No. 808,332. PATENTED DEC. 26, 1905.

W. ALCORN.

ROAD GRADER.

APPLICATION FILED AUG. 17, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

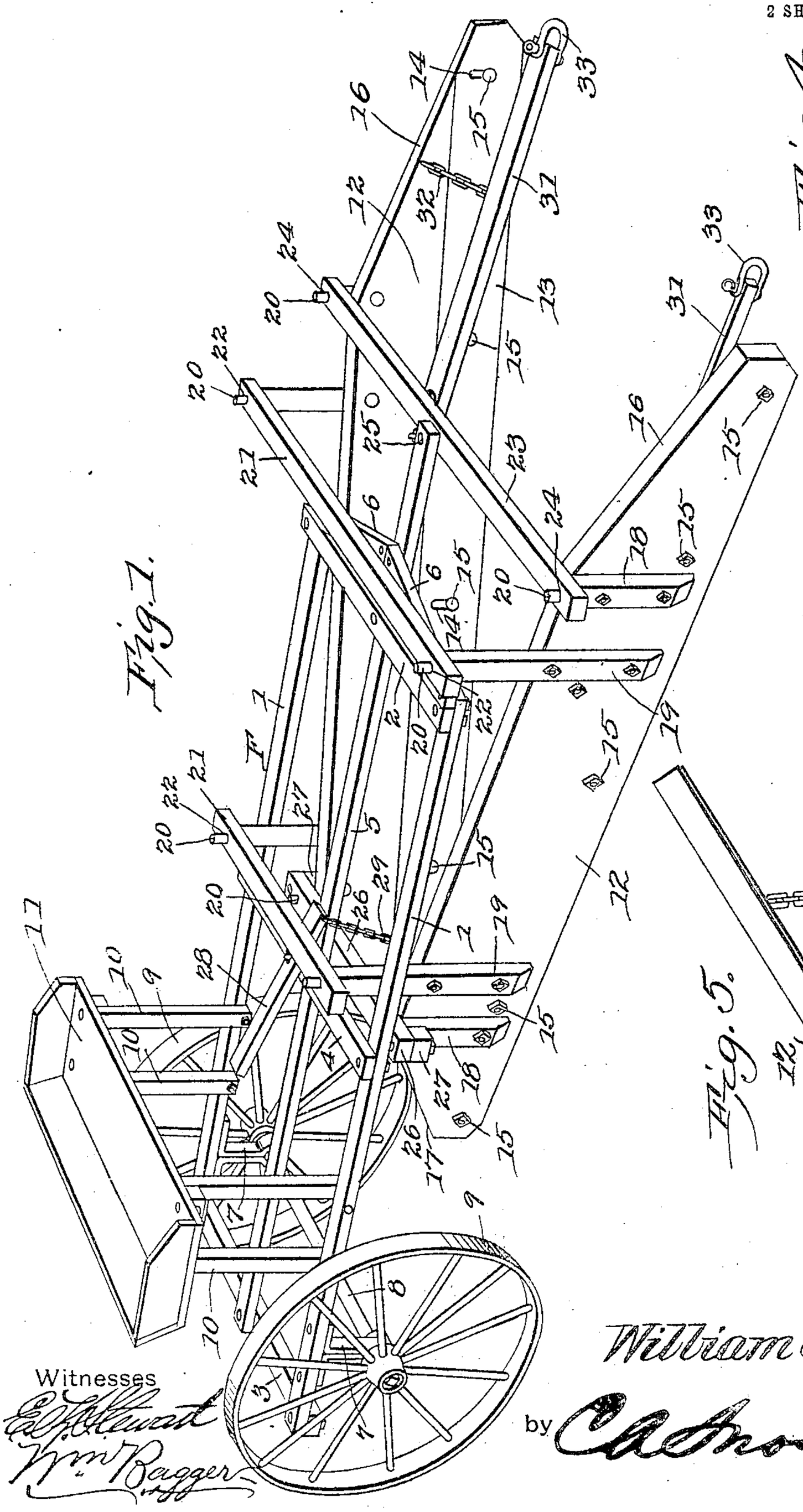

Fig. 4.

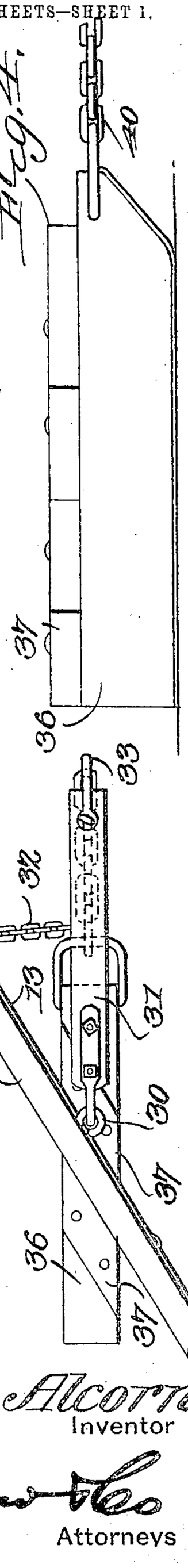

Fig. 5.

