G. D. RHODES.

ROAD SCRAPER.

APPLICATION FILED AUG. 20, 1909.

979,338.

Patented Dec. 20, 1910.

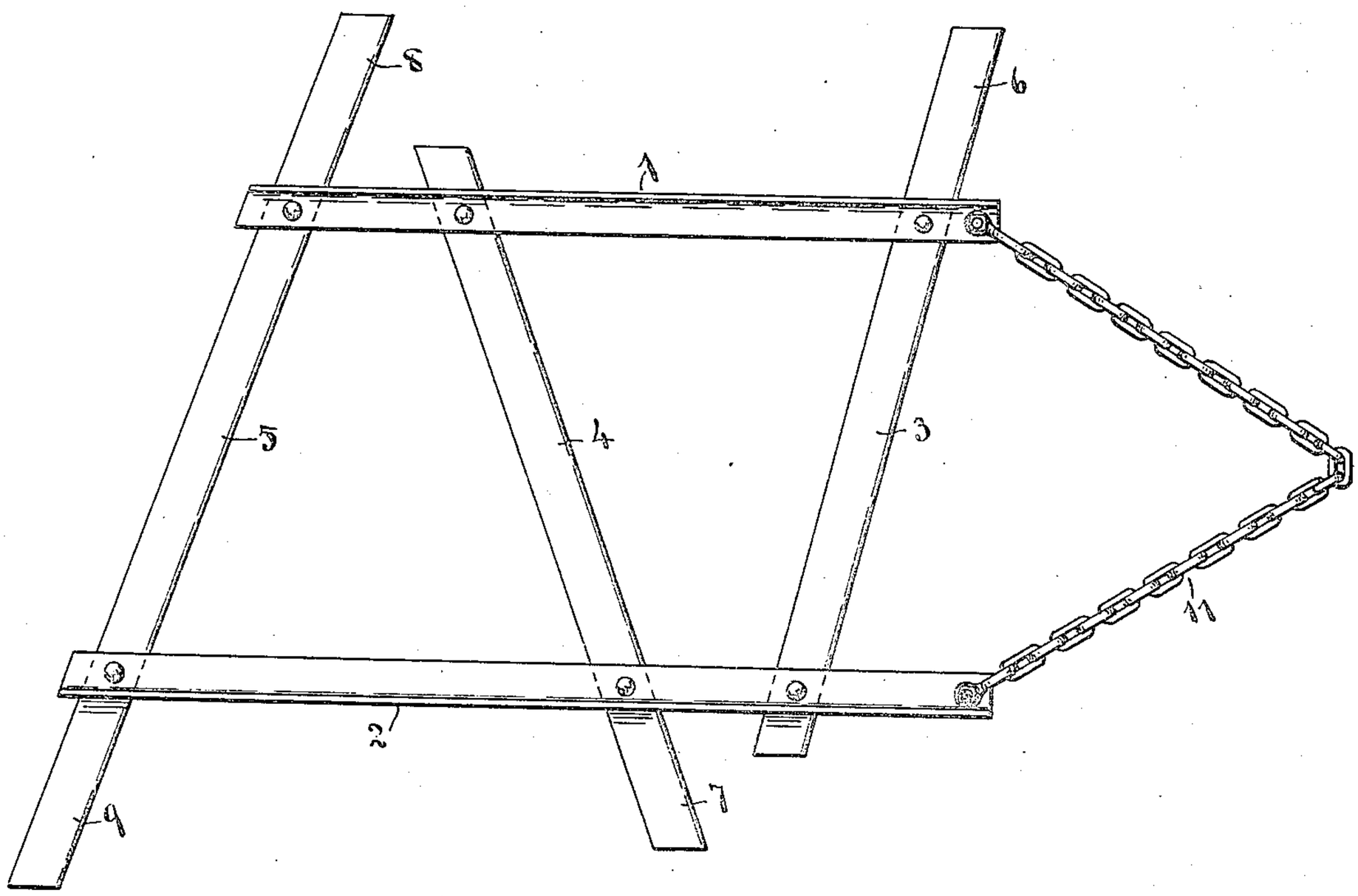

Fig. 1.

