(No Model.) 2 Sheets—Sheet 1.

M. AMMEL.

ROAD SCRAPER AND LEVELER.

No. 260,445. Patented July 4, 1882.

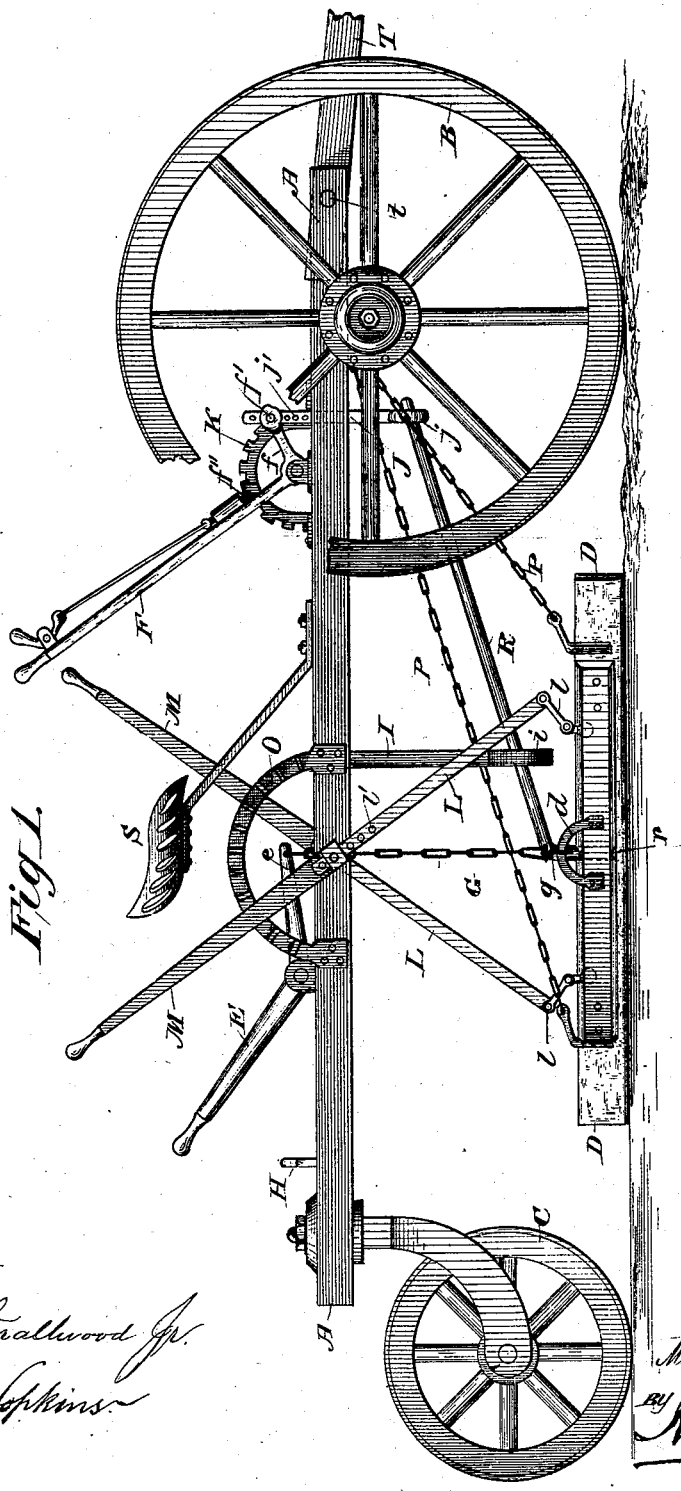

Fig. 1.

Attest
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(No Model.)

