No. 698,581. Patented Apr. 29, 1902.

B. STROME.

ROAD GRADER.

(Application filed Dec. 19, 1901.)

(No Model.)

2 Sheets—Sheet 1.

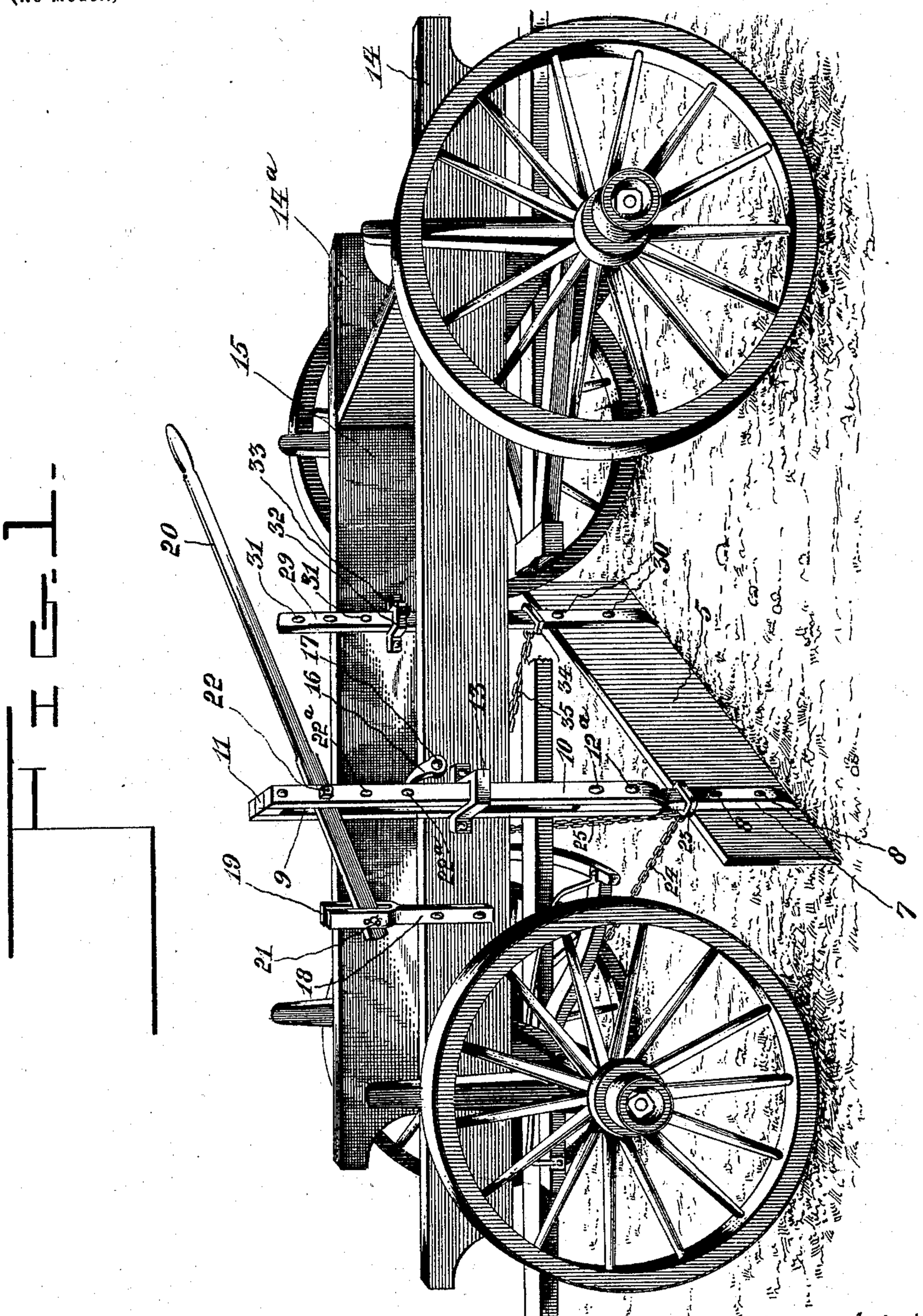

FIG. 1.