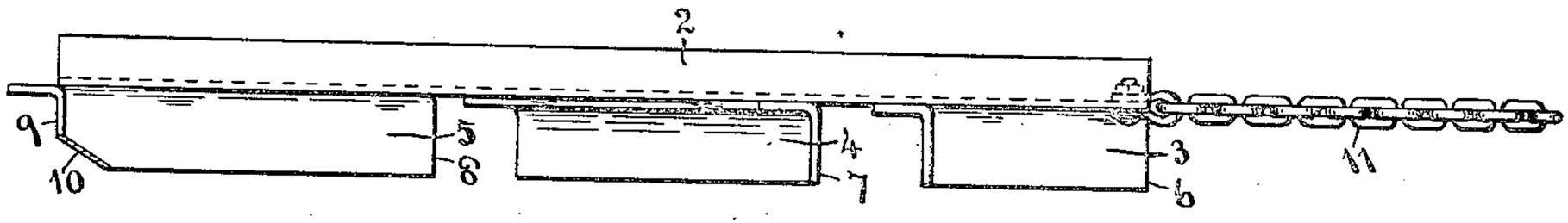

Fig. 2.

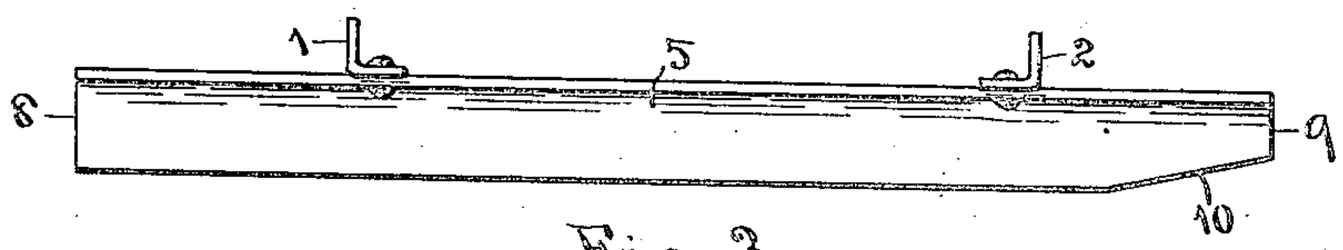

Fig. 3.

WITNESSES:

Harriet Mitchell

A. D. Driver

INVENTOR

G. Dana Rhodes

BY

Eugene Driver

ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE DANA RHODES, OF GROTON, NEW YORK, ASSIGNOR TO FAY JUSTICE LEWIS, OF CHICAGO, ILLINOIS.

ROAD-SCRAPER.

979,338. Specification of Letters Patent. Patented Dec. 20, 1910.

Application filed August 20, 1909. Serial No. 513,800.

To all whom it may concern:

Be it known that I, GEORGE DANA RHODES, a citizen of the United States, residing at Groton, in the county of Tompkins and State of New York, have invented certain new and useful Improvements in Road-Scrapers, of which the following is a specification.

This invention relates to improvements in road scrapers and graders of the drag type; and the object of my improvements is to provide a simple, cheaply constructed, and effective scraper, whereby the scrapings will be so deflected back and forth across the pathway of the scraper that ruts and depressions will be evenly filled in, and the surplus earth delivered where desired, either at the center or the side of the roadway.

I attain my object by constructing the scraper in the manner illustrated in the accompanying drawings, in which—

Figure 1 presents a plan view of the scraper; Fig. 2, a side elevation thereof; and Fig. 3, a rear elevation.

Like numerals designate like parts in the several views.