Witnesses
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2 SHEETS—SHEET 2.

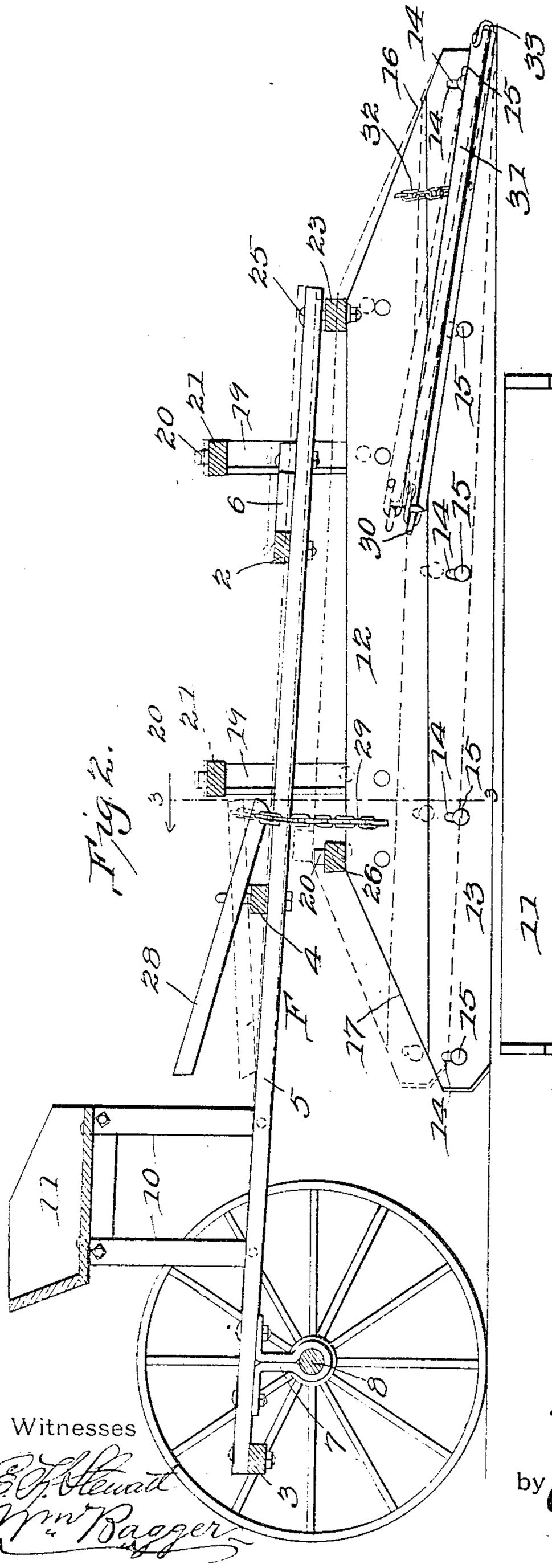

Fig. 2.

