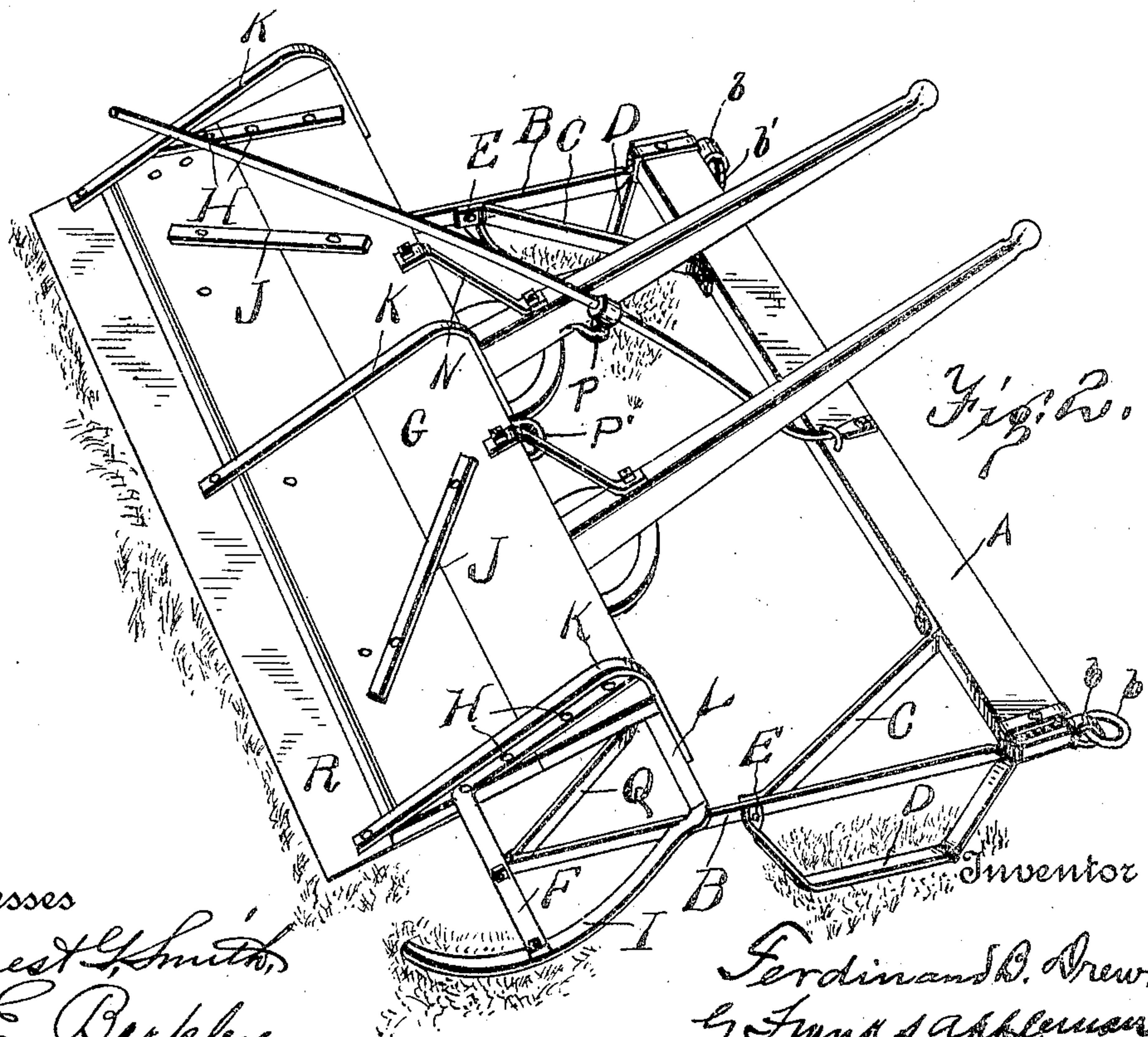
