

(No Model.)

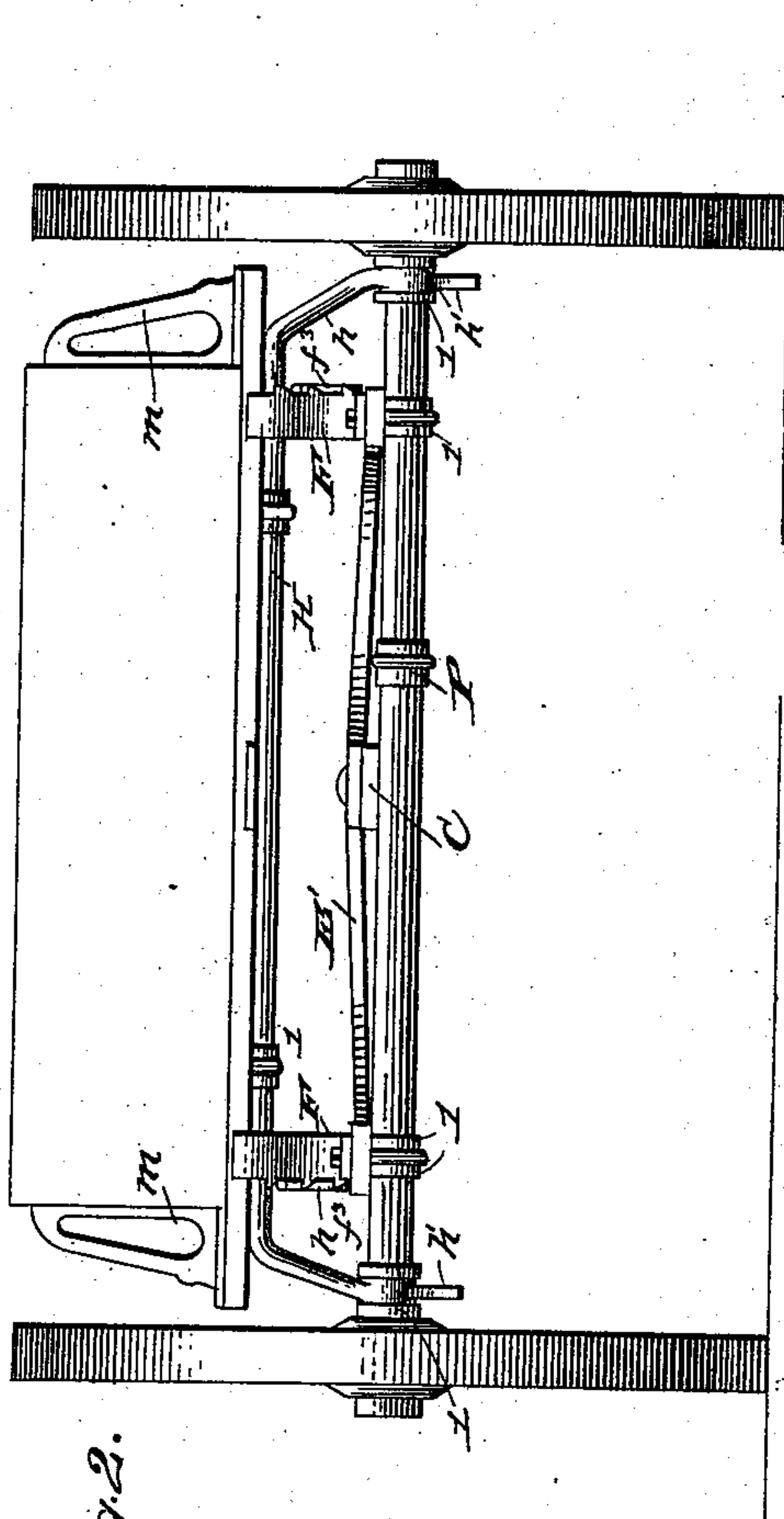
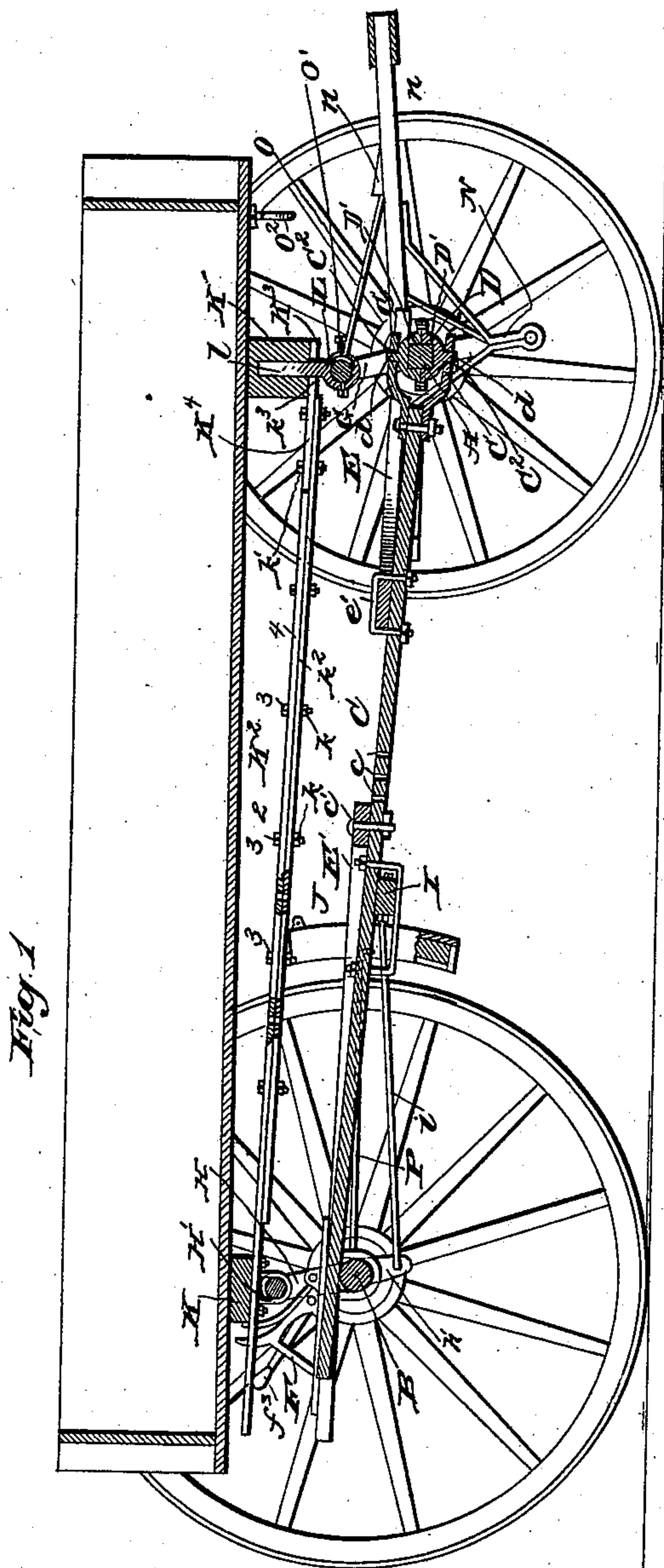
2 Sheets—Sheet 1.

