

G. J. BENDER, DEC'D.

A. C. BENDER, EXECUTRIX.

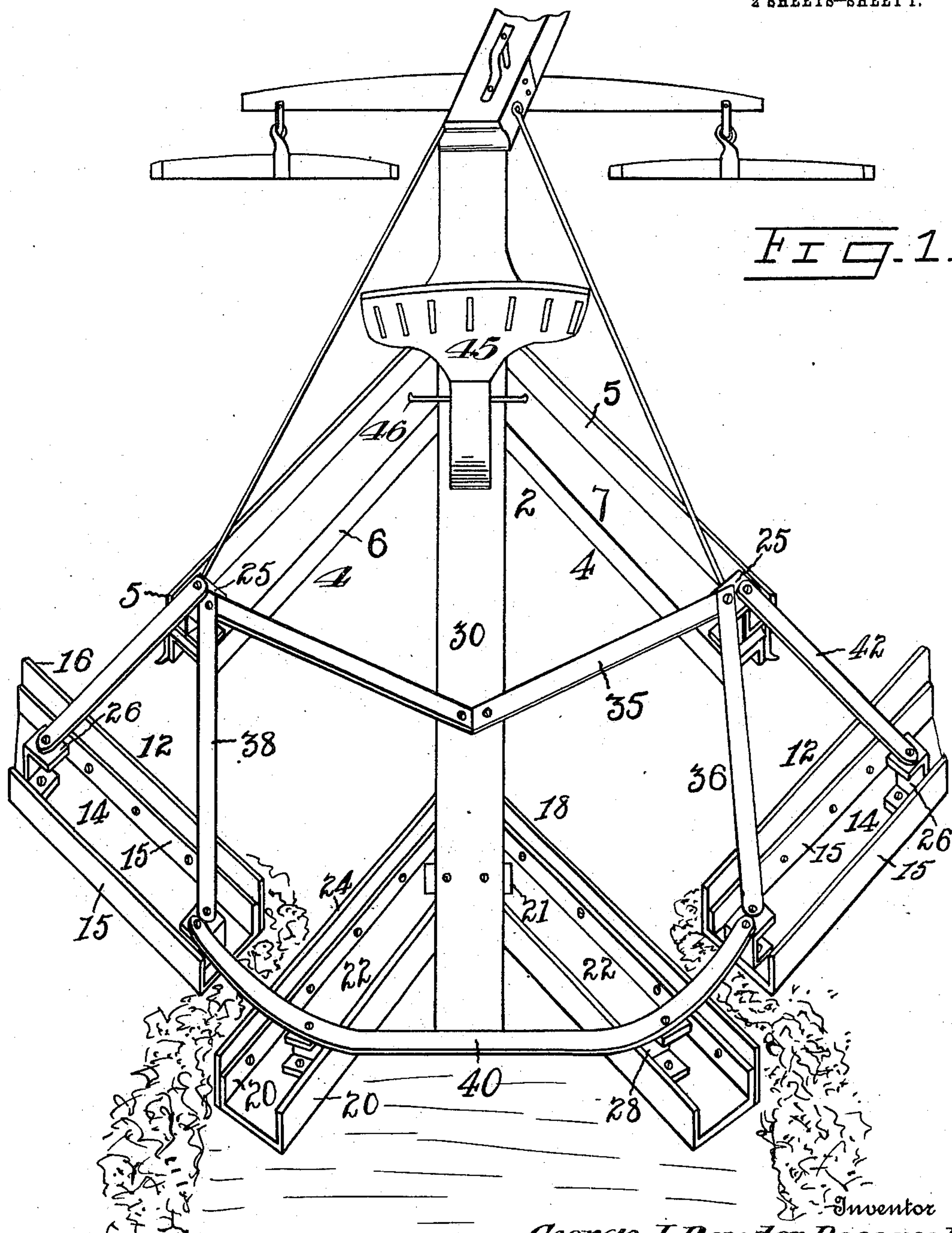
ROAD SCRAPER.

APPLICATION FILED DEC. 22, 1910.

998,740.

