

(No Model.)

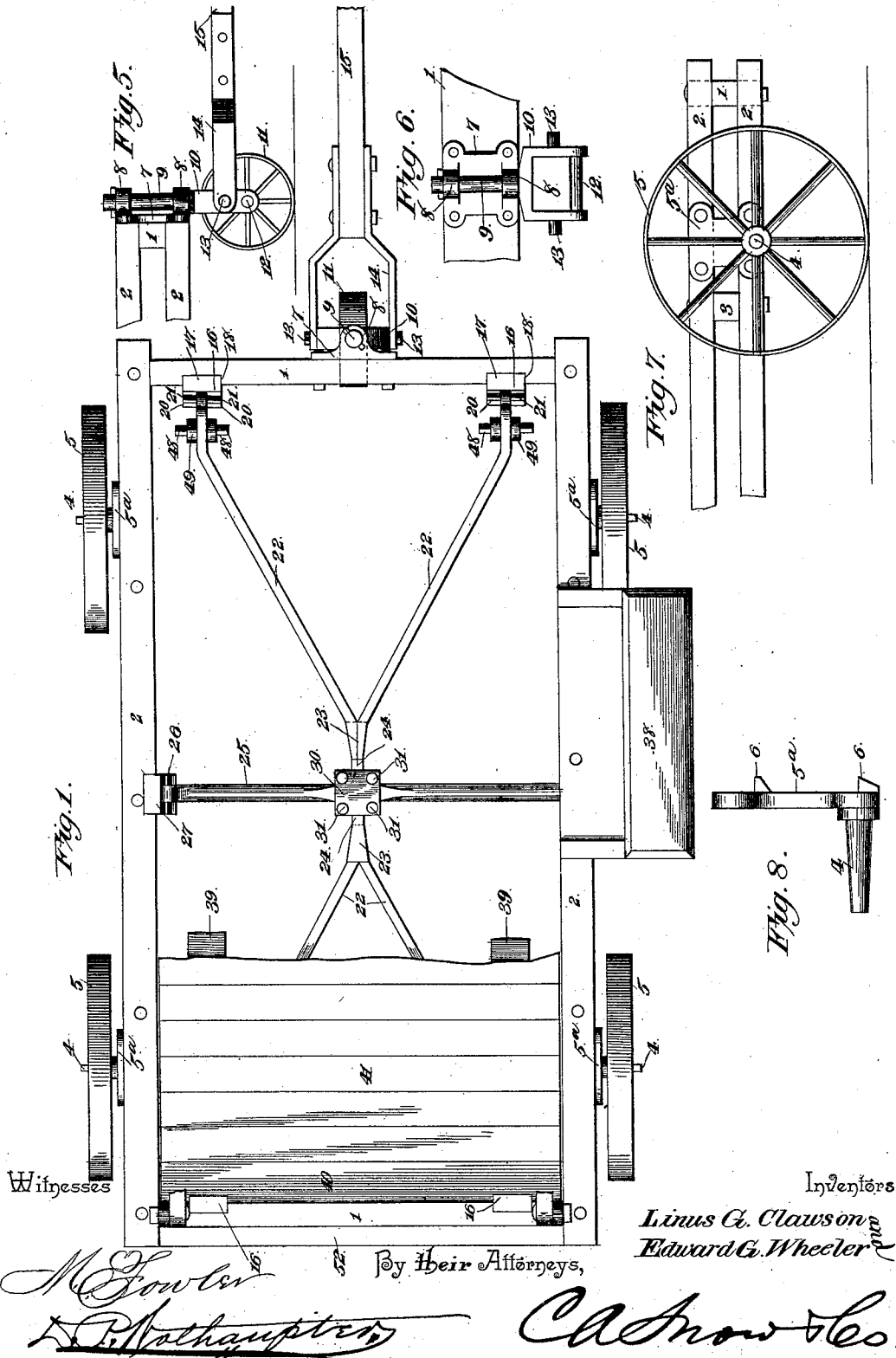
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L. G. CLAWSON & E. G. WHEELER.

WAGON SCALE.

No. 467,918.

Patented Feb. 2, 1892.