E. M. ALLEN.

WAGON.

No. 376,934.

Patented Jan. 24, 1888.



WITNESSES:
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P. B. Surpin

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

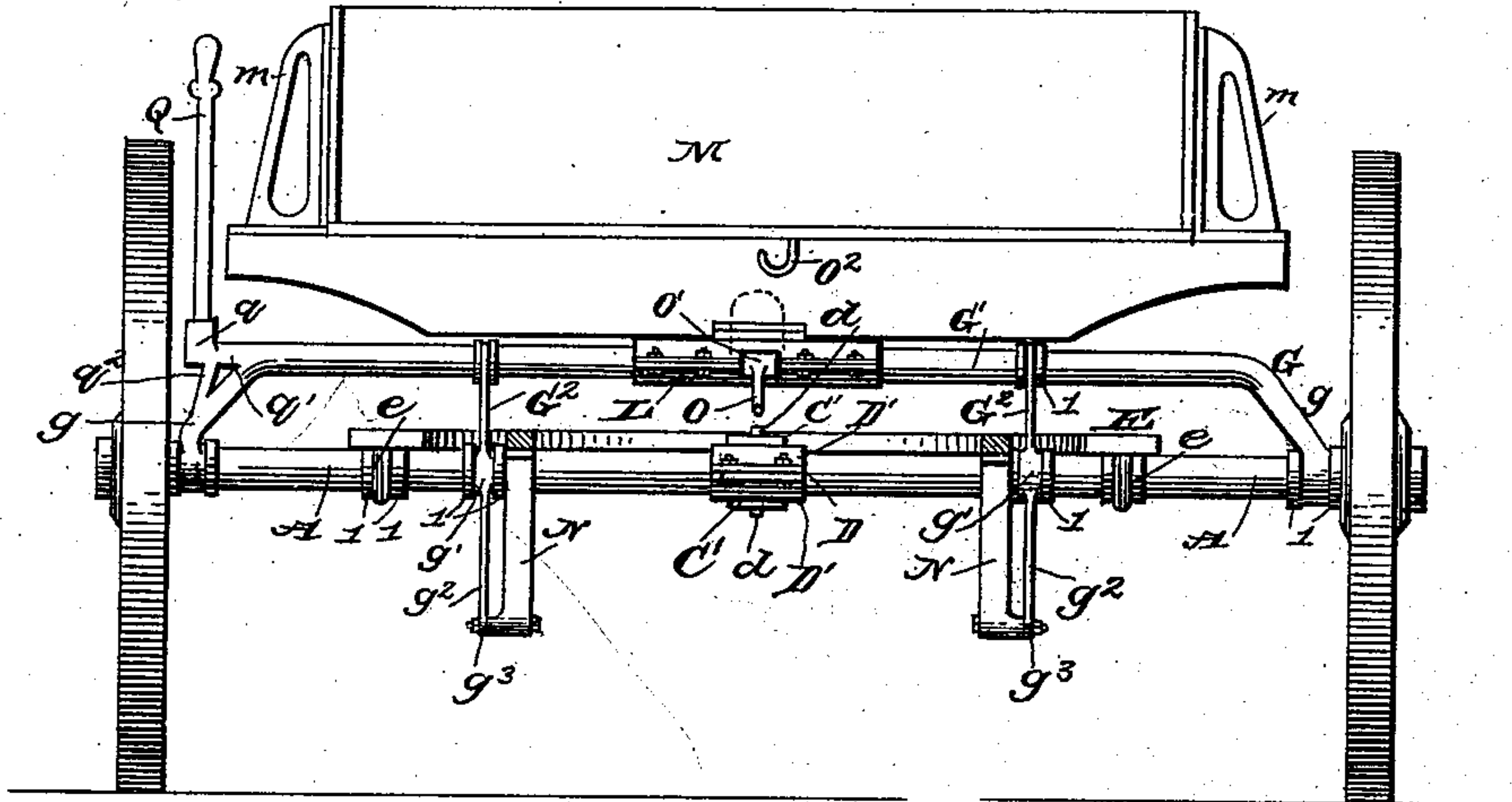


Fig. 4.