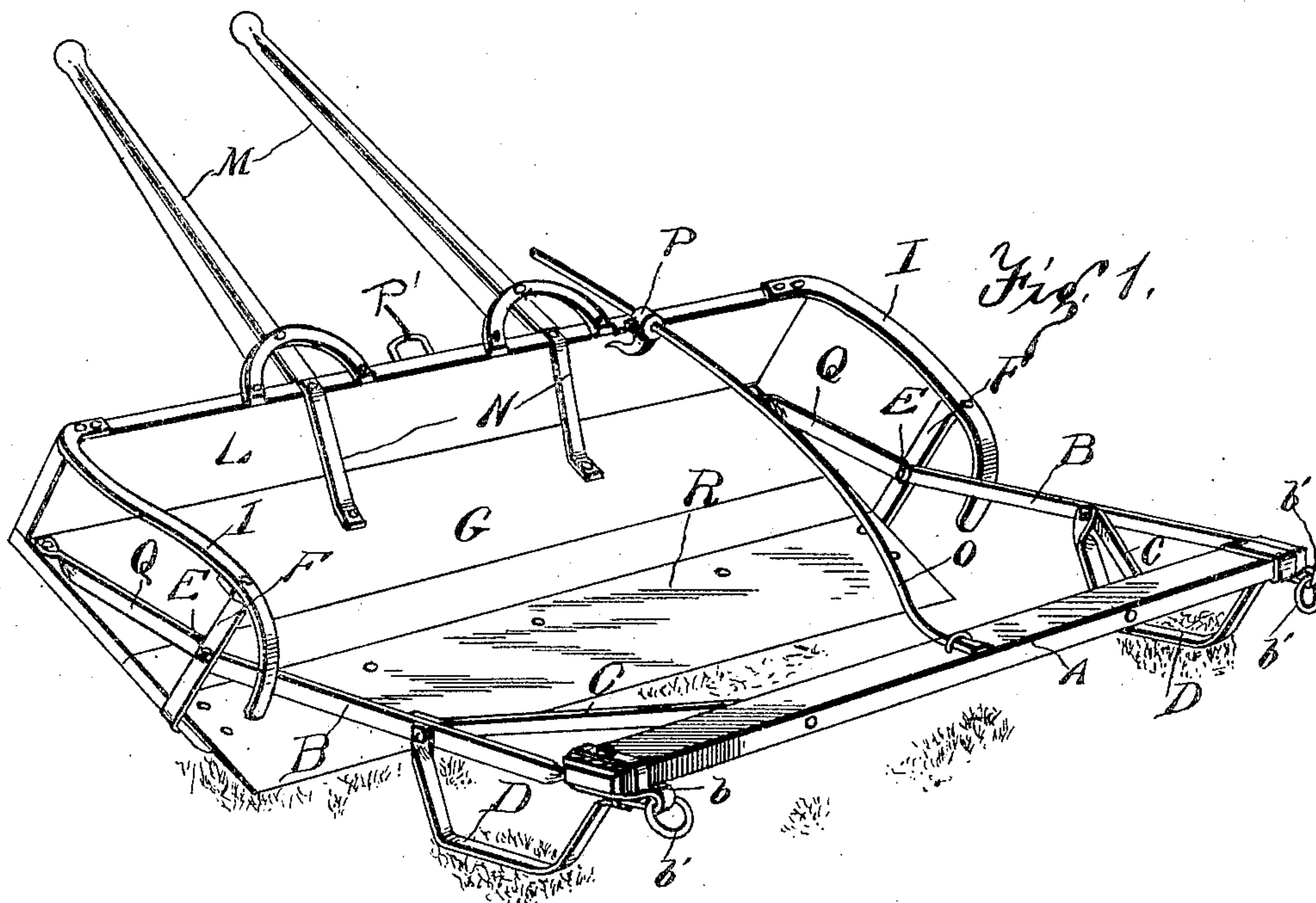


