

(No Model.)

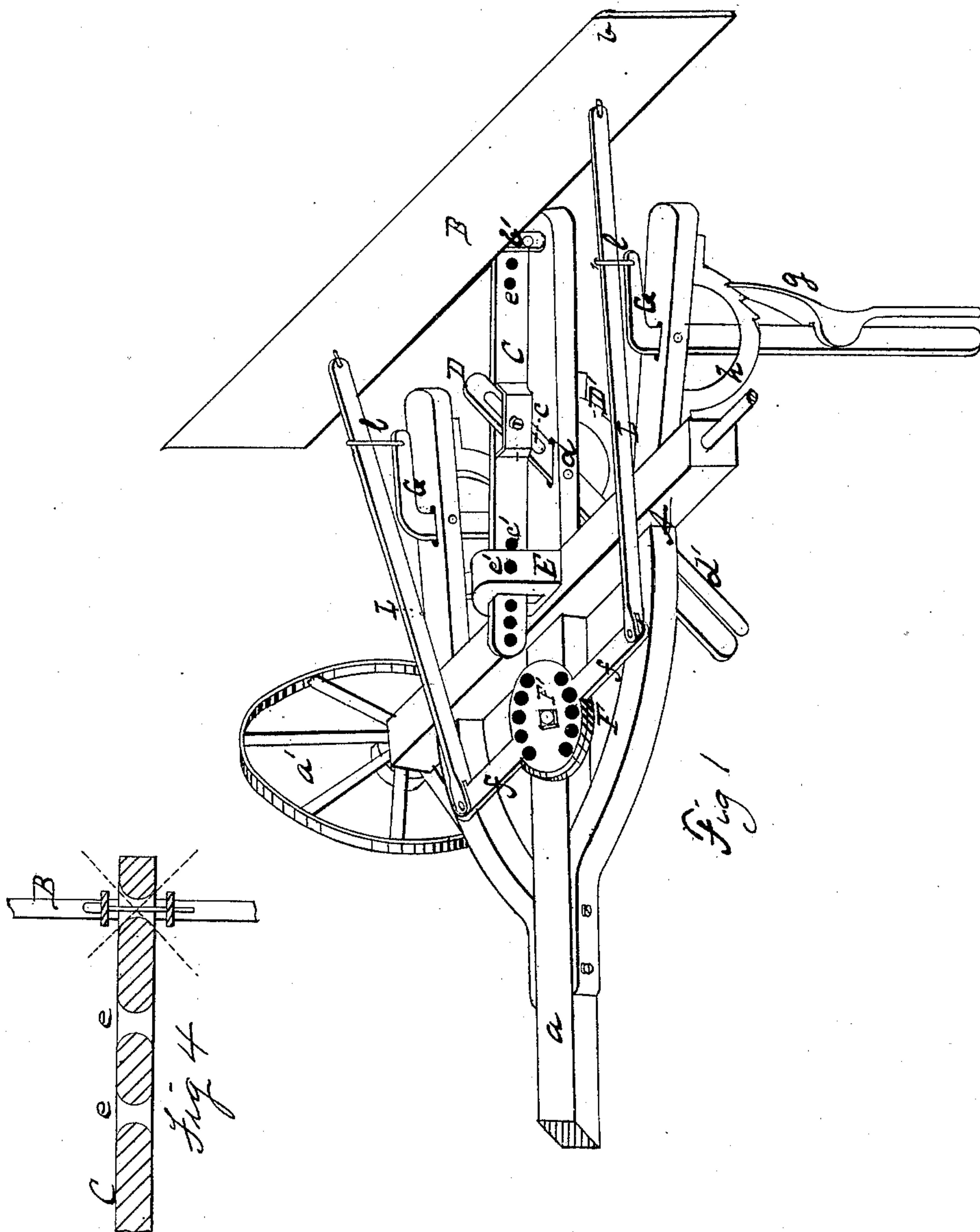
2 Sheets—Sheet 1.

A. J. NELLIS.

# ROAD SCRAPER.

No. 277,771.

Patented May 15, 1883.