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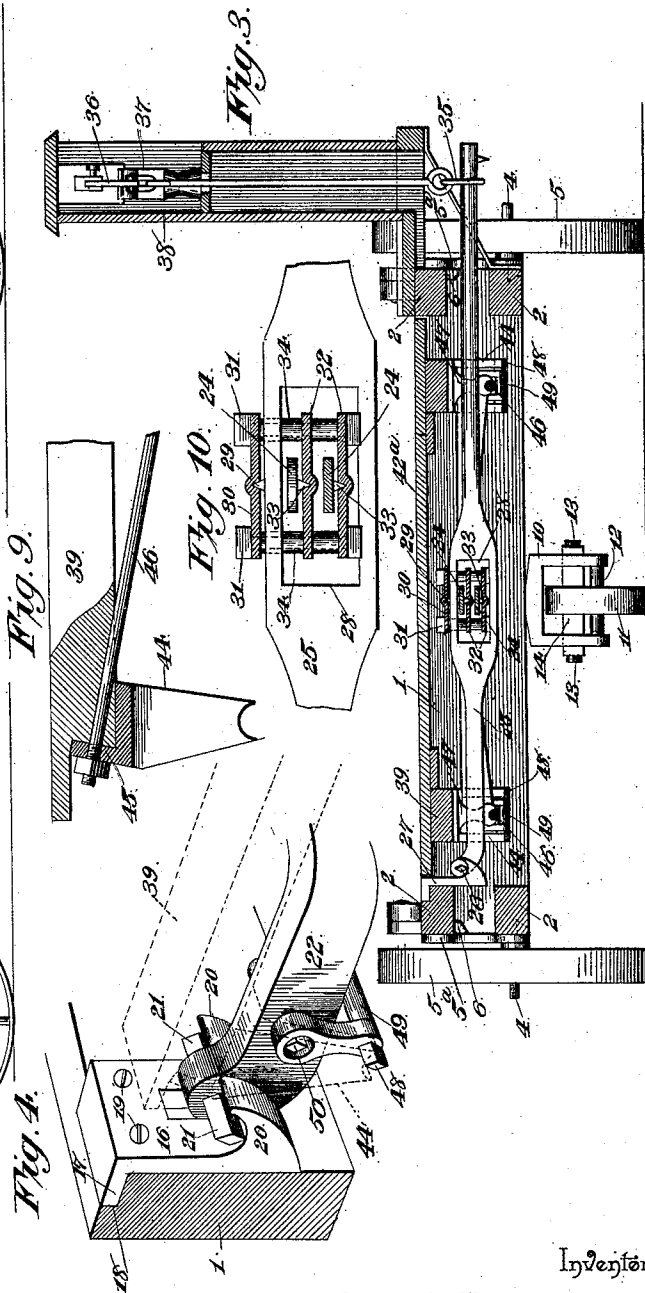
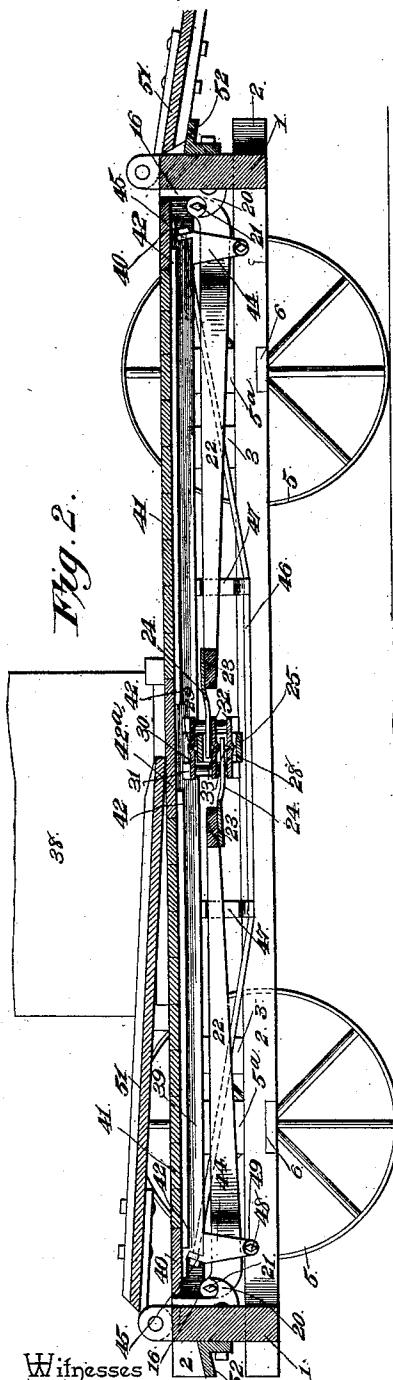
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Witnesses

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UNITED STATES PATENT OFFICE.

LINUS G. CLAWSON AND EDWARD G. WHEELER, OF PLEASANT HILL,
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WAGON-SCALE.

SPECIFICATION forming part of Letters Patent No. 467,918, dated February 2, 1892.

Application filed July 20, 1891. Serial No. 400,090. (No model.)

To all whom it may concern:

Be it known that we, LINUS G. CLAWSON and EDWARD G. WHEELER, citizens of the United States, residing at Pleasant Hill, in the county of Cass and State of Missouri, have
5 invented a new and useful Wagon-Scale, of which the following is a specification.