No. 808,820.

PATENTED JAN. 2, 1906.

F. B. DREWES.  
ROAD GRADER.

APPLICATION FILED JUNE 15, 1905.



Witnesses  
Forrest G. Smith  
L. E. Backley

Inventor  
Ferdinand B. Drewes  
by James A. Drewes  
Attorney



# UNITED STATES PATENT OFFICE.

FERDINAND B. DREWES, OF GRANADA, MINNESOTA.

## ROAD-GRADER.

No. 808,820.

Specification of Letters Patent.

Patented Jan. 2, 1906.

Application filed June 15, 1905. Serial No. 265,346.

*To all whom it may concern:*

Be it known that I, FERDINAND B. DREWES, a citizen of the United States of America, residing at Granada, in the county of Martin and State of Minnesota, have invented certain new and useful Improvements in Road-Graders, of which the following is a specification.

This invention relates to road-graders, and particularly to a road-grader in which a sledding action is afforded to support the grader when in its operative position or when it is folded for the purpose of being hauled over the road.

An object of this invention is to provide novel means whereby the scraper proper is supported in its inoperative position, yet affording means for readily permitting the said scraper to assume an operative position by proper manipulation.

A further object of this invention is to produce a scraper in which the sleds or supports are in such relation to the edge of the scraper that the said edge is permitted to swing clear of the roadway while being changed from its inoperative position to its operative position, this being accomplished through the relation of the sledding-supports to the cutting edge of the scraper.

Finally, an object of this invention is to provide a road-grader comprising comparatively few inexpensive parts which will prove strong and durable as well as efficient and satisfactory in use.

With the foregoing and other objects in view the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail reference will be had to the accompanying drawings, forming part of this specification, wherein like characters denote corresponding parts in both the views, in which—

Figure 1 is a view in perspective, illustrating the scraper in operative position. Fig. 2 is a perspective view showing the parts assembled for transportation with the sled of the scraper proper in engagement with the ground.

In the drawings, A denotes a suitable beam which connects the two side bars B, which form the frame of the scraper. The side bars B terminate at their forward ends in eyes b, which are provided with rings b' for the attachment of the source of power, and this may

be of any suitable type. The frame is braced at its forward corners by means of the stays C, which have angular ends suitably secured to the side bars and beam. The said bars are provided with the approximately U-shaped runners D, which are designed for supporting the forward portion of the frame, it being understood that said runners will slide over the ground after the manner of an ordinary sled.

The rear ends of the side bars B have apertures for the reception of the pivotal bolts E, which are utilized for supporting the cross-arms F, it being understood that one cross-arm is provided for each of the side bars. When the device is in its operative position, one end of each cross-arm—viz., the lower end—is attached to the scraper or scoop G, the said arm passing under the bottom of the scraper and being attached thereto by means of suitable screws or bolts H, thus insuring a rigid connection between the cross-arm and scraper.

The upper end of each cross-arm is attached to a runner I, having its outer end suitably curved to permit the scraper to turn on the pivot of the arm to bring it to its operative position, as shown in Fig. 1, or to its inoperative position, as shown in Fig. 2, where the scraper is in position to permit the front and rear runners to act as a sled for moving the scraper. The under portion of the scraper is provided with braces in the form of metallic straps J, suitably secured in place, and the under surface of the scraper is further provided with drag-bars K, having their ends attached to the under surface of the scraper near its edge, while the opposite ends extend back of the scraper and form braces for the back L. Suitable handles M are secured to the scrapers through the medium of the braces N, though the manner of securing these handles is an immaterial detail.

Secured to the beam A and extending upwardly and rearwardly is an arm O, on which the hook P is slidable, the said hook extending rearwardly and being provided for the purpose of supporting the scraper through the medium of the loop P', attached to the scraper. The scraper may thus be held in different positions according to the location of the hook P, on the arm on which it is slidable.

As a means for bracing the scraper I provide the links Q, which have their outer ends connected to the pivots E, while their inner



ends are attached to the ends of the scraper by any suitable means.

As will be observed, the drag-bars K are spaced a suitable distance from the scraper and prevent the under surface of the scraper from contacting with the ground, thus permitting the said scraper to be operated with less power than if the entire under surface of the scraper were in contact with the ground.

10 The blade R is attached to the scraper in any suitable manner and is preferably detachable, although the manner of securing it in place is not a part of the invention, and the manner of attaching it will not, therefore, be described in detail.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a road-grader, a suitable frame, runners for supporting the frame at the front, a scraper pivotally connected to the rear end of the frame, runners attached to the scraper and adapted to support the scraper when said scraper is inverted.

25 2. In a road-grader, a suitable frame, runners on the forward end of the frame, a scraper, cross-arms pivotally attached to the rear of the frame, a scraper secured to the lower ends of the arms, links attached to the scraper and pivotally connected to the pivots of the cross-arms, runners attached to the scraper, and to

the opposite ends of the cross-arms, and suitable handles for manipulating the scraper.

3. In a road-grader, a suitable frame, runners on the forward end of the frame, cross-arms pivotally attached to the rear of the frame, a scraper attached to the ends of the cross-arm, runners attached to the scraper and extending over the opposite ends of the cross-arms, the ends of the runners being curved, whereby the said runners support the scraper in its inverted position.

4. In a road-grader, a suitable frame, runners on the forward end of the frame, cross-arms pivotally attached to the rear of the frame, a scraper attached to ends of the cross-arms, runners attached to the scraper and extending over the opposite ends of the cross-arms, the ends of the runners being curved, whereby the said runners support the scraper in its inverted position, an arm attached to forward end of the frame, and a hook slidable on the arm, and means whereby the hook supports the scraper.

In testimony whereof I affix my signature, in the presence of two witnesses, this 24th day of May, 1905.

FERDINAND B. DREWES.

Witnesses:

J. E. PALMER,  
ROSA FREY.