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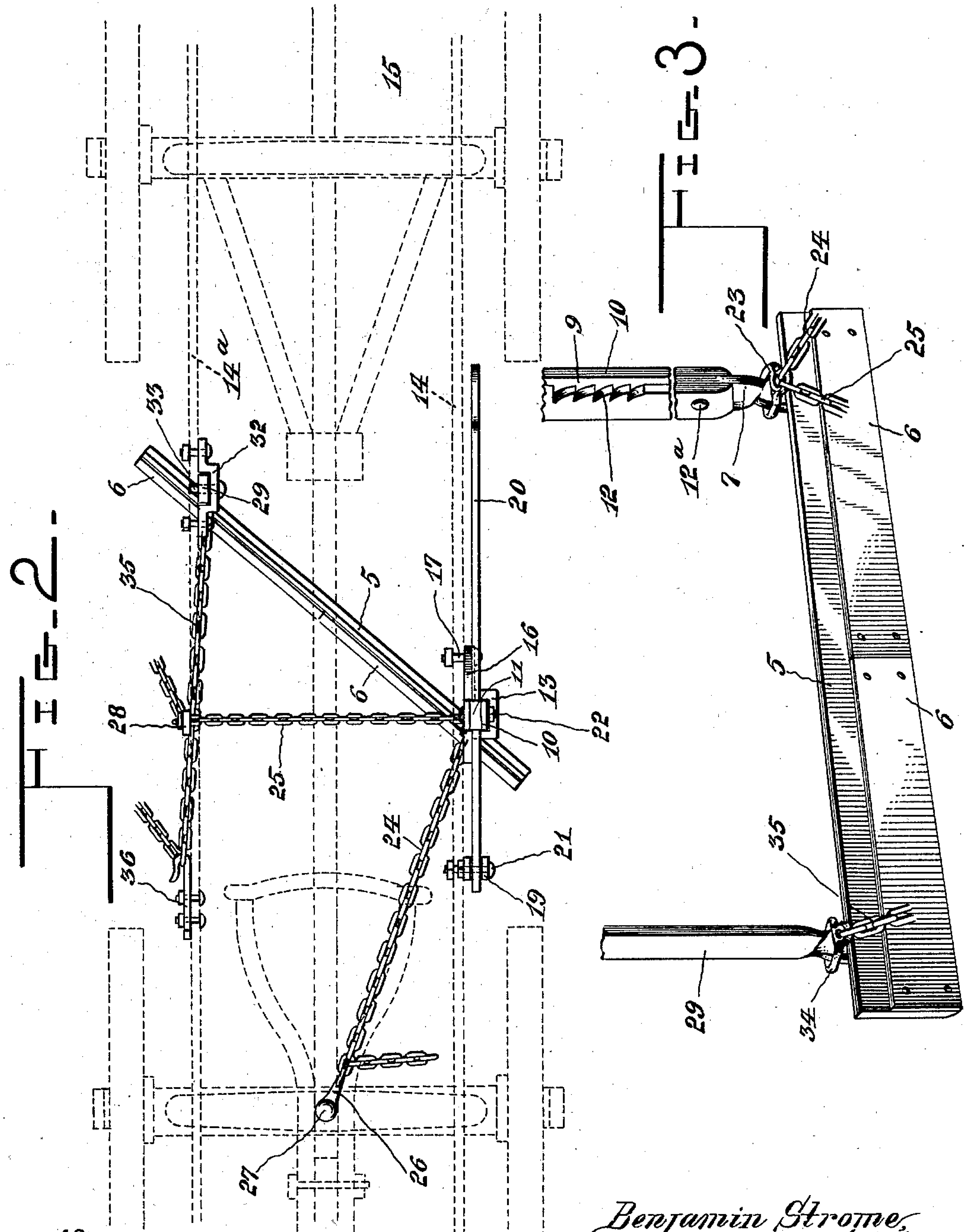

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UNITED STATES PATENT OFFICE.

BENJAMIN STROME, OF GOUROCK, CANADA.

ROAD-GRADER.

SPECIFICATION forming part of Letters Patent No. 698,581, dated April 29, 1902.

Application filed December 19, 1901. Serial No. 86,502. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN STROME, a subject of the King of Great Britain, residing at Gourock, county of Wellington, Province of Ontario, Canada, have invented certain new and useful Improvements in Road-Graders; and I do hereby declare that the following is 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.

My invention relates to improvements in road-graders; and the object that I have in view is to provide a simple and inexpensive contrivance which is especially adapted for use on any farm-vehicle or running-gear and is capable of manipulation and adjustment with ease and facility, so that the scraper may be quickly raised to lie above large stones or other obstructions in its path and in like manner lowered into operative position.

With these ends in view the invention consists in the novel combination, construction, and arrangement of parts, which will be hereinafter fully described and claimed.

In the drawings hereto annexed, forming a part of this specification, Figure 1 is a perspective view of an ordinary farm-vehicle equipped with the road-grading appliances of my invention. Fig. 2 is a plan view of the grading appliances and showing the same in operative relation to the parts of the farm-vehicle, the latter being indicated by dotted lines in order to more clearly represent the improvements. Fig. 3 is a detail perspective view of the scraper and parts of its suspension devices.

The same numerals of reference denote like parts in all the figures of the drawings.

5 designates the scraper, which is made of a piece or plank of wood and is provided with the metallic face-plates 6. I prefer to employ hard wood in the manufacture of the scraper and to make the face-plates of steel; but I do not limit myself to this material and construction.

7 designates a metallic bar, which is secured firmly, as by rivets 8, to the scraper near one end of the latter. This metallic bar is embraced by or received within the slot 9 of a post 10. This post consists of two bars arranged parallel to each other and held in spaced relation by the block 11 and by engagement with the short metallic bar 7. The spacing-block 11 is secured firmly between the upper ends of the members forming the post 10, and in like manner the metallic bar 7 is secured by the bolts or rivets 12^a between the lower ends of the members forming said post 10. One of the bars forming the post 10 is provided on one edge with a series of notches, forming a series of ratchet-teeth 12, and the slotted post 10 is slidably received in a keeper 13, the latter being secured to the outside of one side plank 14, forming in part the gravel-box of an ordinary farm-vehicle, which is indicated in its entirety by the numeral 15.