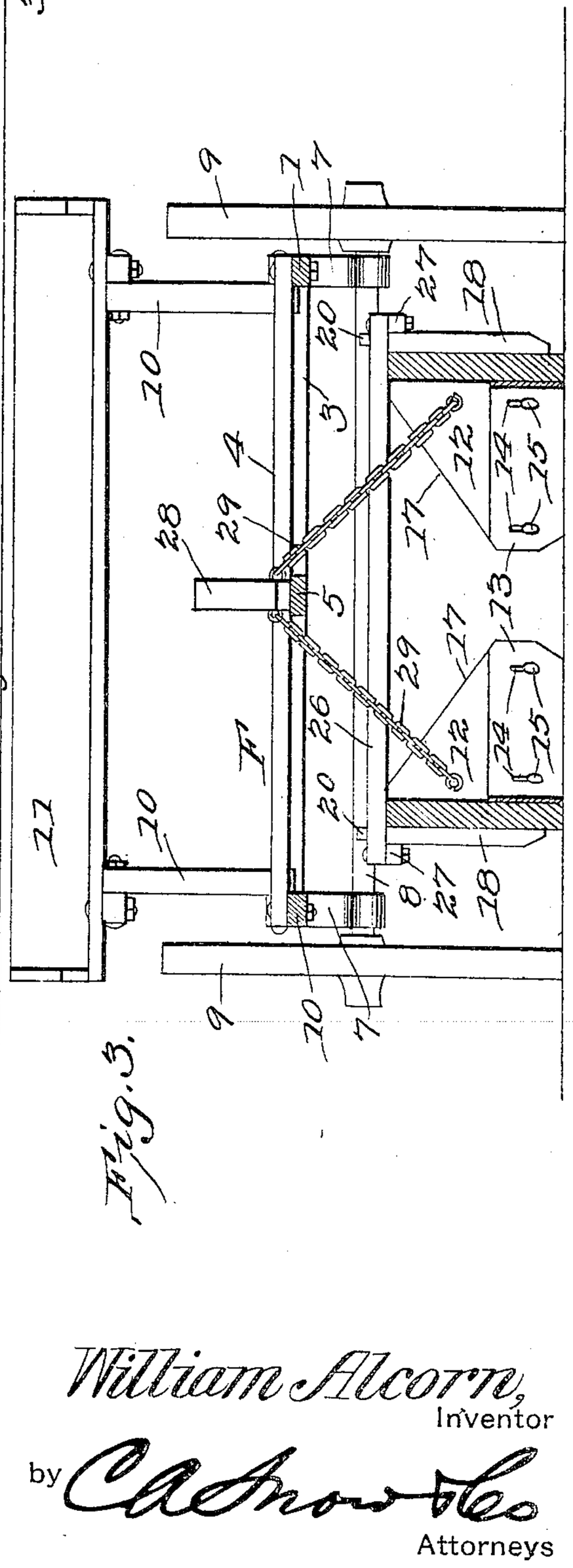

Fig. 3.

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UNITED STATES PATENT OFFICE.

WILLIAM ALCORN, OF GARDENGROVE, IOWA.

ROAD-GRADER.

No. 808,332. Specification of Letters Patent. Patented Dec. 26, 1905.

Application filed August 17, 1905. Serial No. 274,588.

To all whom it may concern:

Be it known that I, WILLIAM ALCORN, a citizen of the United States, residing at Gardengrove, in the county of Decatur and State of Iowa, have invented a new and useful Road-Grader, of which the following is a specification.

This invention relates to road scrapers and graders, and it has for its objects to simplify and improve the construction and operation of this class of machines.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that the right is reserved to such changes, alterations, and modifications as may be resorted to within the scope of the invention.

In said drawings, Figure 1 is a perspective view of a road-grading machine constructed in accordance with the principles of the invention. Fig. 2 is a longitudinal sectional elevation. Fig. 3 is a transverse sectional elevation taken on the plane indicated by the line 3 3 in Fig. 2. Fig. 4 is a side elevation of a runner used in connection with the invention for supporting the front ends of the scrapers during transportation. Fig. 5 is a top plan view of a portion of one of the scraper members supported by one of the runners.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

An approximately rectangular main frame F is provided, which has been illustrated as including side members 1 1, spaced and connected by means of cross-bars 2 and 3 near its front and rear ends and by an intermediate cross-bar 4. Said main frame also includes a longitudinally-disposed bar or reach 5, which is securely bolted to the cross-bars of the main frame, in front of which latter the said reach extends, the projecting ends being connected by obliquely-disposed braces 6 with the ends of the front cross-bar 2. The side members of the main frame are provided with downwardly-extending brackets 7, affording bearings for the axle 8, having carrying-wheels 9. The side members of the frame are also provided with uprights 10, supporting a seat 11 for the driver or operator of the machine.

The scraper proper is composed of two beams or planks 12 12, placed on edge and preferably shod with vertically-adjustable earth-engaging plates 13, having slots 14 for the passage of the securing-bolts 15. The upper edges of the planks constituting the scrapers are beveled downwardly at their front and rear ends, as shown at 16 and 17, respectively, and each of said planks is provided upon its outer side with pairs of brackets 18 and 19, the former of which are disposed near the front and rear ends, respectively, while the latter are intermediately disposed. The brackets 19 are also extended upwardly above the upper edges of the planks, while the brackets 18 terminate approximately in alinement with the upper edges of said planks. Each of the brackets 18 and 19 is provided at its upper end with a cylindrical tenon or dowel 20.

The planks constituting the scrapers are disposed in forwardly-diverging relation to each other in such a manner that the rear brackets 18 and 19 shall be included within or between the side members of the frame F, while the forward brackets 18 and 19 are extended beyond the confines of said frame. Suitable connecting-bars are provided for the upper ends of the brackets 19, said connecting-bars 21 being provided, near the ends thereof, with apertures 22 for the accommodation of the dowels 20. A connecting-bar 23, having apertures 24, that engage the dowels at the upper edge of the forward brackets 18, is secured, by means of a bolt 25, to the forward end of the reach-bar 5. Still another connecting-bar 26, having apertures engaging the dowels 20 of the rear brackets 18, is provided, at the ends thereof, with lugs or blocks 27, secured upon the under side thereof and engaging the brackets 18 to prevent the rear ends of the scraper members from spreading. It is obvious that the several connecting-bars will be so proportioned that the scrapers shall be supported in the desired relation to each other.

