J. M. ELLIOTT.

ROAD SCRAPER.

APPLICATION FILED JULY 12, 1911.

1,031,919.

Patented July 9, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

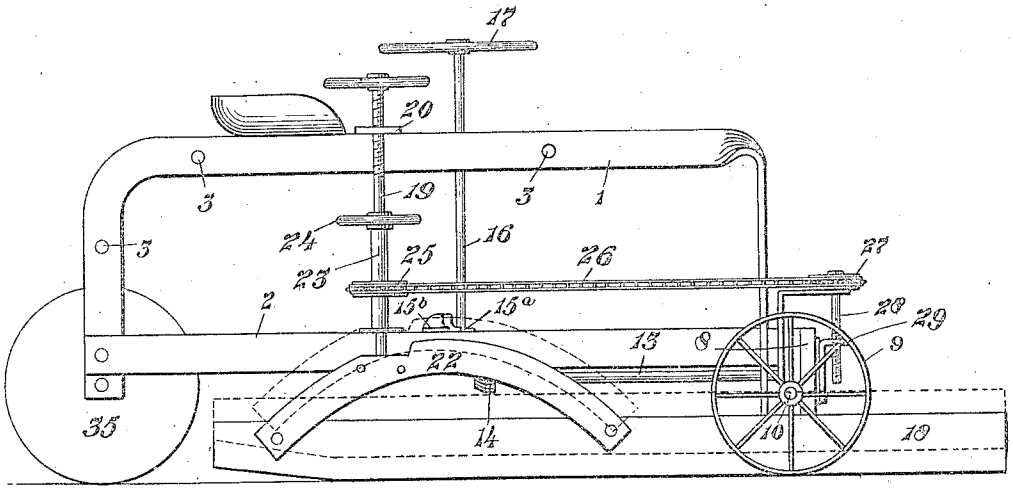
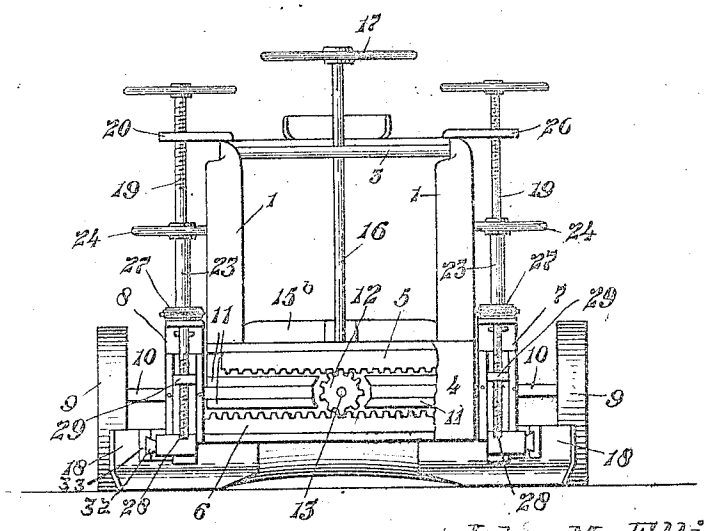