Patented July 25, 1911.

2 SHEETS—SHEET 1.



Witnesses
A. B. Hanshaw
L. B. Hanapel

Inventor
George J. Bender, Deceased
By Anna C. Bender,
Executrix.

By

M. M. Cady
Attorney

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2 SHEETS—SHEET 2.

FIG. 2.

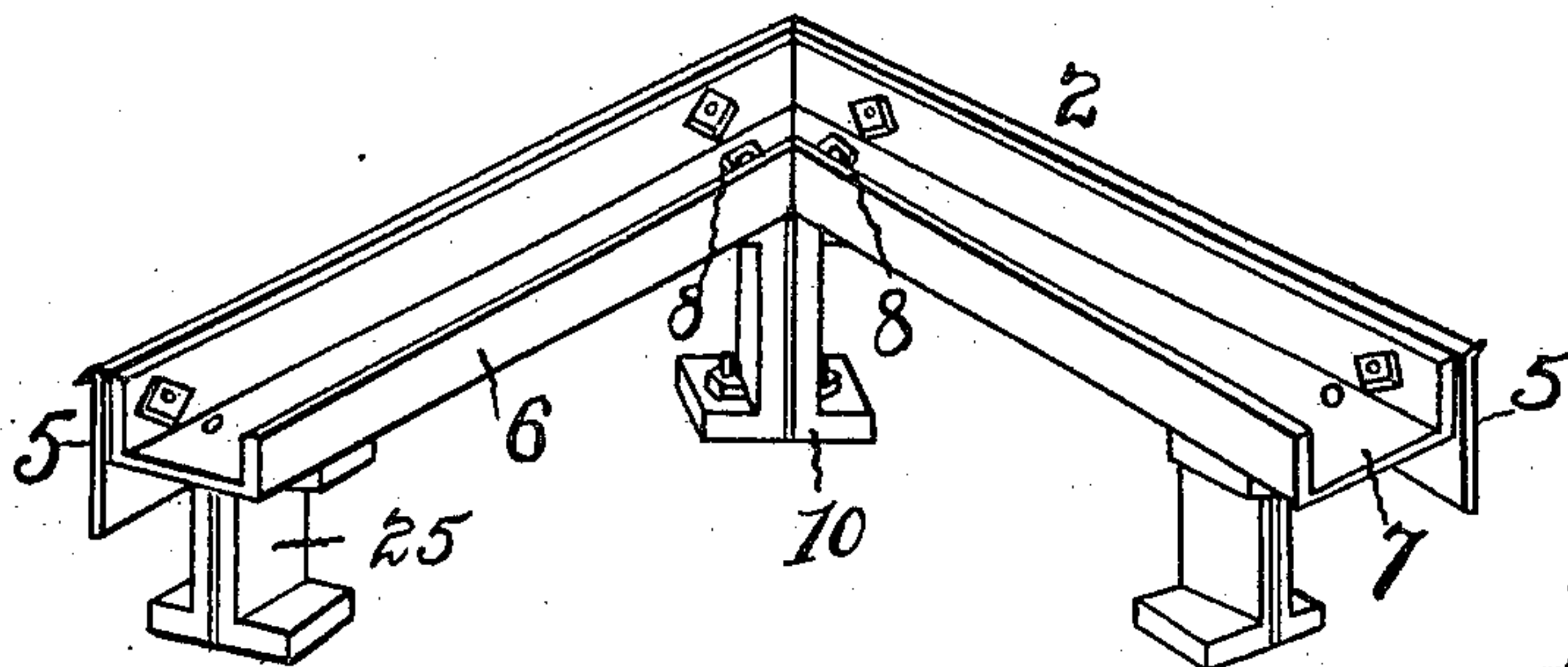


FIG. 5.

FIG. 3.