Upon the middle cross-bar 4 of the frame F is fulcrumed a foot-lever 28, the forward end of which is connected, by means of chains 29, with the scraper members 12 near the rear ends of the latter. Pressure of the driver's foot upon the rear end of the lever 28 will thus serve to elevate the rear ends of the scraper members to the position shown in dotted lines in Fig. 2.

The inner sides of the scraper members are provided near their front ends with staples 30, with which the draft-rods 31 are connected, said draft-rods being also connected with said scraper members by flexible means, such as chains 32. The front ends of the draft-rods are provided with clevises 33, with which swingletrees or equalizers may be connected for the attachment of the draft.

When the machine is to be transported from one place to another, the rear ends of the scraper members may be raised from contact with the ground in the manner and by the means herein described; but for the purpose of sustaining the front ends of said scraper members in a raised position special supporting-runners 36 are provided, said runners being provided upon their upper surfaces with obliquely-disposed parallel cleats 37, adapted to receive between them the lower edge of one of the scraper members, one runner being obviously provided for each scraper member and the said runners being adapted to fit the right and left scraper, respectively. These runners when connected with the scrapers for operation will be parallel to each other, so as to present no obstruction to the progress of the machine, and the front ends of said runners are provided with flexible draft elements, such as chains 40, whereby they may be connected with the clevises 33 of the draft-bars 31.

The operation of this invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. As the machine progresses over the road the dirt will be scraped from the sides in the direction of the center, where it will be ridged up, as will be readily understood, the rear ends of the scraper members being vertically adjustable, so that an even and smooth surface, sloping downwardly to both sides, may be produced.

The improved scraper is simple in construction and may be filled at a comparatively small expense, and no great experience is required for the successful operation thereof.

Having thus described the invention, what is claimed is—

1. In a machine of the class described, a wheel-supported frame, scraper members having brackets near their rear ends confined between the side members of the frame and brackets at their front ends beyond the confines of the frame, and bars connecting said brackets and maintaining said scraper members in a rearwardly-converging relation to each other.

2. In a machine of the class described, a wheel-supported frame having a longitudinal forwardly-extending reach-bar, scraper members having brackets provided with dowels at their upper ends, connecting-bars having apertures engaging said dowels, one of said connecting-bars being connected with the forward end of the reach-bar, and lever means for elevating the rear ends of the scraper members.

3. In a machine of the class described, a pair of scraper members provided upon their outer sides with brackets having dowels at their upper ends, connecting-bars having apertures engaging said dowels, said bars being of different lengths so as to sustain the scraper members in rearward converging relation to each other, a wheel-frame having a reach member connected with one of the connecting-bars, and draft-rods connected with the scraper members.

4. In a machine of the class described, a pair of scraper members provided upon their outer sides with brackets having dowels at their upper ends, connecting-bars having apertures engaging said dowels said bars being of different lengths so as to sustain the scraper members in rearward converging relation to each other, a wheel-frame having a reach member connected with one of the connecting-bars, a foot-lever supported upon the wheel-frame, and flexible means connecting said lever with the scraper members in front of the rear connecting-bar; said rear connecting-bar being provided with lugs or blocks bearing against the outer sides of the scraper members.

5. In a road-working machine, divergent vertically-disposed scraper members having earth-engaging lower edges and vertically-adjustable rear ends, in combination with runners detachably engaging the front ends of the bottom edges of said scrapers to support the latter for transportation.

6. In a road-working machine, an adjustable obliquely-disposed scraper, and a detachable runner constituting a supporting member for the same.

7. In a road-working machine, a scraper, in combination with a runner having obliquely-disposed cleats to engage said scraper.

8. In a road-working machine, obliquely-disposed scrapers, and supporting-runners having obliquely-disposed scraper-engaging cleats whereby the scrapers may be supported for transportation.

9. A road-working machine having obliquely-disposed scrapers, draft-bars connected with said scrapers, runners loosely connected with the lower edges of, and supporting the front ends of the scrapers, and flexible connections between the runners and the draft-bars.

10. A road-working machine having obliquely-disposed scrapers vertically adjustable at their rear ends, runners having obliquely-disposed cleats adapted to form seats for the front ends of the runners, draft-bars connected with the latter, and flexible connections between the runners and the draft-bars.

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

WILLIAM ALCORN.

Witnesses:

S. H. AMOS,

C. S. STEARNS,