Witnesses.  
J. Tauberschmidt  
H. B. Naulton

Inventor,  
Aaron J. Nellis  
by F. W. Ritter Jr.  
att'y

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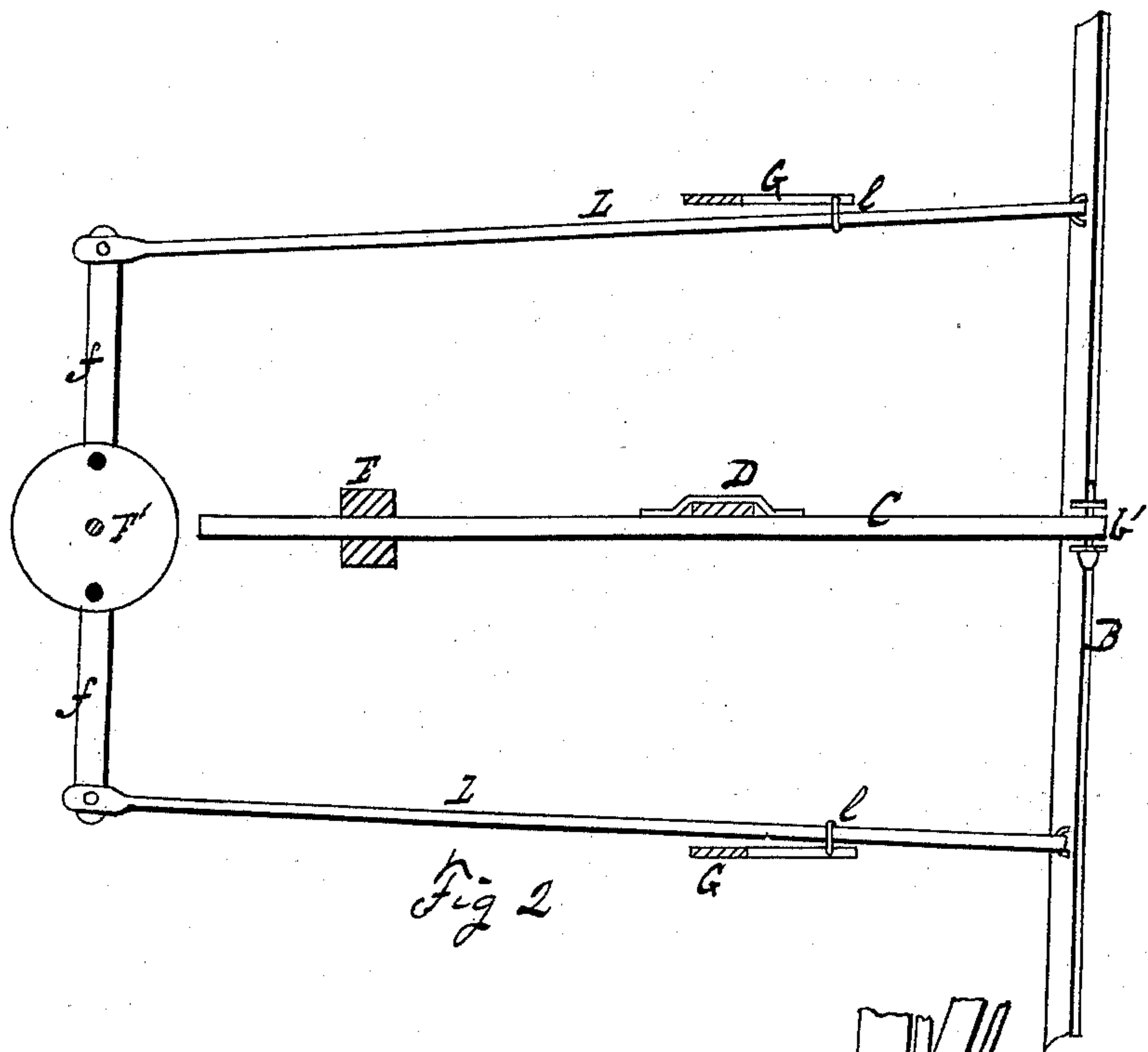