In constructing my grader I employ commercial steel angle bars, there being two parallel frame bars, 1 and 2, placed with one side of the angle turned upward, the upturned sides being placed toward the outward sides of the scraper. To the under sides of these frame bars three angle bars, 3, 4, and 5, are bolted or riveted, with their downturned sides facing forward. These angle bars form the scraping blades, the forward bar being set at an angle to the frame bars; or, in other words, to the direction of draft; the second bar being set at a reverse angle to that of the first bar; and the third bar being set at an angle substantially the same as that of the first bar. The forward ends of the bars 3 and 5 extend beyond the rearward end of the bar 4, at 6 and 8, respectively; and the bar 4 extends beyond the rearward end of the bar 3 at 7. I also preferably extend the rearward end of the bar 5, at 9, a short distance beyond the forward end of the bar 4, and cut the lower edge of the scraper blade at an angle 10; although, if desired, the end 9 may be made without this taper, and cut to the same extension as the end 7 of the bar 4. The scraper is drawn over the roadway by means of a draft chain 11, fastened to the ends of the frame bars 1 and 2; to any link of which, toward the center, the horses will be coupled. With the parts thus assembled, when the scraper is drawn over the roadway, the dislodged earth is carried along from one side to the other of the track made by the scraper, by reason of the inclined scraping blades, and if ruts or other hollows are present the loosened earth, as it is carried along from one end of the scrapers to the other, fills them up. The surplus earth after passing off from the rearward end of the first scraper blade, is caught by the projecting end 7 of the second blade and carried by said blade transversely across to the opposite side of the scraper, together with the earth caught by the second blade, thereby filling depressions left by the first blade. Again the surplus earth from the second blade is caught by the projecting end 8 of the third and last blade, and carried thereby again transversely across the scraper track to the opposite side of the scraper, from which the surplus earth is deposited in an inclined ridge by reason of the inclined cut 10, at the lower edge of this scraper blade.

In practice, my scraper will preferably be made of a width which will permit it to be passed four times across a roadway: the first time, beginning at one side of the road, with the projecting ends 6 and 8 toward the gutter; then backward on the other side of the roadway with said ends 6 and 8 again toward the gutter on that side; then backward on the first side of the roadway toward the center of the road, with the projecting end 9 at or near the center line; then back on the opposite side of the roadway, with the end 9 again at the center, thus depositing any surplus earth in a triangular ridge at the center of the roadway, whence it may be gathered up and carted away, or stamped, or rolled down to the road level. If, however, it be desired to deposit the surplus earth at the sides of the road, the method of dragging will be just the reverse. As so constructed, the scraper consists simply of five pieces of commercial angle bar, cut to the required lengths, with a bolt or rivet connection where the scraper bars intersect the parallel frame bars. By reason of the reverse angles at which the bars 3, 4, and 5, are set, the connection of said bars with the parallel bars forms a truss frame, whereby the scraper is held rigidly in shape when in

action, thereby eliminating expensive bracing attachments. If the drag is to be ridden by the driver or other workman, the frame bars form a foothold, the upturned outward sides of said bars forming a brace or side rest for the feet. Furthermore, I propose to set the blade 4 at such an angle relatively to the other blades as to equalize the side draft and cause the drag to be drawn forward in a straight line when in operation. In other words, to so set blade 4 as to counteract the skidding action produced by the angular set of the other blades. The proper angle for the blade may be readily ascertained for any given drag by a little experimenting. This side draft equalizing feature may be applied to drags provided with two blades, as well as to the three blade drag herein illustrated, and to drags wherein the scrapings are not passed from one blade to the next following blade, as herein described.

I am aware that heretofore a scraper has been devised with two blades set at reverse angles and with the forward end of the rear blade projecting beyond the rearward end of the front blade, and I do not claim this feature broadly as my invention.

What I claim as new is—

1. A scraper comprising two frame members and three scraper blades fastened thereto, said blades being each set at an angle to the direction of draft and at reverse angles to one another, with the forward ends of the rearward blades projecting beyond the rearward end of the next preceding blade.

2. A scraper comprising two frame members and three scraper blades fastened thereto, said blades being each set at an angle to the direction of draft and at reverse angles to one another, with the forward ends of the rearward blades projecting beyond the rearward end of the next preceding blade, and the rearward blade having its edge cut upwardly at an angle at its rearward end.

3. A scraper comprising two angle bars placed parallel to the line of draft and three angle bars fastened to the undersides of said bars, said three bars constituting the scraping blades, being set with their depending sides forward and at an angle to the line of draft and at reverse angles to one another, the forward ends of each rearward blade being carried out beyond the rearward end of the next preceding blade, and a draft chain attached to the forward ends of the parallel bars.

4. A scraper comprising horizontal frame members and three scraper blades fastened thereto, one in front of another in a single line, said blades being set at an angle to the direction of draft and at reverse angles to one another, the angle at which the central blade is set being such that the skidding action produced by the set of the other two blades will be counteracted thereby.

In testimony whereof I have affixed my signature, in presence of two witnesses.

G. DANA RHODES.

Witnesses:
HARRIET MITCHELL,
EUGENE DIVEN.