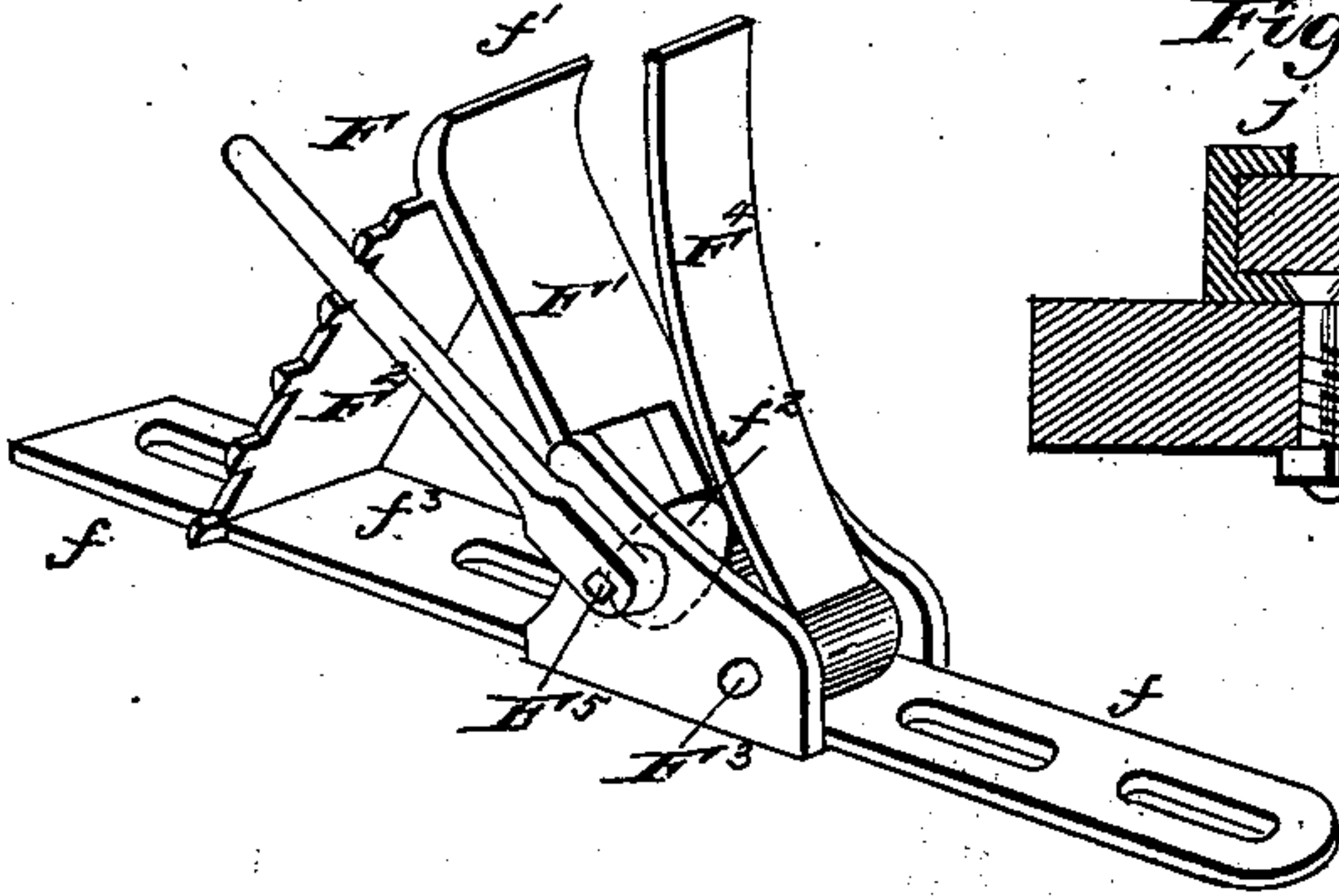


Fig. 5.