Fig 2

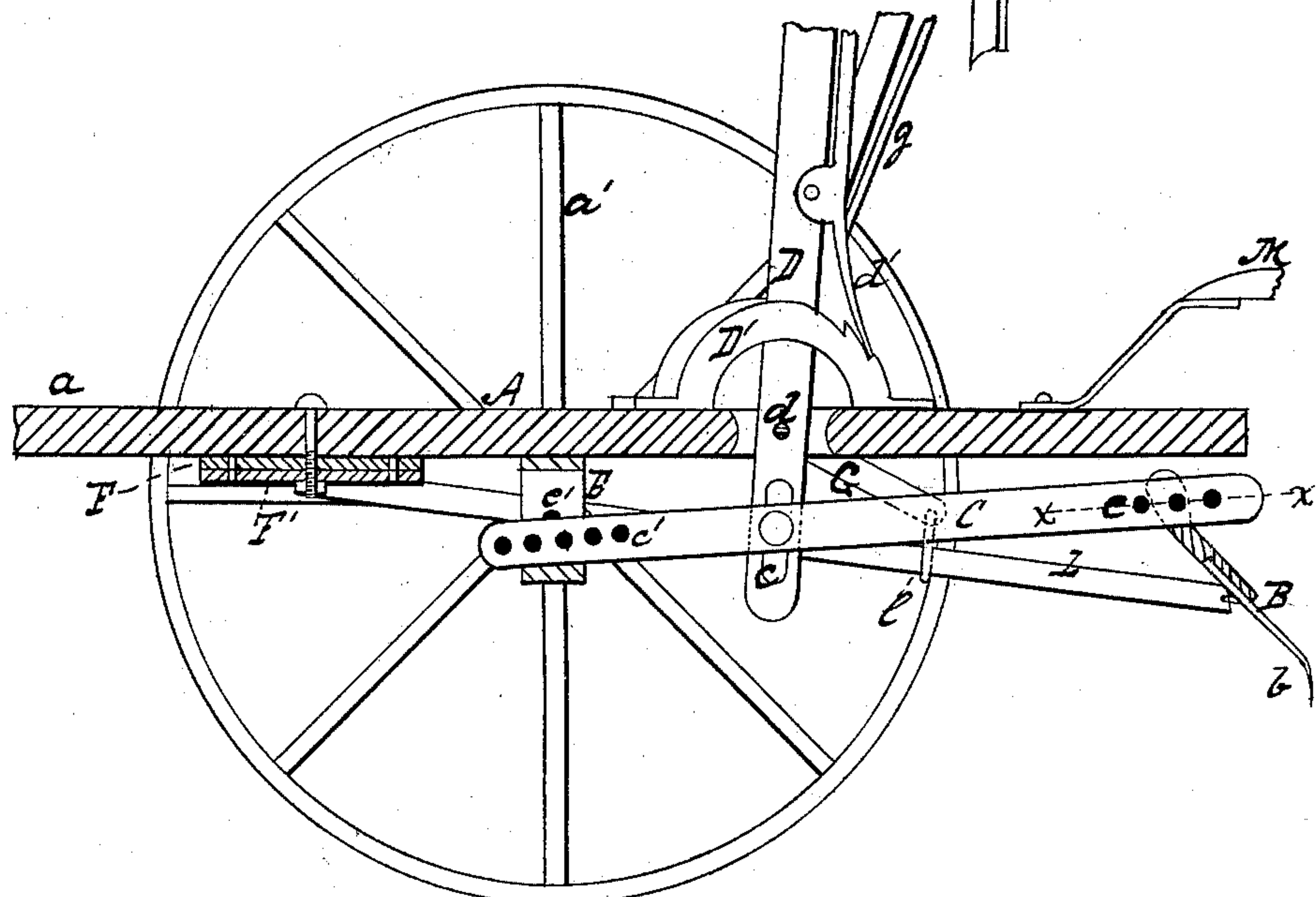


Fig 3

Witnesses.

L. Tauberschmidt  
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# UNITED STATES PATENT OFFICE.

AARON J. NELLIS, OF PITTSBURG, PENNSYLVANIA.

## ROAD-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 277,771, dated May 15, 1883.

Application filed February 9, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, AARON J. NELLIS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Road-Scrapers; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective under side view of devices embodying my invention. Fig. 2 is a detail view, the carriage being removed to show the operative mechanism more clearly. Fig. 3 is a longitudinal section. Fig. 4 is a section of the tilting bar and pivotal connection of the scraper on the line *x x*, Fig. 3.

Like letters refer to like parts wherever they occur.

My invention relates to that class of wheel-scrapers employed for cutting and dressing roadways, ditching along the sides of roads, and for like purposes, and has for its object the production of simple, substantial, and efficient machinery, adapted, first, to adjust and maintain the scraper at any inclination required by the character of the surface operated upon; secondly, to adjust and maintain the scraper at any angle required by the grade operated upon or to be produced; and, thirdly, to set and maintain the scraper at any angle to the line of draft required for the proper distribution of the earth.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates a suitable frame for the support of the mechanism, provided with a tongue, *a*, and wheels *a'*.

B indicates the scraper, which may be of rectangular or other appropriate form, and is preferably curved at its cutting-edge, as represented at *b*. This scraper B is loosely suspended by a pivotal connection, *b'*, from a suspension and tilting bar, C, the connection being such as to permit the scraper to assume any desired position or inclination to give a more or less acute cutting-angle to the blade, accordingly as the nature of the soil, presence of turf, &c., may demand.

In order to permit the necessary horizontal

rotation or play of scraper B, it is best to chamfer the pivot-holes *c*, as shown in Fig. 4, and also to leave some space between the pivot-lugs on the scraper and tilting bar C; but, instead thereof, a swivel-joint may be used, if preferred, as the means by which the rotary movement is obtained is not material.