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

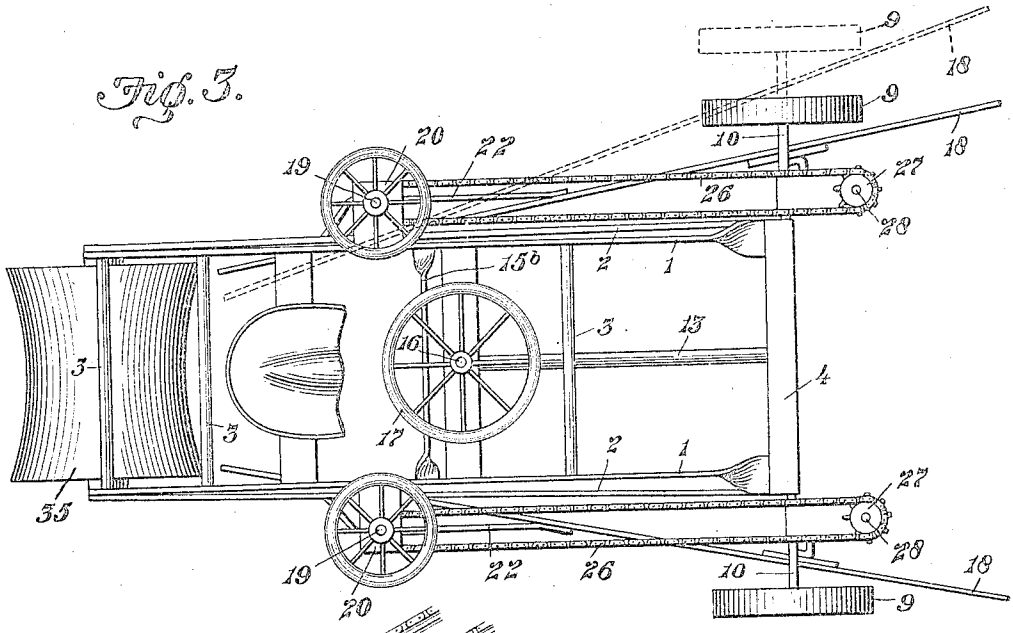
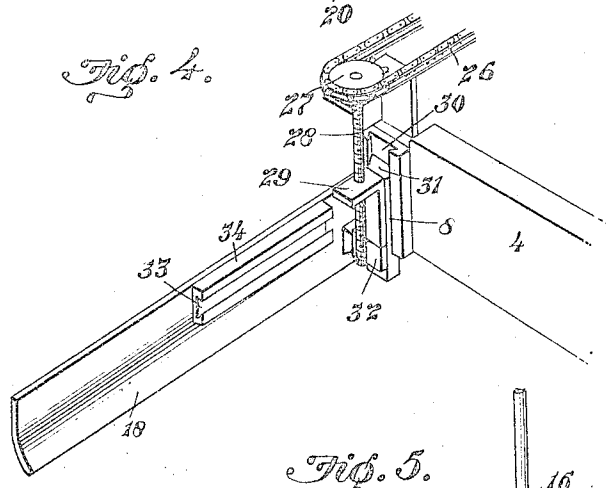


Fig. 4.



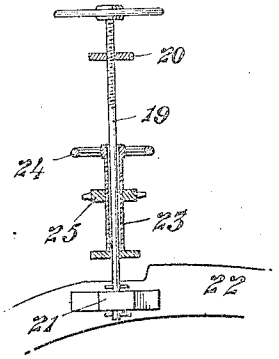
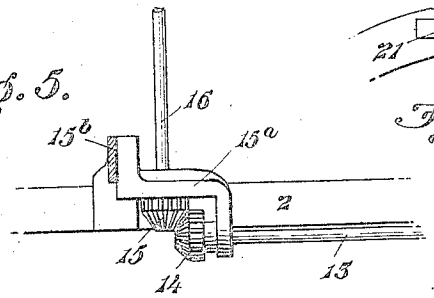


Fig. 6.

Fig. 5.



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UNITED STATES PATENT OFFICE.

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ROAD-SCRAPER.

1,031,919. Specification of Letters Patent. Patented July 9, 1912.

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To all whom it may concern:

Be it known that I, JOHN M. ELLIOTT, a citizen of the United States, residing at Dellroy, in the county of Carroll and State of Ohio, 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 designed to scrape material toward the center of the driveway and to roll the material thus scraped in such a manner that it will level the roadway.

The invention further consists in providing means whereby side ditches can be cleaned or scraped and the invention further consists in providing means, whereby one of the scraper blades can be thrown out of action and one of the scraper blades adjusted for action, thereby providing means to remove obstructions from the extreme sides of the roadway or ditch upon either side of the roadway.

These objects and purposes together with other objects readily apparent to those skilled in the art I attain by the construction illustrated in the accompanying drawing, although my invention may be embodied in a variety of other mechanical forms, the construction illustrated being chosen by way of example.

In the accompanying drawings,—Figure 1 is a side elevation. Fig. 2 is an end view showing the front end of the scraper. Fig. 3 is a top view. Fig. 4 is a view showing a portion of the frame of one of the scraper blade adjusting shafts showing the scraper detached. Fig. 5 is a view showing a portion of the frame, also a portion of the vertical shaft designed to adjust the scraper blade horizontally in connection with the necessary gear wheels. Fig. 6 is a view showing one of the rear scraper blade adjusting shafts and its different parts properly arranged.

