(No Model.)

F. M. MOULTON.

ROAD SCRAPER.

No. 347,820. Patented Aug. 24, 1886.

Fig. 1.

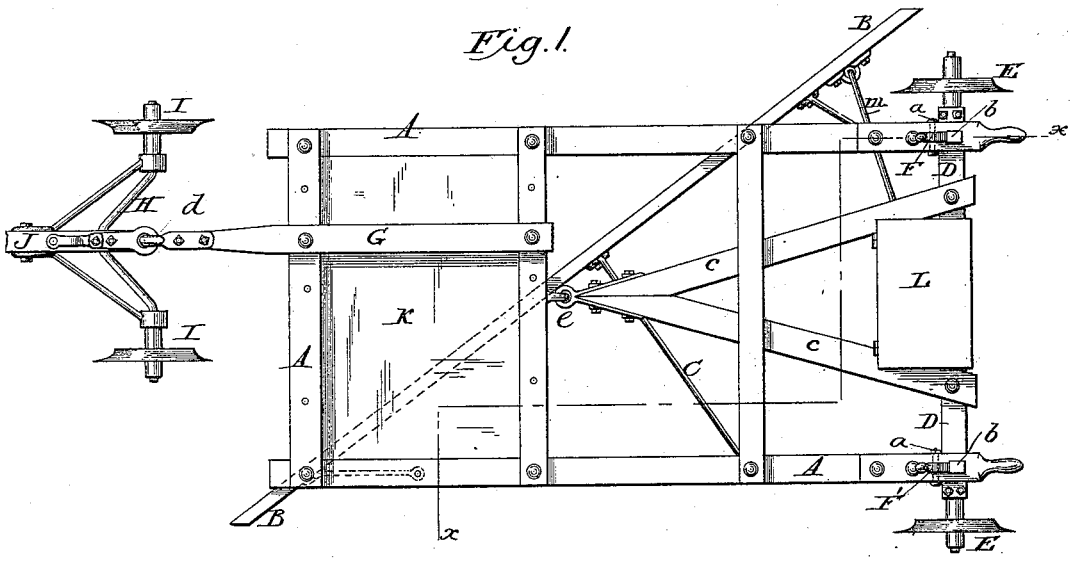


Fig. 2 on x–x

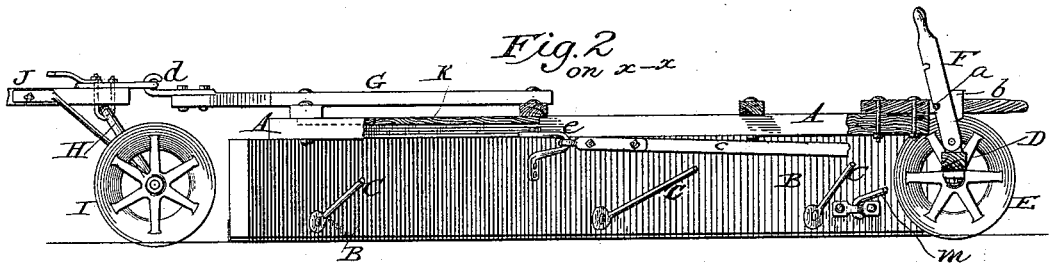


Fig. 3.

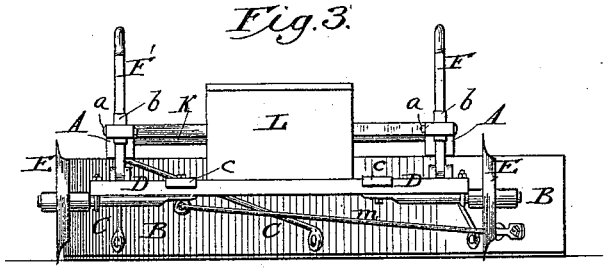
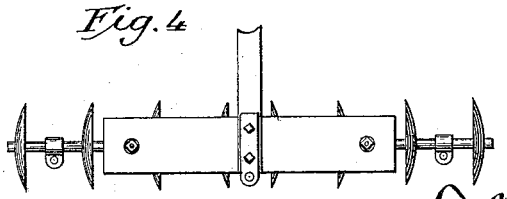


Fig. 4



WITNESSES

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ROAD-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 347,820, dated August 24, 1886.

Application filed October 22, 1884. Serial No. 146,206. (No model.)

To all whom it may concern:

Be it known that I, FORDYCE M. MOULTON, of Vergennes, in the county of Addison and State of Vermont, have invented certain Improvements in Road-Scrapers, of which the following is a specification.

The present invention relates to a machine for loosening, moving, and distributing earth for the purpose of grading, shaping, and finishing roads, and is designed more particularly as an improvement upon the machine for which Letters Patent of the United States were granted to me on the 24th day of July, 1883, No. 281,715.

Referring to the drawings, Figure 1 represents a top plan view of the machine; Fig. 2, a longitudinal vertical section of the same on the line *x x;* Fig. 3, a rear elevation of the machine; Fig. 4, a plan view showing a modified form of the front of the draft-frame.

Referring to the drawings, A represents the main or scraper frame, constructed of an oblong or rectangular form of timbers secured rigidly together, or otherwise constructed, as may be preferred.