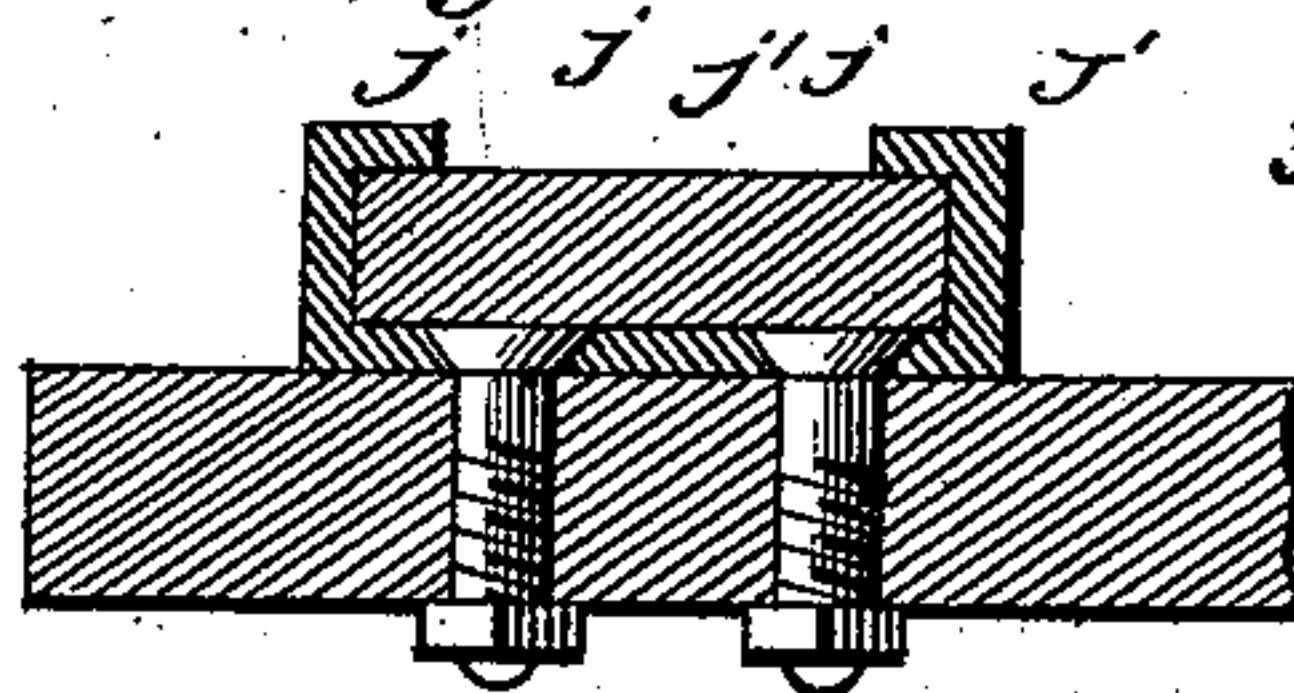


Fig. 6.

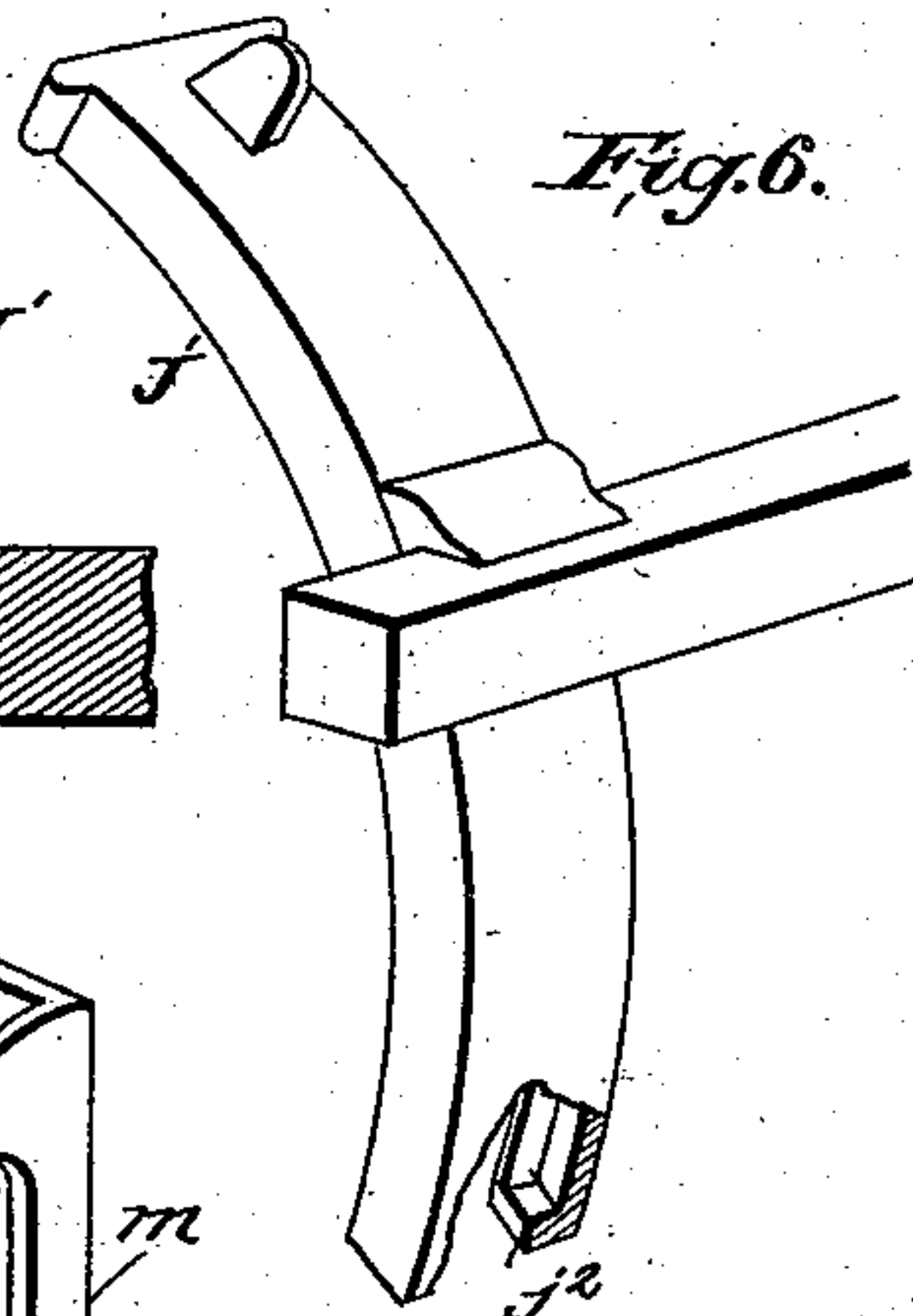


Fig. 7.