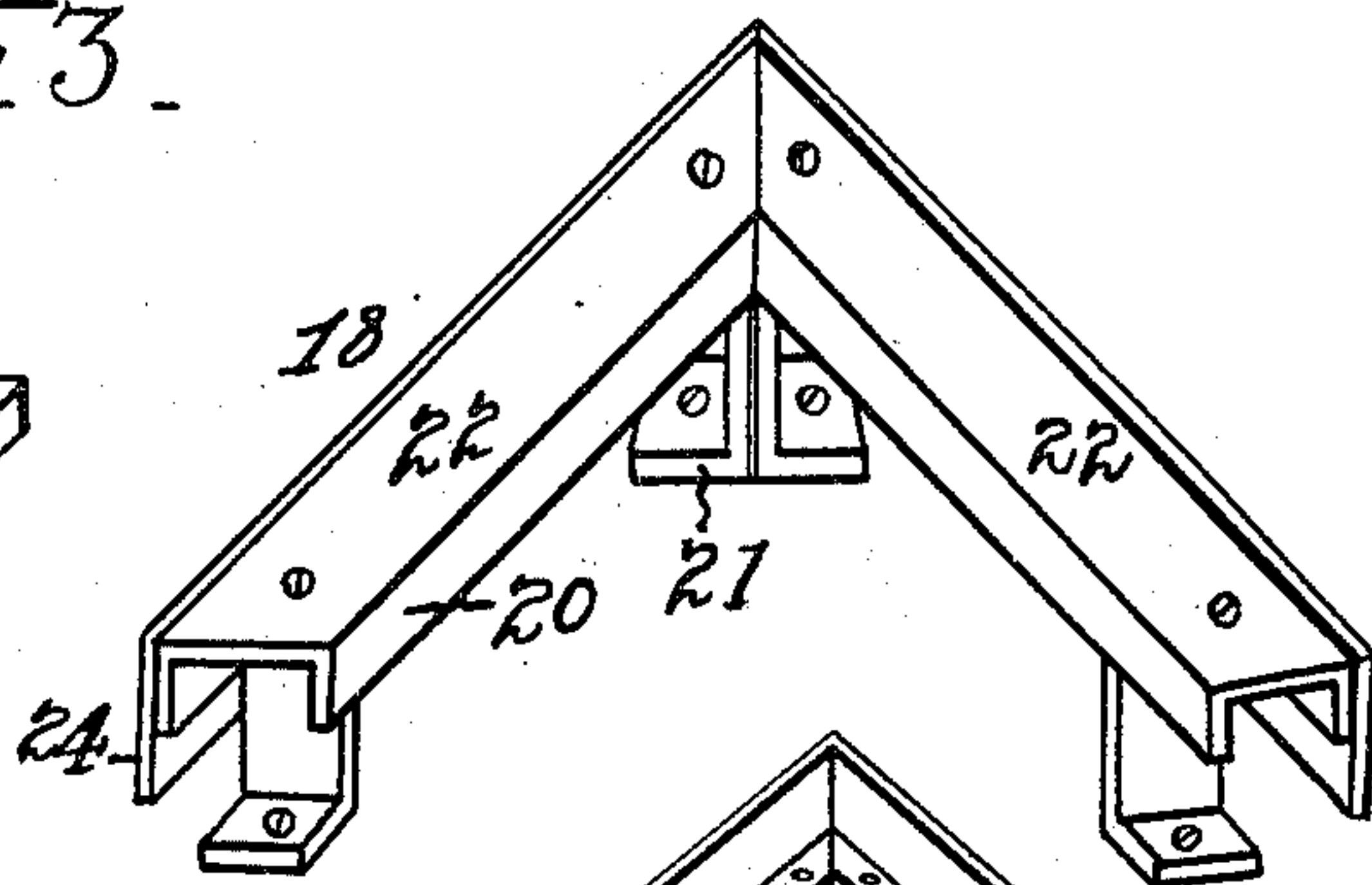