This invention relates to wagon-scales; and it has for its object to provide a device of
10 this class which shall be simple in construction, inexpensive, durable, and which shall be so constructed as to enable it to be readily transported from place to place without taking it apart and without danger of injuring
15 or disarranging the mechanism thereof.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a plan view of a wagon-scale constructed in accordance with our invention, a portion of the platform and of the platform-frame
25 having been removed to show the construction. Fig. 2 is a longitudinal sectional view taken through the frame and platform. Fig. 3 is a vertical transverse sectional view. Fig. 4 is a perspective detail view showing the
30 construction and arrangement of the stirrups and hangers whereby the scale levers and platform are connected with the ends of the frame. Fig. 5 is a side view showing the arrangement of the caster-wheel at one end of
35 the frame. Fig. 6 is a front view of the caster-wheel frame. Fig. 7 is a detail side view showing the arrangement of one of the wheels at the sides of the frame. Fig. 8 is a detail view of one of the spindles. Fig. 9 is a longitudinal sectional detail view taken through
40 one of the platform-beams, the truss, and the hangers. Fig. 10 is a sectional detail view, on a larger scale, of the central scale-lever and the frame hung thereon for the support
45 of the side levers.

Like numerals of reference indicate like parts in all the figures.

The frame of our improved wagon-scales is composed of the end sills 1 1 and the side
50 pieces 2 2, of which latter there are two on

each side of the frame, the upper and lower side beams being spaced by the interposed blocks 3. The sides of the frame are provided with spindles 4, having the supporting-wheels 5. Said spindles are formed upon
55 plates 5^a, which are bolted to the upper and lower frame-beams 2 2 and which are provided with lugs 6 6, extending under the said frame-beams to support the latter. At one end of the frame is attached a plate 7, having
60 vertically-perforated lugs or bearings 8 for a vertical shaft 9, the lower end of which has a frame 10, in which a caster-wheel 11 is journaled upon a post or shaft 12. The frame 10 is provided with laterally-extending lugs 13,
65 upon which is pivoted a hound-frame 14, from which extends a tongue 15, to which a team may be hitched for the purpose of transporting the scales from place to place. The supporting-wheels are of course to be made as
70 low as convenient in order to avoid elevating the frame of the scales too far above the ground.

Upon the inner sides of the end sills 1 1 of the frame are mounted the hangers 16, which
75 are provided at their upper edges with flanges 17, resting in recesses 18 upon the upper sides of the sills, to which latter the said hangers are secured by means of bolts 19. The hangers 16 are provided at their lower ends with
80 inwardly-extending parallel hooks 20, forming bearings for the knife-edges 21 at the outer ends of the scale-levers 22. The said scale-levers, of which there are two at each end of the frame, converge inwardly, the inner ends
85 of the said levers being connected, as shown at 23, with the lever-arms 24.

25 designates a lever provided with laterally-extending knife-edges 26, whereby it is pivoted in a hanger 27 upon the front side of
90 the frame. The lever 25 is provided at the center of the frame with a horizontal slot 28, above which it has on its upper side a sharp-pointed lug or stud 29, forming a bearing for a plate 30, which is provided at its four corners
95 with depending bolts 31, supporting a pair of plates 32, which are arranged one above the other within the horizontal slot 28 of the lever 25, through which the said plates 32 extend. The arms 24 at the converging
100

ends of the scale-levers are provided on their under sides with sharp-pointed lugs or studs 33, resting upon the plates 32. The plates 32 are to be spaced from each other and from the plate 30 by means of sleeves or thimbles 34 upon the connecting-bolts 31. It will be seen that by this construction the converging inner ends of the scale-levers 22 are connected with the lever 25 in such a manner as to permit the several parts to work freely with the least possible degree of friction, and also that weight placed upon the free end of the lever 25 or upon the scale-levers 22 will be evenly distributed. The free end of the lever 25 is extended between the frame-beams 22 at the rear side of the frame and is connected by a link 35 with the scale-beam 36, which is mounted pivotally upon a post 37 within a suitable casing 38 in the usual manner.

The platform of our improved scales is composed of the side beams 39, connected by the end pieces 40 and having the detachable sections 41, which are provided at their ends with laterally-extending brackets 42, extending under the end pieces 40 and under a center piece 42^a, which is secured detachably to the side beams 39 and which serves to retain the removable sections 41 in position. It will be seen that by removing the center piece 42^a the sections 41 may be readily detached, thus affording access to the operating mechanism below the platform. The platform is provided at its ends with hangers 44, having upwardly-extending inclined flanges 45, that abut against the inclined ends of the beams 39, to which the said hangers are secured by means of the truss-rods 46, the ends of which are extended through the flanges 45 and through the ends of the beams 39, as will be seen, the said truss-rods being spaced from the under sides of the beams by means of brackets 47. The hangers 44 are bifurcated and have bearings upon the knife-edges 48, which extend laterally from stirrups 49, which are mounted pivotally upon knife-edges 50, extending laterally from the scale-levers 22, near the pivoted ends of the latter, at the ends of the supporting-frame.