C indicates a tilting bar pivoted at or near its middle in an elongated slot, *c*, on a lever, D, which is in turn pivoted in the frame A, as at *d*. The rear end of tilting bar C has a series of pivot-holes, *c*, by means of which the pivotal connection between the scraper and bar can be changed to increase or decrease the tilting action of the said bar or the cutting-angle of the scraper. The forward end of the tilting bar C is also provided with a series of pin-holes, *c'*, and passes through a slotted post, E, having a pin-hole, *e'*, by which means the bar C can be locked to retain the scraper or make it rigid at any desired cutting-angle.

D indicates the lever which sustains the tilting bar C, the elongated slot *c* of which permits the free play or rise and fall of the tilting bar. This bar D is pivoted on the frame A, as before specified, and is provided with a dog, *d'*, which engages with a ratchet, D', to lock the lever in any desired position.

F indicates a fixed plate secured to the frame A, and F' a circle-plate, which rotates thereon. Both of said plates are provided with a series of pin-holes, so that by means of a pin the rotating or circle plate may be fixed in any desired position. The circle-plate is provided with two arms or lugs, *f f*, from which links or pivoted rods L extend to and are pivoted near the opposite extremities of scraper B. By these devices the scraper can be held transversely, or adjusted and fixed at any angle to the line of draft, so as to obtain a shearing action and deliver the dirt at either side of the machine. Pivoted on the frame A, at opposite sides, are two elbow-levers, G, each provided with a dog, *g*, and ratchet *h*, and dependent from the short arms of said elbow-levers are links *l*, which encircle the links or rods L. By means of these elbow-levers G the rods L may be raised or lowered, and with said rods the corresponding end of the scraper B.

M indicates a driver's seat arranged on the



main frame within easy reach of the several levers, D G, by which the scraper B is operated.

The devices, being substantially such as specified, will operate as follows: The connection between the tilting bar C and the scraper B, at *b'*, is made, first, by using the pin-hole which will give the desired angle, and if it is then desired to lock the scraper in such given position, or make it rigid, it can be done by passing a pin through the slotted post E and corresponding pin-hole in the opposite end of the tilting lever *b*. If it is not desired to lock the scraper, the pin at the forward end is not passed through the slotted post, but the tilting bar is left free to slide through the guide-post, when, by operating the lever D, (drawing the same backward,) the scraper B can be thrown into a horizontal position (see Fig. 3) to pass over or discharge the dirt which is in the front of it. When it is desired to set the scraper at an angle to the line of draft, or so that it will have a shearing and discharging action, the circle-plate F' is rotated either to the right or left more or less, according to the degree of the angle and the direction of the discharge desired; and then secured by passing the pin through the corresponding holes in the fixed plate F and the circle-plate F'. This pin may be a spring pin or dog operated from the driver's seat by a suitable link or rod, if desired. When the scraper is to be set for a side grade either end thereof may be raised by operating the corresponding lever G, and by operating both levers G the entire scraper can be raised or lowered.

I have thus shown devices for setting and securing the scraper at any required angle or inclination for cutting, according to nature of soil, for any given grade, and to secure a shearing cut and proper discharge of the scraper in either direction. It is therefore only necessary, further, to call attention to the fact that the several connections are of a character which

permit the free vibration of the cutter, relieve the parts of undue strain and wear, and result in a simple, durable, and effective machine.

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

1. The combination, in a wheeled scraper, of a scraper pivoted on a tilting bar, a tilting bar pivoted on a sustaining and operating lever, a sustaining and operating lever pivoted on the frame or carriage, and a slotted guide-post through which the free end of the tilting bar passes, substantially as and for the purpose specified.

2. The combination, in a wheeled scraper, of a scraper pivoted on a tilting bar, a slotted guide-post through which the free end of the tilting bar passes, a circle-plate, and links which connect the opposite ends of the scraper with the circle-plate, substantially as and for the purpose specified.

3. The combination, in a wheeled scraper, of the loosely-suspended scraper B, the reciprocating tilting bar C, having the scraper pivoted at or near one extremity, the opposite end being free, and the operating-lever D, pivoted on the frame and having an elongated slot at the point of its connection with the tilting bar, substantially as and for the purposes specified.

4. The combination, in a wheeled scraper, of a loosely-suspended scraper, B, a circle-plate arranged on the carriage, in front thereof, rods L, connecting the extremities of the scraper with the circle-plate, loose links *l*, encircling the rods L, and levers G, substantially as and for the purpose specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 18th day of January, 1883.

AARON J. NELLIS.

Witnesses:

I. W. RITTER, Jr.,  
H. B. MOULTON.