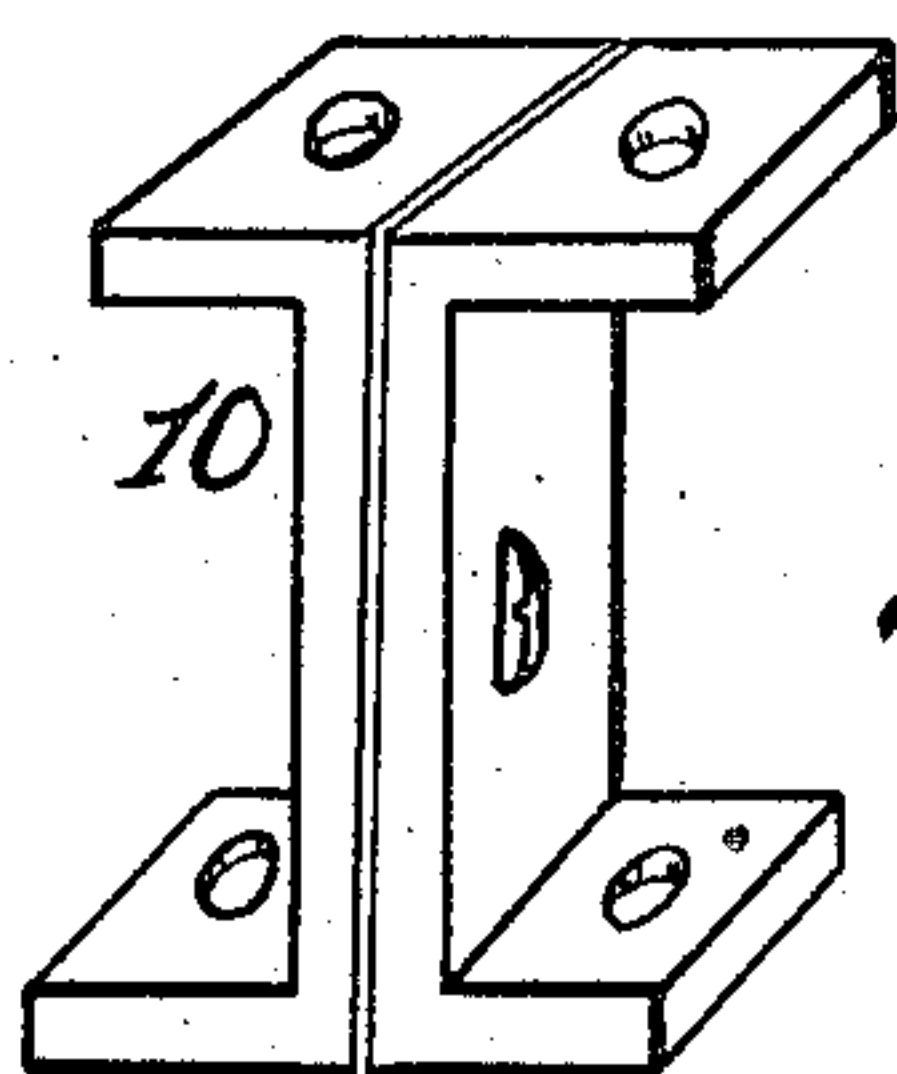