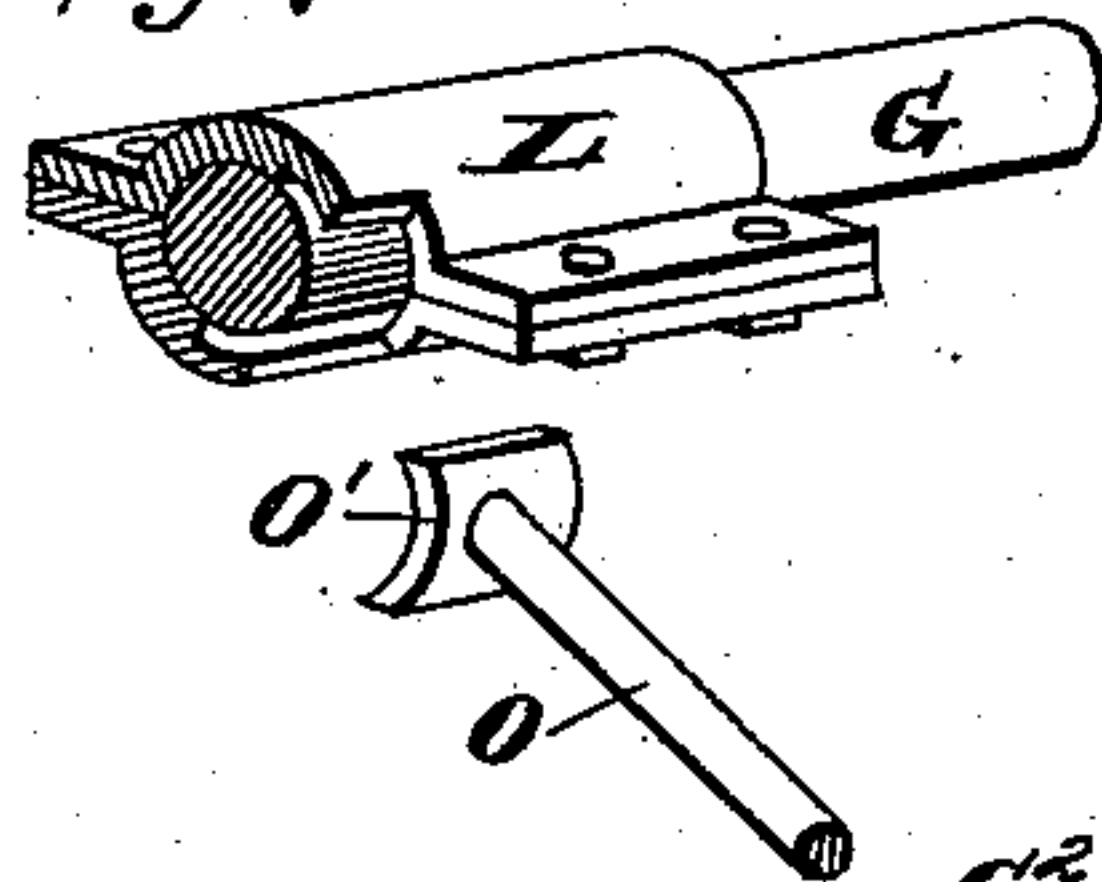


Fig. 8.