B represents the scraper, consisting of an upright blade on a board suitably armed with metal secured diagonally to the under side of the main frame, and maintained in position by means of arms or braces C. For the purpose of carrying and adjusting the rear end of the main frame, I provide a transverse axle, D, sustained at its two ends by means of wheels or disks E E, which are preferably constructed, as shown, with sharp or cutting edges at the periphery, in order that they may enter the surface of the ground and engage firmly therein to prevent the rear end of the frame from shifting laterally. The axle is connected to the frame by converging draft bars or arms *c*, bolted at their rear ends to the axle and connected at their forward ends to the draft-frame by means of a central joint or swivel, *e*.

The axle D is provided near its opposite ends with standards F and F′, which are extended upward through slots formed in the rear corners of the main frame or in arms bolted rigidly to the frame, as shown. The frame is arranged to slide vertically on the standards, and its slots are elongated in such manner as to admit of the standards moving fore and aft to a limited extent. In their forward edges the standards are provided with notches to engage pins *a* on the frame, and thereby sustain the latter at such height as may be demanded. The standards are arranged in engagement with the pins, and held rigidly in connection with the frame by means of wedges *b*, which are inserted in the slots behind the standards, as shown in the drawings. By removing these wedges the standards are set free, so that they may be disengaged from the pins in order to admit of the frame being raised or lowered.

It is to be observed that the standards admit of the opposite sides of the frame being raised or lowered independently of each other, this independent adjustment permitting either end of the scraper to be elevated higher than the other at will, so as to impart the desired lateral slope or inclination to the surface of the road.

At its forward end the main frame is provided with a longitudinal draft-bar, G, secured firmly thereto, a series of holes being provided, as shown, in order to admit of the bar being adjusted from side to side, so that the draft may be applied centrally or at either side of the frame, as occasion may demand. The bar also carries and sustains the scraper at the front.

For the purpose of supporting and guiding the forward end of the machine, I employ an arched axle, H, carried at its ends by ground-wheels I, and provided at its middle with a draft pole or tongue, J, suitably constructed and applied to permit the attachment of the draft-animals. The front or draft frame, constructed as above, is connected to the draft-bar of the main frame by a swivel-joint, *d*, which may be of any appropriate construction. The employment of the arched axle is advantageous in that it permits the employment of small wheels in such position that they may pass beneath the draft-bar G in turning the machine. The front wheels, I, are constructed either or both with sharp peripheral edges, adapted to enter the ground so that they will resist the lateral strains exerted by the main frame. Being thus constructed they serve to guide the main frame and scraper in a right line, and prevent the scraper from yielding laterally under the resistance which it encounters when in use.

For the purpose of permitting the main frame to be loaded in order to hold the scraper down to its work, I propose to provide the frame at the front, above the forward end of the scraper, with a platform or receptacle, K, which may be loaded in any suitable manner. I also propose to mount upon the middle of the rear axle a box or other receptacle, L, which will serve as a seat for the driver and also as a means for carrying additional weight, if desired.

As an additional means of bracing and supporting the scraper, I joint to its rear end, near the lower edge, a brace, *m*, which extends thence to a point near the opposite side of the machine, where it is jointed to the axle D.

In place of the two wheels I for supporting the draft-frame, I may employ in connection with said frame shafts carrying a number of rotary sharp edged disks, as represented in Fig. 4, these disks being similar to the rotary disks commonly employed in harrows and fully described in my original Letters Patent.

While I have described above the preferred construction, it is manifest that the details may be modified without departing from the limits of the invention. For example, any of the known forms of swivel-joint may be substituted in place of the joints *d* and *e*.

Having thus described my invention, what I claim is—

1. In combination with the wheeled draft-frame, the rigid main frame A, jointed loosely thereto, the diagonal scraper B, secured rigidly to the main frame, the rear axle and its wheels, the arms *c*, bolted to the axle and extending thence forward to a joint connecting them with the main frame, and the adjusting devices connecting the ends of the axle independently with the rear corners of the frame.

2. In combination with the wheeled draft-frame, the rigid main frame connected loosely therewith by an arm, G, the scraper rigidly secured to said frame, the rear axle and its wheels, the adjustable devices connecting the ends of said axle with the main frame, a ballast-receiving surface, K, located at the forward end of the scraper, and a second ballast-receiving surface, L, located at the middle of the rear axle, whereby the weight may be applied to govern the action of the scraper under the various conditions encountered in practice.

3. In combination with the draft-frame, the scraper-frame, the axle D, its supporting-wheels, the notched standards F F′, and the keys or wedges *b*.

4. In combination with the main frame having the scraper attached, the rear axle, its supporting-wheels, the arm C, and the independently-adjustable standards F F′.

5. The main frame, provided with the diagonal scraper and the rear sustaining-wheels, in combination with the wheeled draft-frame, and the draft-bar G, jointed to the draft-frame and connected to the main frame, substantially as described and shown, for lateral adjustment thereon.

6. The main frame, provided with the diagonal scraper and rear supporting-wheels, in combination with the wheeled draft-frame and laterally-adjustable connection between the draft-frame and main frame, substantially as described, whereby the line of draft may be changed with relation to the scraper.

7. In combination with the rear axle and its supporting-wheels, the main frame having the scraper rigidly attached thereto, means, substantially as described, for effecting a vertical adjustment of the frame with reference to the axle, and the brace *m*, jointed to the axle and scraper, substantially as described.

In testimony whereof I hereunto set my hand in the presence of two attesting witnesses.

FORDYCE M. MOULTON.

Witnesses:

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CHAS. H. SMITH.