FIG. 4.

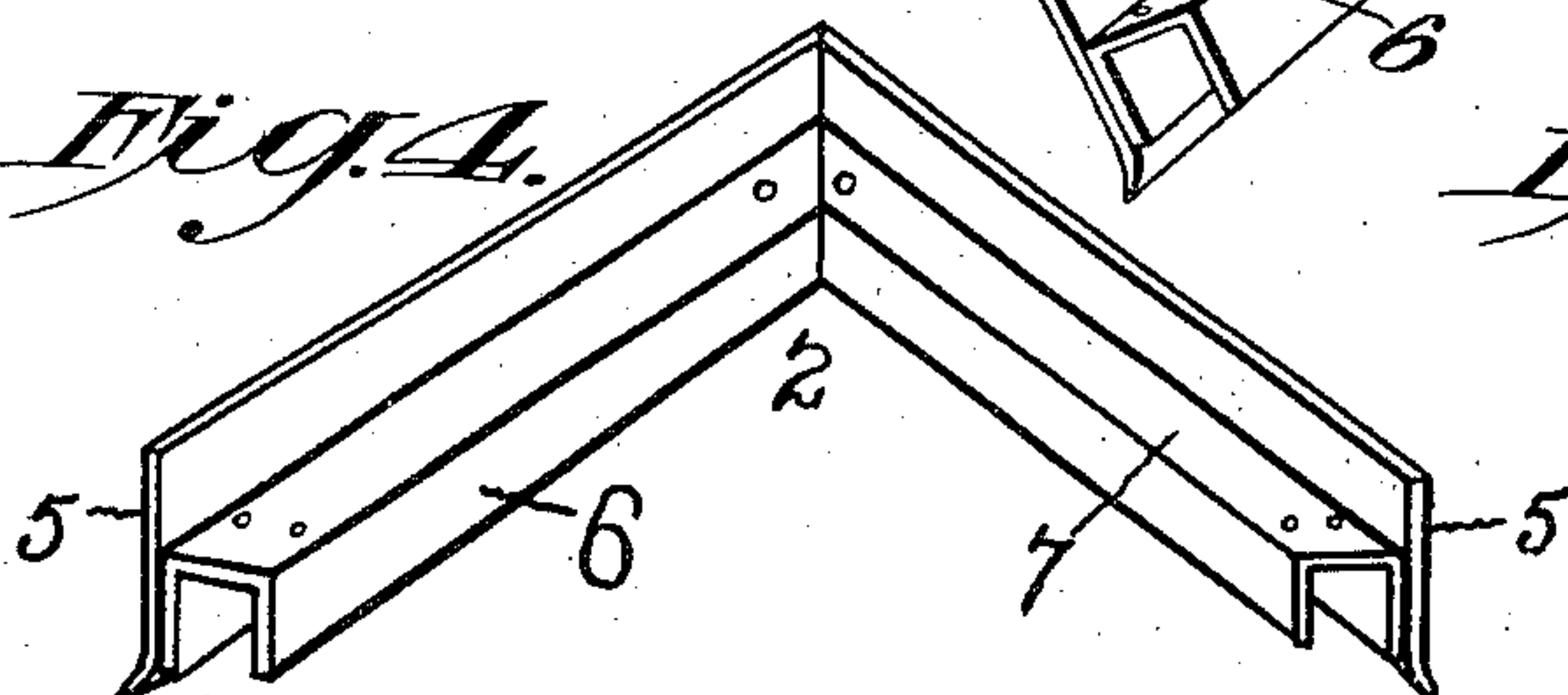


FIG. 6.

Witness
A. B. Hamshaw
L. B. Hamshaw

Inventor:
George J. Bender, Deceased
By Anna C. Bender,
Executrix.
by W. W. Cady
Attorney

UNITED STATES PATENT OFFICE.

GEORGE J. BENDER, DECEASED, LATE OF GALENA, ILLINOIS, BY ANNA C. BENDER, EXECUTRIX, OF GALENA, ILLINOIS, ASSIGNOR TO JOHN G. CHALMERS, OF DUBUQUE, IOWA.

ROAD-SCRAPER.

998,740.

Specification of Letters Patent.

Patented July 25, 1911.

Application filed December 22, 1910. Serial No. 598,869.

To all whom it may concern:

Be it known that I, ANNA C. BENDER, a citizen of the United States, residing at Galena, in the county of Jo Daviess and State of Illinois, executrix of the estate of GEORGE J. BENDER, deceased, late a citizen of the United States, and resident of the city of Galena, in the county of Jo Daviess and State of Illinois, do declare that said GEORGE J. BENDER did invent in his lifetime new and useful Improvements in Road-Scrapers, of which the following is a specification.

It is well known that the roads in the country especially such as are mainly made of loam or clay, after short use or continuously wet weather have a ridge in the center between the travel of the horses and one on each side outside of the wagon tracks, while the wagon tracks will often become almost impassable on account of deep ruts and hard ridges.

The object of the invention is to provide a scraper that by once dragging it over the road, will level down the central and side ridges and deposit the dirt in the line of the wheel tracks, filling up the ruts and leaving the remainder of the road smooth and level or slightly raised and rounded in the center.