2 Sheets—Sheet 2.

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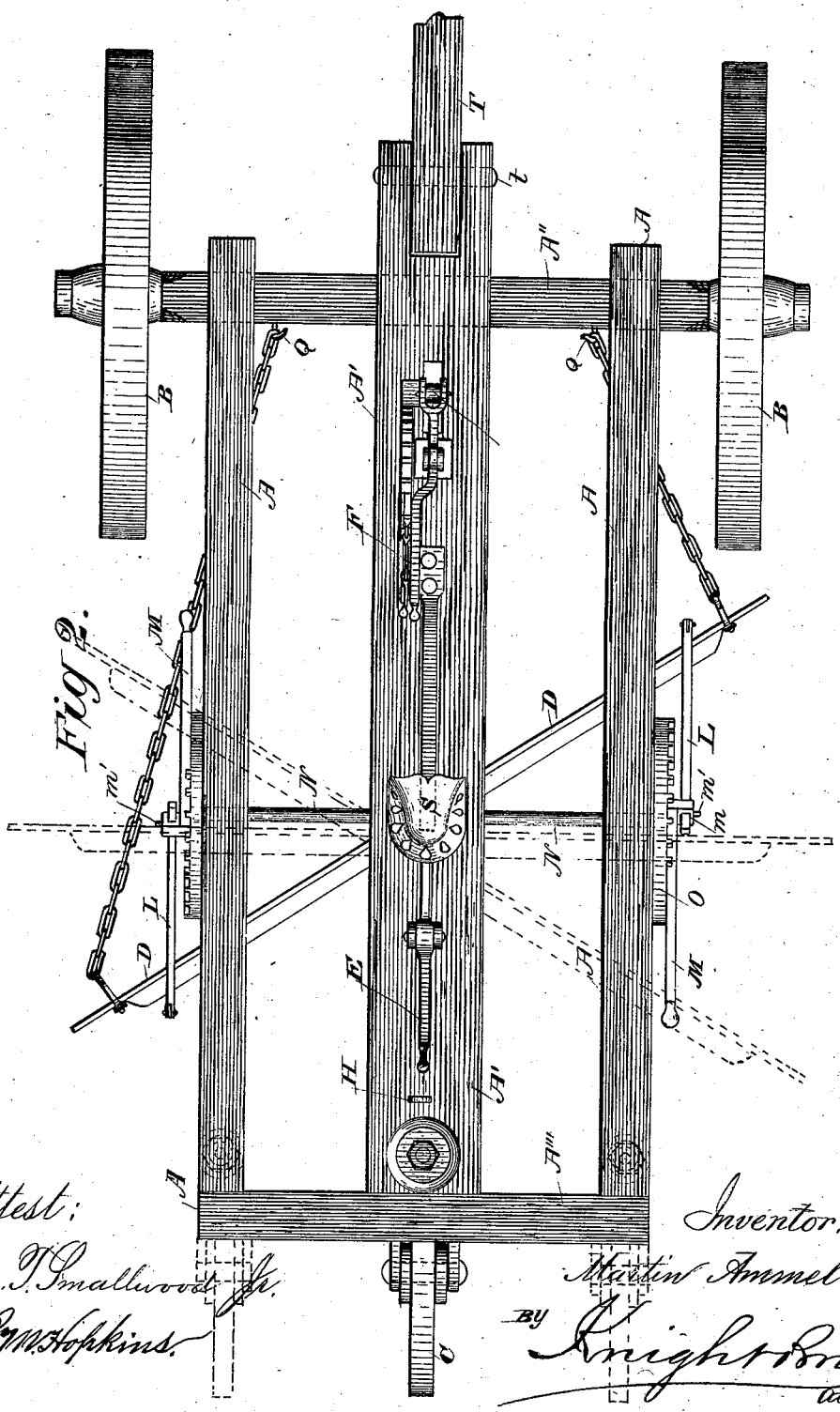
Fig 2.



Attest:

Geo. T. Smallwood Jr.

Wm. Hopkins.

Inventor:

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UNITED STATES PATENT OFFICE.

MARTIN AMMEL, OF BELLEVILLE, ILLINOIS.

ROAD SCRAPER AND LEVELER.

SPECIFICATION forming part of Letters Patent No. 260,445, dated July 4, 1882.

Application filed October 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, MARTIN AMMEL, a citizen of the United States, residing at Belleville, in the county of St. Claire and State of Illinois, have invented a new and useful Improvement in Road-Scrapers, of which the following is a specification.

My invention relates to that class of machines known as "road scrapers or levelers," its object being to grade and reduce the surface of the road to even it by scraping off all inequalities on the surface, and it has for its object the discharge of the material at either side of the machine.

