucks and bearing against one of said brackets, and a spring surrounding said bifurcated bar.

In testimony that I claim the foregoing as my own, I have hereto affixed by signature in the presence of two witnesses:

LESTER LAWRENCE TYRRELL.

Witnesses:

G. B. MASON,  
C. H. DUNN.