It consists essentially in four plows or scrapers united together at an angle to each other, a front plow, a side plow near each end of the front plow and set at an angle thereto and a fourth plow in the rear of the front at an angle to the side plows.

It consists further in certain details of construction and operation, which will be set out in detail in the following specification when taken in connection with the drawings accompanying the same and forming a part hereof.

Figure 1 is a perspective view taken from the rear showing also the condition of the road when finished. Fig. 2 is a perspective view of the under side of the front plow removed. Fig. 3 is a perspective view of one of the double brackets on the front end of the front plows. Fig. 4 is a top view of the front plow with bracket removed. Fig. 5 is a bottom view of the rear plow. Fig. 6 is a further detail of the form of the plow.

Referring to the drawings, 2 designates the front plow, which consists of two members formed of channel bars 4 and facing 5.

The channel bars 4 are preferably made of steel, having the two sides 6 and top 7.

These are set in an inverted manner with the edges of the sides 6 resting upon the ground for the purpose of better attacking the central ridge of the road. Against the outside of the two channel bars 4 is a facing 5 which extends considerably above the bars 4 and flush or a trifle below said bars. The facing may also be made sharp or slightly curved outwardly from the edge of the base so as to better attack the central ridge of the road. These bars 4 with their facing 5 are set at the front end in an angular manner and secured together in a V shape by bolts 8 passing through the base and double bracket 10 with the top of the plows in the same general plane. The front edges of these bars may be beveled vertically and then when united together, the forward end of the plow will be raised a trifle so that when the drag passes over the road it will leave the central portion slightly higher and slanting toward the wagon tracks. The rear of this plow is cut off substantially at a right angle to the facing 5. In the rear of this plow 2, at each side is set a plow 12 at an angle to the ends of the plow 2. The plows 12 are each formed of a channel bar 14 having the sides 15 and provided with a facing plate 16. The channel bar 14 is placed with its sides projecting upward and the top plate resting flat upon the ground and the facing 16 secured to the one side 15 and projecting above the sides of the channel bar and at the bottom slightly below the side plate 15. The purpose of this construction is to smooth off the side ridges as well as cut them down.

In the rear of the plow 2, and side plows 12 is set the rear plow 18, which is also formed of a channel bar having the sides 20 and base 22, this is faced with a facing 24 which extends above and slightly below the sides 20 of the channel bar the same as the facing of the plow 2 and the plows 12. The two members of the plow 18 are set at substantially the same angle as the members of the plow 2, and are united together by bolting them to a bracket 21 similar to the bracket 10 that holds the two members of the plow 2 and is formed into a V shape. The two members of the plow 18 are not so long and hence do not project out as far as the two members that compose the plow 2, but only about the width between the wheels of an ordinary wagon. For the purpose of unit-

ing these various plows together in their relative position there is provided a single bracket 25 similar to half of the double bracket 10 which is securely bolted to each of the top plates of the plow 2 and two of the same brackets 26 are secured at opposite ends of each of the side plows 12 and also in the ends of the two members of the plow 18 are bolted brackets 28.

On the brackets 10 to which plows 2 and 18 are secured there is attached a draft plate 30 by bolts passing through the upper bracket 10 of the plow 2 and bolts 34 through the bracket 21 of the plow 18, the forward end of the draft plate 30 is slightly bent upward at its forward end to which the draft team is hitched. There may also be a pole secured to the plate 30 to better direct the course of the scraper.

The different plows are further secured by stay bars 35 secured to the brackets 25 and draft plate 30 and the stay bars 36 and 38 secured at one end to the brackets 25 and at the other end to the brackets 26 of the side plows 12, also a bent stay bar 40 is secured upon the brackets 26 at both ends and to the bracket 28 on the plow 18, also stays 42 secured at one end to the brackets 25 and at the other end to the brackets 26. In this manner all of the different plows and their parts are rigidly and securely fastened together.

Near the center of the scraper is placed a spring seat 45 and a foot brace 46 for the driver.