It will be seen from the foregoing description that the slotted post 10 lies on the outside of the gravel-box, and it is adapted to be held in variable positions by means of a pawl 16, the latter being pivoted at 17 to the side plank 14 and arranged to engage with either of the series of ratchet-teeth 12 on the slotted post.

18 designates a fulcrum-post which is bifurcated or forked at its upper portion, as at 19. An adjusting-lever 20 has one end fitted in the bifurcated end 19 of the fulcrum-post and is pivoted thereto by means of the bolt 21. The adjusting-lever 20 passes through the slot 9 in the vertical slidable post 10, and said lever and the post are pivoted or connected together by the bolt 22.

The metallic bar 7 is provided just below the scraper 5 with a clip 23, with which is engaged the main draft-chain 24 and the cross draw-chain 25. The main draft-chain 24 extends forwardly of the scraper and has a grab-hook 26, which is fastened to the king-bolt 27 of the vehicle or running-gear. (See Fig. 2.) The cross draw-chain 25 extends transversely beneath the vehicle and at an angle to the main draw-chain 24, said chain 25 being engaged with a grab-hook 28, that is fastened to the side plank 14^a of the gravel-box on the vehicle running-gear.

29 designates a metallic post which is secured by bolts or rivets 30 to the scraper near the opposite end from the bar 7, and this vertical bar is provided at its upper portion with

a series of holes 31. The post 29 is considerably longer than the short bar 7, which is attached to the opposite end of the scraper, and said post is arranged on the inside face of the side plank 14^a and is loosely received in a keeper 32, which is secured to said inner face of said plank 14^a. The perforated post is loosely and adjustably held in the keeper by means of a pin or bolt 33, which passes through the keeper and is adapted to be received in either of the apertures 31 of the post. This post is provided at its lower end with a clip 34, to which is attached the side draft-chain 35, that extends forwardly of the keeper and has its front end attached to a grab-hook 36, which is secured to the side plank 14^a in front of the grab-hook 28, to which is attached the cross draw-chain 25.

By reference to Figs. 1 and 2 of the drawings it will be seen that the scraper is arranged diagonally across the vehicle and below the running-gear thereof, thus making the scraper occupy an inclined relation to the line of the draft. The scraper is securely attached to the vehicle by the posts 10 29 and the parts associated therewith; but the strain of the work or load on the scraper is taken off these posts and absorbed by the draft-chains. Nearly all the draft is taken up by the chains 24 and 35, which are attached to the king-bolt and to the wagon-box, respectively; but some of the draft is taken by the cross-chain 25, which coöperates with the posts in preventing lateral deflection of the scraper. The scraper can be easily and quickly raised merely by pressing upward upon the adjusting-lever, thereby elevating the post 10, because the ratchet-teeth slip over the pawl. The scraper can be raised or lowered bodily by shifting the pin or bolt 33 into either of the apertures 31 of the post 29 and by adjusting the pivotal connection 22 of the lever to one or the other of the apertures 22^a, which are provided in the slotted post 10.

Although I have shown and described my road-grading appliances in connection with an ordinary farm-vehicle, I would have it understood that I do not strictly confine myself to the use of said improvements in connection with a vehicle of this character, because it is evident that the improvements can be used on any style of running-gear or on other kinds of vehicles.

Having thus described my invention, what I claim as new is—

1. In a road-grader, the combination of a scraper adapted to be arranged diagonally across the line of a running-gear, a post attached to each end of the scraper, means for connecting one post to a running-gear, an adjusting-lever and means for connecting the other post to said running-gear, the main draft-chain attached to one post, a side draft-chain attached to the other post, and a cross draft-chain, substantially as described.

2. In a road-grader, the combination of a scraper adapted to be arranged diagonally across the line of the vehicle, a short metallic bar secured to the scraper near one end, a slotted and rack-formed post fastened to said bar, a keeper in which said slotted post is slidably confined, a pawl arranged to engage with the rack on said post, and a lever connected with said post and supported by an independent fulcrum-post, substantially as described.

3. In a road-grader, the combination of a scraper adapted to be arranged diagonally across the line of a running-gear, a post attached to the scraper near one end and provided with a rack, another post attached to the scraper near its other end, keepers adapted to be secured to the running-gear and loosely receiving said posts, means for adjustably fastening one of the keepers and one of the posts together, a pawl arranged to engage with the rack on the other post, a lever connected to the last-named post, a main draft-chain connected to the forward end of the scraper, a side draft-chain connected to the rear portion of the scraper, and a cross draft-chain attached to the scraper and to suitable means whereby it may be connected with the running-gear, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

BENJAMIN STROME.

Witnesses:
KENNETH MACLEAN,
CLARA HANLON.