It will be seen from the foregoing description that the construction of the platform is exceedingly simple and durable and that the hangers by means of which it is supported upon the stirrups of the scale-levers are secured by means of the truss-rods, thus giving great strength and stability to the entire structure. The platform by this construction is also hung very loosely and in such a manner as to play freely upon its supporting-pivots when the scales are in use.

At the ends of the frame are hinged a pair of aprons or platforms 51, adapted to form inclined frames to any vehicles to ride up upon the scale-platform. Upon the end sills 11 of the frame are bolted lugs or brackets 52, having inclined upper sides adapted to support the hinged ends of the aprons and to take the strain off the hinges when the said

aprons are extended for use. When the said aprons are not in use, they may be folded over upon the scale-platform, so as to be out of the way, as will be seen in Fig. 2 of the drawings.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of our invention will be readily understood.

The construction of our improved wagon-scales is simple and inexpensive, and the component parts are so constructed and arranged as to insure great strength, as well as certainty and accuracy of operation.

It has been customary heretofore to set wagon-scales in pits in the ground for the purpose of bringing the platform to a level with the surface of the ground. To offset this one advantage, wagon-scales as ordinarily constructed have been subject to serious disadvantages, such as the liability of water to accumulate and freeze in the pit and the impossibility of transporting the scales from place to place.

By our improvement a strictly portable wagon-scale is provided the platform of which is not elevated above the ground to such an extent as to interfere with the operation, the capacity of scales of this character being not necessarily in excess of four thousand to five thousand pounds. A load of this weight may easily be hauled up over the inclined aprons at the ends of the frame.

While we have in the foregoing described the preferred construction of our invention, we desire it be understood that we do not limit ourselves to the exact details, but reserve the right to make any changes and modifications which may be resorted to without departing from the spirit of our invention. It may also be noted at this point, if found necessary or deemed advisable on account of any difficulty found in pulling the load upon the platform, that the supporting-wheels may be removed and the frame thus lowered to the level of the ground, or by digging small pits or holes in the ground in front of the supporting-wheels the same result can be accomplished, although, on account of the construction of the platform and frame herein described, it is not thought that this will at any time be required.

Having thus described our invention, what we claim is—

1. In a portable wagon-scale, the combination of the frame composed of the end sills and the side beams arranged in pairs at the sides of the frame, the platform and weighing devices within said frame, the spindles having plates provided with lugs extending under the upper and lower side beams, and the supporting-wheels, substantially as set forth.

2. In a portable wagon-scale, the combination of the frame, a platform and weighing devices located within said frame, a plate secured to one end of the same and having vertically-perforated lugs, the shaft journaled in said lugs and having at its lower end a

frame provided with laterally-extending lugs, the caster-wheel journaled in said frame, a tongue having hounds adapted to engage the laterally-extending lugs of the caster-wheel frame, aprons hinged at the ends of the frame, and inclined lugs or brackets upon the end sills of the frame to form a seat and rest for said aprons, substantially as and for the purpose set forth.

10 3. The combination of the frame, the hangers mounted upon the end sills of said frame and having inwardly-extending parallel hooks, separate converging scale-levers having opposite knife-edge pivots at their ends, said pivots resting upon the hooks of each hanger, between which the ends of said scale-levers work, swinging knife-edge stirrups suspended from said scale-levers in rear of their supported ends, the platform having depending hangers straddling said scale-levers and supported upon said stirrups, the horizontally-slotted lever pivoted at one side of the frame and connected with the scale-beam, and the arms at the converging or meeting ends of said scale-levers and supported by said slotted lever, substantially as set forth.

4. The combination of the independent converging scale-levers, the slotted supporting-lever having the sharp-pointed stud on its upper side, a plate resting upon said stud and having depending bolts supporting a pair of parallel plates that extend transversely

through the slot of the supporting-lever, and the arms at the converging ends of each opposite pair of the scale-levers having sharp-pointed studs, each independently bearing upon one of the said transverse supporting-plates, substantially as and for the purpose set forth.

5. The combination, with the platform having the side beams, of the hangers depending therefrom and having flanges resting against the ends of said side beams, and the truss-rods extending through said flanges and connecting the hangers with the said beams, substantially as and for the purpose set forth.

6. The platform composed of the side beams, the end pieces connecting the same, the detachable top sections having the laterally-extending arms or brackets projecting toward each other to form a seat under each end piece, and the center piece secured detachably upon the side beams, and said arms or brackets forming a seat, substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

LINUS G. CLAWSON.
EDWARD G. WHEELER.

Witnesses:

CHAS. O. RACE,
OWEN G. THRALL.