The manner of operating the device is substantially as follows. The team is attached to the draft plate 30 with the point of the plow 2 in engagement with the ridge in the center of the road, the two sides of the plow will then extend to or slightly beyond the tracks of the wagon wheels and the side plows 12 sufficiently beyond the tracks to engage the ridges on the outside of the tracks and the plow 18 also in engagement with the central ridge with the horses traveling between the central ridge of the road and the wheel tracks of the wagon. As the team advances, the facings 5 will engage the ridge in the center of the road and also the rough ridges in the track between the ruts and level them off and as they are leveled off they will carry the dirt off from the ends of the facings 5 of the plow 2 and deliver it against the side plows 12. The side plows 12 will engage and scrape off the ridges outside of the wagon tracks and carry the dirt of these ridges together with the dirt from the plow 2 inward against the plow 18 on both sides. The plow 18 will further engage the central ridge and also smooth off the road and deliver all of the dirt from all of the plows on to the ruts of the wheel tracks and fill them up and whatever dirt is in excess will be left

upon the wheel tracks of the road in the form of a windrow. It will be observed that by constructing these plows and setting them with relation to each other substantially as herein described that there would be no necessity of more than one dragging of the road to completely level off the ridges and fill up the ruts and finish the repair of the road and further, any surplus dirt will be deposited upon the wagon tracks where it is needed to keep the road in repair.

Where it is desirous to have the road a trifle higher in the center than at the sides or wagon tracks, then the points of the front and rear plows may be slightly raised and the sides of these plows set at a slight angle, being higher at their front than at their rear ends.

Having now described the invention what I claim and desire to secure by Letters Patent is:

1. In a road scraper, two plows set one behind the other a plow on each side set at an angle to the two plows, and means for connecting all of the plows together to adapt them to gather the surplus material of the road and deliver it upon the wagon tracks behind the rear plow.

2. In a road scraper, a plow, a second plow set a short distance behind the first, a plow set on each side between the two plows and at an angle thereto, means for connecting the four plows together to deliver the surplus dirt in and upon the wagon tracks in the road.

3. In a road scraper, a central plow, a plow set on each side in the rear of the central plow, means for connecting the plows together, and means for delivering upon the wagon tracks in the rear of the scraper, the surplus dirt gathered by the three plows.

4. In a road scraper, a front plow provided with facing having its lower edge turned outwardly, a rear plow, a plow on each side between the front and rear plows, means for uniting the plows together to deliver the gathered material of the plows on the wagon tracks of the road, a pole for guiding the scraper, and means for attaching the power to the scraper near the forward end of the front plow.

5. In a road scraper, a front plow each side of which is formed of a channel bar with the edges of the bar turned downward and the sides united together at an angle to each other at their front end, a plow on each side thereof set at an angle thereto, a rear plow of substantially the same shape as the front plow, and means for connecting all of the plows together to deliver the gathered material of the road into the wagon tracks in the rear of the scraper.

6. In a road scraper, a plow having two sides with one end of each side beveled vertically, and means for attaching the two

ends together forming an inverted V shape to adapt the plow to attack the center of the road and leave it higher than the rest of the road.

5 7. In a road scraper, a front plow having two sides with one end of each side beveled vertically, means for uniting the sides and the front plow together to adapt the plow to attack the center of the road and leave
10 it higher than the rest of the road, a plow set on each side and at the rear of the front plow adapted to attack the side of the road and deliver the dirt from the front plow and the side of the road within the wagon
15 tracks of the road.

8. In a road scraper, a front plow having two side plates with one end of each side cut at an angle and beveled vertically, means for uniting the ends together into an

inverted V shape and adapted when dragged 20 over the road to leave the center of the road higher than the rest of the road, a plow at the end of each side of the front plow adapted to attack the earth on each side of the road, and a rear plow formed substantially 25 as the front plow and set at an angle to the side plow and adapted to receive the dirt from the side and front plows and deliver it on the wagon tracks of the road.

In testimony whereof I have hereunto set 30 my hand in presence of two subscribing witnesses.

ANNA C. BENDER,
Executrix of the estate of George J. Bender, deceased.

Witnesses:

JOS. M. NACK,
H. STROHMEYER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
