

T. HENRY.
ROAD GRADER.

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898,884.

Patented Sept. 15, 1908.

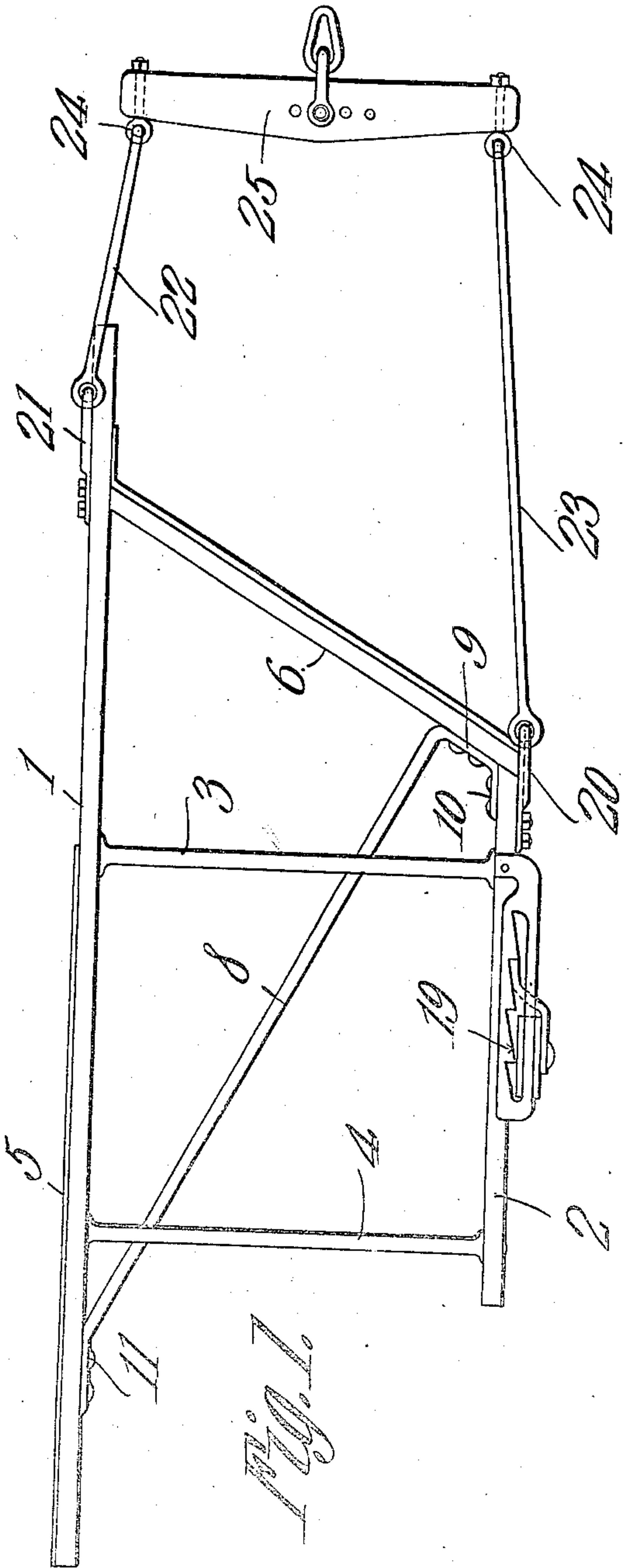


Fig. 1.