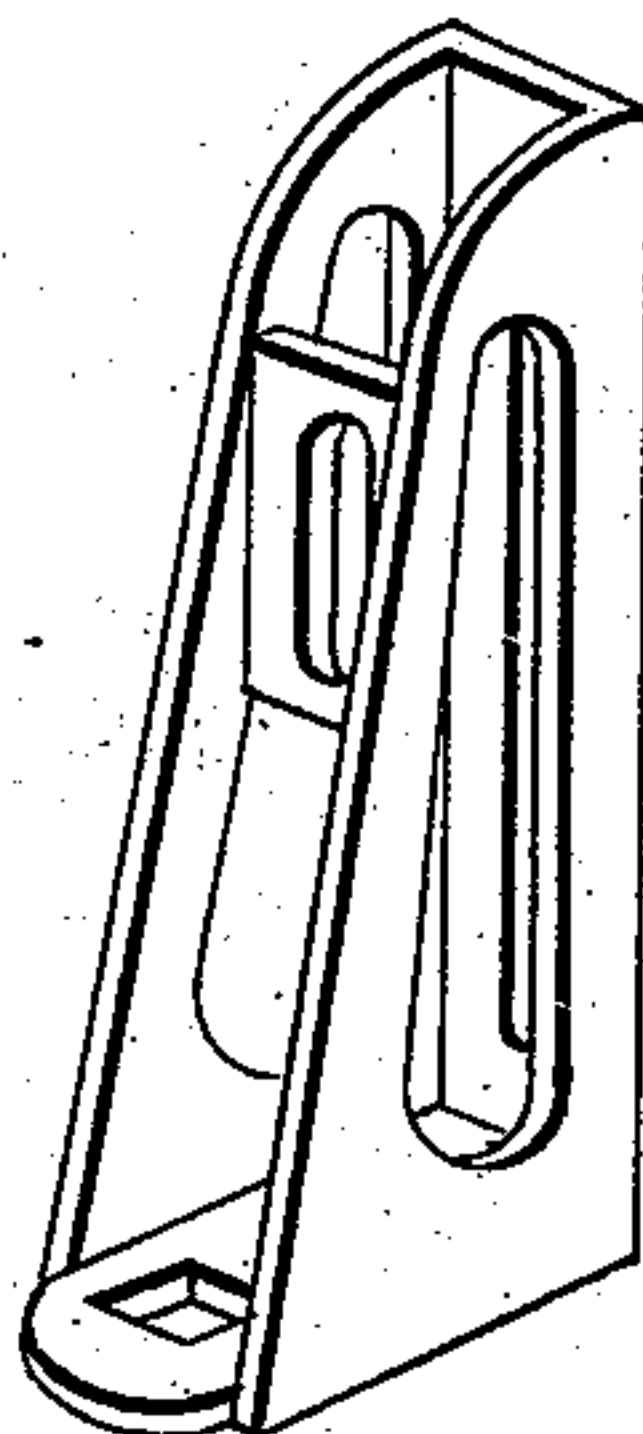
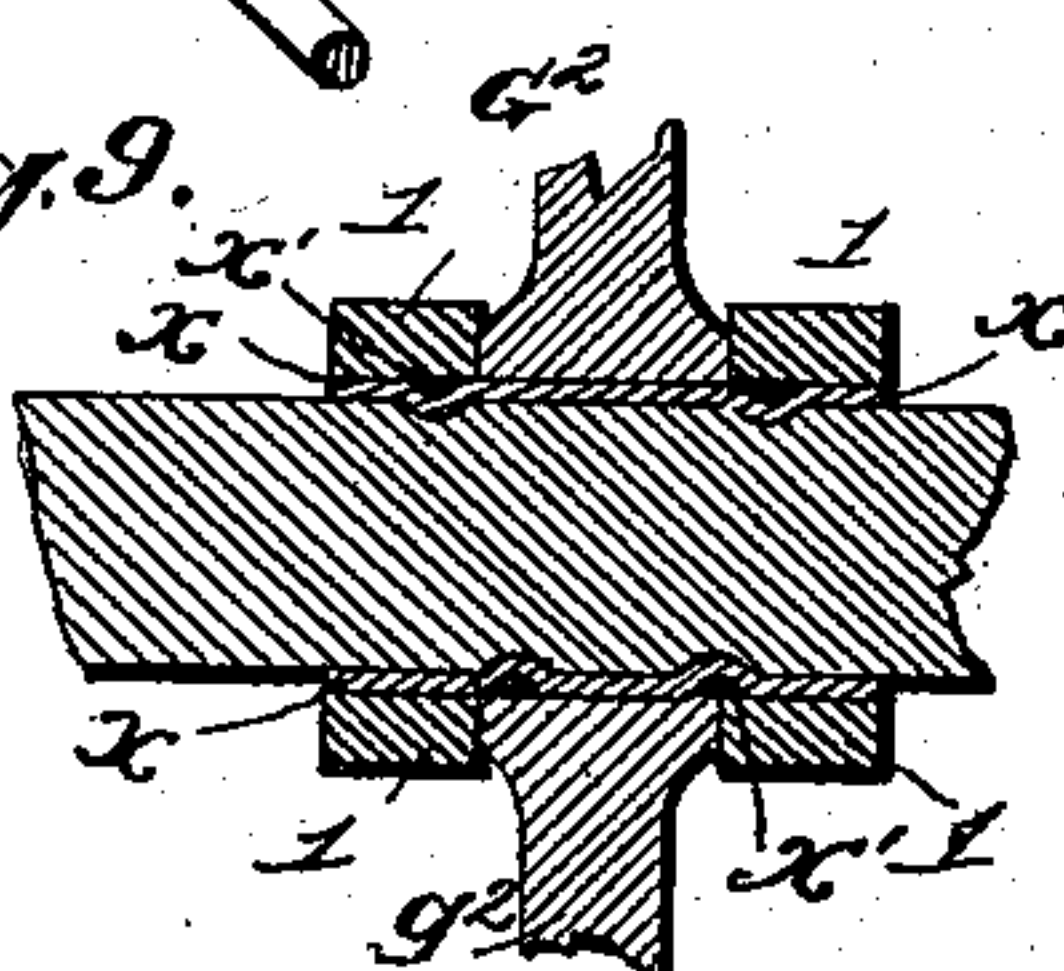


Fig. 9.



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UNITED STATES PATENT OFFICE.

EDWARD M. ALLEN, OF STAFFORD, MARYLAND, ASSIGNOR TO SALLIE E. ALLEN, OF SAME PLACE.

WAGON.

SPECIFICATION forming part of Letters Patent No. 376,934, dated January 24, 1888.

Application filed April 6, 1887. Serial No. 233,900. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. ALLEN, of Stafford, in the county of Harford and State of Maryland, have invented a certain new and useful Improvement in Wagons; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention is an improvement in wagons, and particularly in the brake devices; and it consists in certain features of construction and novel combinations of parts, as will be described.