Similar numerals of reference indicate corresponding parts in all the figures of the drawing.

In the accompanying drawings, 1 represents the side members of the frame which are made up of front and rear vertical members. In the drawings I have illustrated the horizontal portions and the vertical portions of these side members formed integral, but it will be understood that the horizontal and vertical portions may be made separably and connected together in any common and well known manner. For the purpose of producing a frame that will be rigid and at the same time so form the frame that different parts of the scraper can be properly attached, I provide what might be termed the tie bars 2, which tie bars are connected to the lower portions of the vertical side members 1, and for the purpose of holding the side members 1 in proper spaced relationship with reference to each other the cross bars 3 are provided, which are connected to the side members in any convenient and well known manner.

The parts just above described constitute the main frame of the scraper proper and so far as its construction is concerned is in a sense mechanical, reference being had to the proper arrangement of the various parts, either movable or fixed, which are connected to the frame. To the front vertical members of the sides of the frame is attached the housing 4, which housing is for the purpose of holding in proper relative position the two reciprocating rack-bars 5 and 6. The upper rack-bar 5 is attached to the vertical frame 7 and the lower rack-bar 6, is attached to the opposite frame 8, said attachment being made in any well known manner as the only object desired is to operatively connect the rack bars to the two vertical housings or frames 7 and 8. The front traveling wheels 9 are journaled upon the axles 10, which axles are securely attached to the vertical housings or frames 7 and 8, and extend into the front housing 4, said front housing being provided with the flanges 11; which flanges serve the double purpose of guiding the axles 10, and at the same time assist in holding the axles in rigid condition with reference to the housing 4. It will be understood that by providing flanges 11, a reciprocating movement can be and is imparted to the axles during the time the scraper blades are adjusted as hereinafter described.

For the purpose of imparting movement to the rack bars 5 and 6 and to the different parts connected to said rack bars the gear wheel 12 is provided, which gear wheel meshes with the rack bars 5 and 6 as best illustrated in Fig. 2. The pinion 12 is mounted upon the shaft 13 which shaft extends rearward and its rear end provided with the miter gear wheel 14, which miter gear wheel meshes with the miter gear wheel 15. said gear wheel 15 being securely connected

to the vertical shaft 16, the top or upper end of said vertical shaft being provided with the hand wheel 17, said hand wheel being for the purpose of horizontally adjusting the scraper blades 18.

For the purpose of supporting the rear ends of the scraper blades 18 the screw threaded shafts 19 are provided, which screw threaded shafts are held by means of the brackets 20, which brackets are provided with screw threaded apertures and through which screw threaded apertures the shafts 19 pass. The bottom or lower end of the screw threaded shafts are rotatably connected to the flanges 21, which flanges are connected to the upwardly curved bars 22, which upwardly curved bars are connected to the scraper blades 18. It will be understood that when rotary motion is imparted to the screw threaded shafts, said shafts will be elevated or lowered, reference being had to the direction of rotation; and as the shafts are adjusted vertically by their rotation, the rear ends of the scraper blades will be adjusted to or from the ground. For the purpose of providing means for adjusting the front or forward end of the scraper blades 18, the shafts 19 are provided with the sleeves 23, to which sleeves are attached the hand wheels 24. Upon the sleeves are securely mounted the pulleys 25, from which pulleys extend the drive-chains 26 or their equivalents, which chains are located around the pulleys 27, which pulleys are connected to the screw threaded shafts 28, which screw threaded shafts are located through the brackets 29, said brackets being provided with screw threaded apertures, the brackets 29 are slidably mounted in the vertical housings 7 and 8, said brackets being preferably connected by means of the dove tailed grooves 30 and the corresponding formed heads 31, thereby securely but slidably connecting the brackets 29 to the vertical housings 7 and 8.

For the purpose of connecting the scraper blades 18 to the brackets 29, so that the brackets and scraper blades will move in unison, the brackets 29 are provided with the headed bars or extensions 32, the heads of which are located in the dove tailed grooves 33 formed in the bars 34, which bars are securely connected to the scraper blades 18. The object and purpose of connecting the brackets 29 and the scraper blades 13 together by means of the headed bars 32 and the grooved bars 34 is to provide means whereby lateral adjustment can be imparted to the scraper blades 18 by means of the rack bars 5 and 6, the heads of the headed bars sliding back and forth in the grooves 33 formed in the bars 34, or in other words permitting relative movement as between the bars 32 and the scraper blades 18.