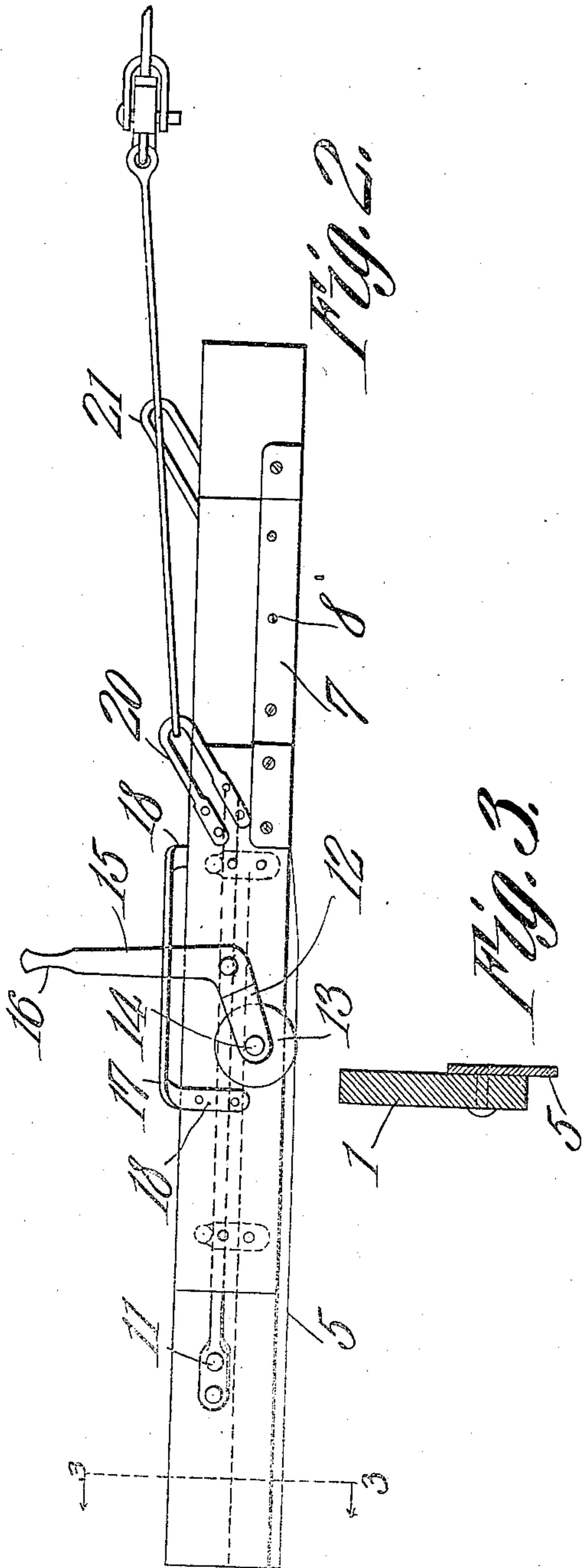


Fig. 2.

Fig. 3.

Witnesses

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ROAD-GRADER.

No. 898,884.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMPSON HENRY, a citizen of the United States, residing at Jamestown, in the county of Boone and State of Indiana, have invented a new and useful Road-Grader, of which the following is a specification.

This invention relates to improvements in road graders or scrapers.

One object of the invention is to provide a device comparatively inexpensive to manufacture, and embodying few parts, thereby greatly decreasing the draft in devices of this kind.

Another object is to provide a simple means for raising and lowering the scraper to regulate the cutting depth.

Still another object is to provide an improved form hitch, so that the pulling strain will not be thrown upon the scraper blade and one that will have free lateral and vertical movements thereby diminishing any tendency of the device to wobble.

With these and other objects in view as will more fully hereinafter appear the present invention consists in certain novel details of construction and arrangement of parts hereinafter fully described illustrated in the accompanying drawings, and particularly pointed out in the appended claims. It being understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit, or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a plan view of the device. Fig. 2 is a side elevation. Fig. 3 is a vertical section taken on line 3—3 Fig. 2.

Similar numerals of reference are employed to designate corresponding parts throughout.

In the construction illustrated, the device comprises a pair of parallel side runners 1 and 2 preferably formed of wood or other suitable material and held in spaced relation by the tie rods 3 and 4. The side runner 1 is of considerable greater length than the runner 2, and is provided on its outer face with a metallic shoe 5 projecting slightly beyond the lower edge of said runner and adapted to penetrate the surface of the ground to prevent any lateral deflection of the complete machine. The front end of the runner 1 is considerably in advance of the front end of the runner 2 and secured to the front end of

the latter is one end of the scraper 6 which extends diagonally through the opening between the runners, and has its opposed end suitably secured on the inner face and adjacent the outer edge of the runner 1.