Referring to the drawings, Figure 1 is a vertical longitudinal section of my improved wagon. Fig. 2 is a rear elevation of the wagon. Fig. 3 is a front elevation of same. Fig. 4 is a detail view of the adjustable stop mechanism. Figs. 5 and 6 are detail views of the brake-shoes. Fig. 7 is a detail view of the stop-rod and its supports. Fig. 8 is a detail view of one of the standards, and Fig. 9 is a detail section.

The front axle, A, and rear axle, B, are connected by a perch-pole, C, which is secured to the rear axle by the rear hounds, E'. At its forward end the perch-pole is provided with plates C' C', which extend one above and the other below the front axle, and have openings C² for the pivot-pins d of pin-clamp D. This clamp D is formed of two sections, D', each having a pin, d, to fit the openings C² in plate C'. I bolt these sections D' together upon the axle A, which at such point is made non-circular to prevent the vibration of the axle in the pin-clamp. By the described connection between the perch and front axle the latter will be held from rotating, and the desired pivotal movement of axle and perch will be attained.

The front hounds, E, are connected movably at e to the front axle, and have a movable connection at e' with the perch C, while the rear hounds, E', are connected with the perch and rear axle and extend in rear of the latter. On such rear hounds I mount brackets or projections F, which operate as stops, which I will now describe. These brackets F are formed with base-plates f, which may be bolted to the hounds, and are provided with front plates or uprights, F', and with racks F², arranged in

rear thereof. To the bracket, in front of and near the lower end of the bracket or projection F, I secure, preferably by pivots F³, as shown, the lower end of a spring-bar, F⁴, which may move on its pivot F³ forward or back at its upper end, and which rests in its rearmost position back against upright F' and bears against a projection, f', on said upright. To the bracket is journaled a shaft, F⁵, having a cam projection, f², arranged to engage the rear side of the spring-bar F⁴, and to the shaft F⁵, I fix a lever or handle, f³, which engages the rack F², and may be secured thereby. The operation of these parts will be more fully described hereinafter.

The front and rear body-supports, G H, have side arms, g and h, pivoted, respectively, on the front and rear axles, and they are provided with top or cross bars, G' and H'.

The rear support, H, has its side arms extended at h' below the axle, and such extensions are connected, by rods i or other suitable connections, with the brake-bar I, provided with shoes J, arranged to engage the hind wheels in the proper movement of the parts. On the cross-bar H' is journaled the rear bolster, K, which is connected with the front bolster, K', by the upper perch, K², the perches K² and C being distinguished in reference by the terms "upper" and "lower."

The rear bolster is journaled directly on the cross-bar of the body-support, while the front bolster is supported pivotally on the box L through the medium of the pin l, mounted on said box. This box is journaled on the cross-bar of the front support and permits the desired oscillations of the box on the support and the turning of the front axle under the front bolster, as will be understood from the drawings.

To the under side of the bolster K' is secured a plate, K³, having a rearwardly-projecting wing or arm, K⁴, having holes to receive coupling-pin K', which connects the arm K⁴ with the perch-section K², which has a number of holes, k, for the bolts 3, which connect the lower section, K², adjustably with the upper section, 4.

The perch C has a number of holes, c, for the bolster e', connecting it with hounds E, and these holes c are arranged in like relation with

holes k , so the lower and upper perches can be coupled the same length. The wagon-body is supported on the bolsters between stakes m . I form these stakes of hollow metal open at their upper ends, so the stakes may be supplemented by inserting rods into said hollow standards to increase the heights of the stakes when desired to carry wood and the like. The front supports, G , are provided with stirrups G^2 , fixed at their upper ends to the cross-bar G' , pivoted at g' between their ends on the front axle and extended at g^2 below the said front axle, being provided at their lower ends with eyes g^3 or other suitable expedients for the connection of the hounds N . I prefer to provide the tongue with a projection, n , forming an abutment for engagement by a rod, O , which has at its upper end a plate, O' , fitting removably in the box L , as will be understood from Fig. 7. By this construction the rod O may be lowered to engage projection n and prevent the application of the brakes, or may be elevated and held by catch O^2 out of such engagement. The function of this abutment n and bar O will more fully appear hereinafter.

The brake-shoe has a frame, J' , preferably of cast metal, having its back plate curved in an arc the same as or approximating that of the wheel, and having its edges formed at j to provide keepers for the rubber j' , of wood or other suitable material, which may be driven into the frame. To prevent the rubbers from being forced out of the bottom of the frame, a stop-flange, j^2 , may be provided at such point, as shown. It will be seen that I provide by this construction a long bearing against the wheel, and consequently secure an effective brake-bearing on the wheel when the brake is applied.

In operation it will be seen that forward draft on the tongue will draw extensions g^2 forward and throw the top cross-bar of the front body-support to the position shown in Fig. 1, and the back body-support is also thrown back by the top perch, K^2 , such supports being in the position shown in Fig. 1, and the brake being clear of the wheels. This position of the parts is preserved in moving forward on a level and in ascending an incline. Now, it will be seen that the brackets or projections F , which form stops, engage the top cross-bar of the rear load-support and prevent the said support, and through the upper perch the front one as well, from moving rearwardly beyond the position shown in Fig. 1, and by varying the position of the spring-bar F^4 , which by preference forms the stop proper, the extent to which said bar F^4 will cushion the back movement of the wagon may be varied. This spring F^4 also aids in moving the body forward to apply the brake. Now, on descending a hill the forward tendency of the wagon acting against the tongue will force the lower end of stirrups G^2 back, carrying the upper ends of the front and body supports forward. This effects a rearward movement