It will be understood that by my peculiar manner of connecting the scraper blades to the vertical housings 7 and 8, the vertical adjustment of the brackets 29 and the scraper blades 18 will be in unison and at the same time allow a relative horizontal movement as between the brackets 29 and the scraper blades 18. When it is desired to adjust the front ends of the blades 18, the hand wheels 24 are rotated which in turn rotates the shafts 28, which in turn moves the front or forward ends of the scraper blades up or down reference being had to the rotation of the hand wheels 24, the shafts 28 being rotated by means of the pulleys 25, the chains 26 and the pulleys 27.

The arrangement of the present invention is such that both scraper blades 18 can be brought into the same position; that is to say in such a position to scrape material from both sides of the road toward the center of the driveway and for the purpose of leveling and compressing the dirt, thus brought toward the center, the rear end of the scraper proper is provided with the roller 35, which roller is connected to the frame in any convenient and well known manner. If desired the periphery of the roller 35 may be concaved as between its ends as illustrated in Fig. 3. In some instances it may be desirable to remove obstructions from one side of the road only and when so desired one of the scraper blades 18 may be elevated, so that it will not perform any function and the opposite blade adjusted so that it will scrape the surface of the roadway or remove any obstruction that may have accumulated at the extreme outer edge or ditch of the road proper. It will also be understood that when both scraper blades are elevated, the scraper proper can be easily removed over the surface without interfering in any manner with the roadbed over and upon which the scraper proper is moved. Another object of the present invention is to provide means whereby the angularity of the scraper blades 18 may be changed from time to time, which change of angularity is brought about by means of the rack bars 5 and 6 and the different elements intermediate said rack bars and hand wheel by means of which said rack bars are actuated.

For the purpose of providing means for properly journaling the shafts 15 and 16 the bracket 15^a is provided, which bracket is secured to a cross bar 15^b or its equivalent.

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

1. In a road scraper of the class described, the combination of a traveling frame, rack bars located at the front portion of the traveling frame, a horizontal housing fixed to the frame, said horizontal housing adapted to hold and guide the rack bars, axles extended into the housings, vertical housings

secured to the outer ends of the rack bars and the axles secured to the vertical housings, brackets carried by the vertical housings, and adjustable with reference to said vertical housings, scraper blades connected to and carried by said housings, and means for reciprocating the rack bars, substantially as and for the purpose specified.

2. In a road scraper of the class described, the combination of a traveling frame, a horizontal housing carried by the frame, rack-bars slidably mounted in the horizontal housing, axles extended into the horizontal housing and flanges adapted to hold and guide said axles, frames secured to the axles, brackets carried by the vertical frames and means for adjusting said brackets, scraper blades connected to the brackets and adjustable vertically with said brackets, substantially as and for the purpose specified.

3. In a road scraper of the class described, the combination of a traveling frame, a horizontal housing carried by the frame, rack-bars slidably mounted in the horizontal housing, axles extended into the horizontal housing and flanges adapted to hold and guide said axles, frames secured to the axles, brackets carried by the vertical frames and means for independently adjusting said brackets, scraper blades connected to the brackets and adjustable vertically with said brackets, substantially as and for the purpose specified.

4. In a road scraper of the class described, the combination of a frame provided with traveling wheels at its front end and a roller at its rear end, scraper blades carried by the frame, reciprocating axles, frames secured to said reciprocating axles, said frames provided with brackets and the scraper blades provided with bars having dove-tailed grooves, bars carried by the adjustable brackets, said bars provided with heads adapted to be seated in the grooves secured to the scraper blades, substantially as and for the purpose specified.

5. In a road scraper of the class described, the combination of a traveling frame, scraper blades carried by said frame, rack bars located at the forward end of the frame and means for imparting reciprocating movement to said rack bars, vertical housings secured to said rack bars, brackets slidably mounted in said housings, said brackets provided with heads, grooved bars secured to the scraper blades adapted for engagement with the heads of the brackets, means for adjusting the scraper blades vertically and horizontally, substantially as and for the purpose specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

JOHN M. ELLIOTT.

Witnesses:
WICK. FRY,
H. L. ROCK.