The outer face and lower edge of the scraper 6 is provided with a suitable metallic wearing shoe 7 secured to the scraper by bolts or rivets 8', and having an angular portion on one end secured to the inner face of the runner 1. To further strengthen and hold the scraper to the front end of the runner 2, a suitable connecting rod 8 is employed having a portion adjacent one end bent outwardly as at 9 and then inwardly as shown at 10, forming projections fitting into the angle formed by the inner faces of the runner 2 and scraper 6; the body of the rod extends diagonally through the opening between the inner faces of the scraper and runner 1 and is secured on the inner face and adjacent the rear end of the latter by bolts or screws 11.

In order that the lower edge of the scraper may be adjusted to regulate the cutting depth a device is employed and in the present instance comprises a bell crank lever one arm 12 of which is bifurcated to accommodate a wheel 13 rotatably mounted on a shaft 14 extending through the bifurcated arm 12. The lever is pivotally mounted on the outer face of the short runner 2 and at a point slightly in advance of the horizontal center so that when the edge of the wheel 13 is parallel to the lower edge of the runner 2 the axis of said wheel will be approximately in a line with the horizontal center of the runner 2. The opposite arm 15 of the bell crank terminates in a handle 16 and a rack 17 provided with opposed downwardly projecting ends 18 having openings for the reception of bolts or the like by means of which it is secured to the runner 2. The rack is provided with a longitudinal slot on one side of which teeth 19 are formed. The arm 15 of the lever is adapted to enter the slot and engage the teeth 19, so that when the arm is moved to one end of the slot the wheel will be lifted clear off the ground and retained in position by the arm 15 engaging the end tooth. When the arm is moved to the opposite end of the slot the wheel 13 contacting with the ground raises the short runner 2 and scraper 6. It is obvious when the device is in this position the friction will be

changed from sliding to a combination of rolling and sliding, and thereby materially decreased.

It will be clearly seen that most any form of hitch can be applied to the device, but the form illustrated in Figs. 1 and 2 is considered preferable since with a hitch of this kind slight lateral movements of the draft animals will not impart a swinging movement to the body of the device. The advantages of this form will be better understood from the following description: A pair of U-shaped bars or clevises 20 and 21 are provided with openings for the reception of bolts or screws by means of which they are secured to the opposed outer faces of the runners 1 and 2 at points adjacent the opposed ends of the scraper 6 with their loops projecting slightly above the plane of the runners. These clevises form securing means for a pair of draft bars 22 and 23 having eyes on their rear ends which encircle the clevises and their front ends terminating in eyes for the reception of eye bolts 24 fitted in and adjacent the opposed ends of a whiffletree 25.

From the foregoing it will be obvious that the connections between the whiffletree and scraper will be flexible and the usual wobbling generally met with in devices of this kind practically eliminated.

What is claimed is:—

1. A road grader embodying a pair of parallel runners of unequal lengths, a scraper having one end fastened to the end of the shorter runner and its opposite end secured on the inner face and adjacent the front end of the opposite or longer runner, and mech-

anism carried by the shorter runner for raising and lowering the said runner and scraper.

2. A road grader embodying a pair of parallel runners a scraper extending diagonally and having its terminals secured to said runners, a lever pivotally mounted on the outer face of one of said runners and a wheel rotatably mounted at the end of said lever and adapted to be moved by said lever above and below the plane of the lower edge of the adjacent runner.

3. A road grader embodying a pair of parallel runners, a scraper extending diagonally and having its terminals secured to said runners, a rack on one of said runners, a bell crank lever pivotally mounted on one of said runners and having one arm in engagement with said rack, a wheel rotatably mounted on the opposite arm of said bell crank serving to raise and lower the adjacent runner and scraper.

4. A road grader embodying a pair of parallel runners having U-shaped bars secured thereto, a scraper extending diagonally and having its opposed ends secured to said runners, a whiffletree and a pair of draft bars having one end secured to said whiffletree and having their opposite ends secured to said U-shaped bars.

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

THOMPSON HENRY.

Witnesses:

GEO. W. PIERSOL,
JOHN W. MILLER.