of the lower extensions of the rear stirrups, effecting an application of the brake through the medium of the connection i . When it is desired to apply the brake, so the driver may leave the wagon, it is only necessary to apply the brake by hand. Then, by means of a rod, P , or other connection between the axle, as shown, or it may be the top cross-bar, H' , and the brake-bar, the brake-bar may be locked in braked position and the team be left without any danger of its running away. To facilitate the application of the brake by the driver, and to permit such application without backing the wagon, I provide a lock-handle, Q , which fits in a socket, q , supported on an extension, q' , of one of the body-supports, preferably the rear one, or it may be the front one, as shown, and is braced by a bar, q^2 . By this handle the body can be easily moved forward to apply the brake. Now, in order that the wagon may be backed when so desired without applying the brake, I provide the rod O and abutment n , so that when the rod is lowered to engage the abutment, as shown in Fig. 1, back-pressure on the tongue will not operate to force the lower ends of bars G^2 back, and consequently will not apply the brake. Collars 1 are either formed or shrunk on the axle at the various points of connection therewith to prevent lateral play of the parts therewith connected.

The front and rear oscillating supports both form together a support for the body. I do not desire to be limited to two oscillating supports, although such construction is preferred; but manifestly one oscillated support might be employed and a rest or other support be substituted for one of the oscillating parts. This obviously would involve no departure from the broad principles of my invention.

The leverage that enables the brake to lock is by having the rear body-supports pivoted eccentrically between their ends and having about two-thirds their length above and one-third below the same, whereas, to unlock, the front hounds are connected with the body-support by a connection pivoted on the axle, clasping the body-support at its upper end, and extending below the axle, say, fifty per cent. farther than the distance from the center of the axle to the center of the body-support, thus giving the desired leverage to unlock. On the axle, body-support, and at other points where there is an oscillating bearing I shrink on such parts a sleeve, x , as shown in Fig. 9, say, of one-eighth-inch steel for the whole length of the bearing, such sleeve being held from longitudinal or rotary movement by punching portions thereof into indentations, as shown at x' in Fig. 9.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The improvement in wagons herein described, comprising an axle, a support pivoted between its ends and adapted to support the load, a brake, and connections, substantially as set forth.

2. The combination of the front and rear axles, a perch connecting said axles, body-supports pivoted on the axles, the draft devices, the brake, and connections, substantially as set forth. 5
3. The combination of the axles, the oscillating body-supports, the bolsters mounted and capable of oscillating on said supports, the brake, and connections, substantially as set forth. 10
4. The combination of the rear axle, the body-support pivoted thereon and having extensions below the axle, the brake, and connections between the brake and the lower extensions, substantially as set forth. 15
5. The combination of the front axle having a non-circular portion, the clamp D, formed of sections D', having pins d , and fitted to and bolted on the non-circular portion of the axle, the perch-pole, and the plates connected therewith and having openings to receive the pins d , substantially as and for the purposes specified. 20
6. The combination of axle A, the body-support pivoted on said axle, and the stirrups G, pivoted on the axle A, having extensions below said axle, and extensions projected up and united with the top cross-bar of the body-support, substantially as set forth. 25
7. The combination of the axle A, the body-support pivoted thereto and having a top cross-bar, the box journaled thereon and having a pin, l , and the bolster pivoted to said pin, substantially as set forth. 30
8. The combination of the front and rear axles, the oscillating supports pivoted thereon, the brake-connections therewith, and a stop, as F, whereby to limit the movement backward of said supports, substantially as set forth. 35
9. The combination of the front and rear axles, a perch connecting the same, a support, G, having arms g , pivoted on the front axle and provided with a top cross-bar, the stirrups G^2 , secured at their upper ends to cross-bar G' , oscillating on the front axle and having lower extensions, g^2 , the rear support, H, having extensions h' , the brake-bar, a connection between the same and extensions h' , bolsters K K', and perch K', substantially as set forth. 40
10. The combination, with the axles and the oscillating supports, of the upper and lower perches and devices whereby the upper and lower perches may be correspondingly lengthened and shortened, substantially as set forth. 45
11. The combination of the box L, having a recess fitted to receive a plate or head, O', the tongue having an abutment, n , and the rod O, having a plate, O', substantially as set forth. 50
12. The combination, with the oscillating body-support and the framing, of the stop having a spring-bar, F', and means for adjusting the position of said bar, substantially as set forth. 55
13. The combination, with the oscillating body-support, of the bar F', the rack F', the cam f^2 , arranged to engage bar F', and a handle connected with said cam f^2 , arranged to engage rack F', substantially as set forth. 60
14. The combination of the oscillating body-support, the brake-connection between said brake and support, and a handle connected with said support, whereby the brake may be applied at will, substantially as set forth. 65
15. In a wagon, substantially as described, an oscillating body-support having an extension, q' , provided with a socket, q , fitted to receive lock-handle Q, and provided with a brace, q^2 , for said extension q' , substantially as set forth. 70
16. The combination of the axle A, the support G, pivoted thereon and having extensions g^2 below said axle, and the tongue connected with said extensions, substantially as set forth. 75
17. In a wagon, the combination, with a shaft or bar on which an arm oscillates, of a band fitted on said shaft and having a part or parts indented therein, whereby it is held to such shaft, and an arm fitted on said band, substantially as and for the purposes specified. 80

EDWARD M. ALLEN.

Witnesses:

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E. M. ALLEN, Jr.