My improvement consists, first, in pivoting the scraper at its mid-length to the down-turned end of a rod extending forward through the loop or eye of a hanger which forms a bearing for the rod, and whose extreme end engages through the eye of a bar adjustable in and depending from the central beam of the frame.

My improvement consists, further, in combining with the swiveled rod and scraper a depending bar at the forward end of the rod having a series of perforations, to either of which the short arm of another L-lever can be connected by a pin transverse of the bar and lever, the said lever being held to adjustment by a spring-pawl engaging the teeth of a rack-segment secured to the frame.

My improvement consists, further, in means for holding the scraper to its work, consisting of toggles and levers, one on each side of the frame, each toggle having a short arm and a long arm, the short arm being hinged to the top of the scraper, and the upper end of the long arm sliding in a socket formed on the lower end of the lever, which is pivoted to the side of the frame and engages with a ratchet-bar.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved scraper. Fig. 2 is a top view thereof, other positions of the scraper being indicated in broken lines.

A are the side beams, A′ the central beam, A″ and A‴ cross-beams, of a suitable frame, which is rectangular in form. The forward part of said frame is mounted upon two wheels, B B, whose axle is the forward cross-beam, A″, of the frame. The rear end of said frame is supported on one or more caster-wheels, C, suitably secured to said frame.

Beneath the frame is the scraper D, which consists of a metal blade having a backing of wood. Mid-length of the scraper is secured the down-turned end *r* of a rod, R. The end *r* forms a pivot for the scraper to swing or turn on. By this arrangement the scraper is permitted to work either lengthwise or with either end thrown forward.

To the rear of the scraper, behind the end *r*, is rigidly attached a staple-iron, *d*, to which is secured by swivel-link *g* a chain, G, whose upper end passes through the central beam, A′, and connects with the short arm *e* of an L-lever, E, which, being depressed, is engaged with a hook, H, and thus elevates the scraper out of contact with the ground. From the scraper the rod R extends forward through the loop *i* of a guide or hanger, I, secured to the under side of the beam A′, to the eye *j* of a depending bar, J, passing up through the same beam. This bar is formed with a series of perforations, *j′*, for the pin *f′*, by which it is secured at a suitable height to the short arm *f* of an L-lever, F, provided with spring-pawl *f″*, engaging with the teeth of a rack-segment, K. The elevation of the bar J tilts the scraper backward, and the depression of the bar moves the scraper forward on its edge.

For the purpose of adjusting the scraper to the desired grade and to keep it to its work, I attach to near each end a toggle, L, whose short arm *l* is hinged to the top of the scraper, the toggle being provided at its upper end with a series of perforations, *l′*, said upper end being passed into a socket, *m*, of a lever, M, hinged on the end of a rod, N, which extends across the frame. The upper end of the toggle is secured in the socket by means of a pin, *m′*, passing through one of the holes *l′*. The lever M engages with teeth on a rack-segment, O, to lock it in any desired position.

In order to relieve the scraper from undue strain, I provide stay-chains P at each end, extending to hooks Q on the cross-beam A″.

S is a driver's seat. T is a vertically-swing-

ing tongue, hinged by a bolt, *t*, to the forward end of the central beam, A′.

I am aware that levers pivoted horizontally and vertical bars have been hinged together and provided with means for adjusting them with respect to each other, said bars being connected to the scraper, so that when the rear ends of the levers are depressed the scraper will be elevated, and when the ends are raised and locked the scraper will be lowered and held to its work. This construction I do not claim broadly.

As indicated in the broken lines in Fig. 2, my scraper can be adjusted to a position either transverse of or oblique to the frame.

The operation of my machine is as follows: The scraper is first adjusted by turning it on its pivot *r* to the desired position, generally so as to discharge the scraped earth to right or left of the machine by throwing either one or the other of its ends forward. The lever E is then released, which lowers the scraper in contact with the ground, the inclination of the scraper being regulated by the lever F to adapt it to cut the desired depth. The levers M M are next engaged with their rack-segments to hold the scraper to its work, and the chains are hooked to the forward beam, so as to form stays to the scraper to relieve the said scraper. As the machine advances, the scraper is adjusted to lateral changes in grade of work by the levers M M, as they are within easy reach of the driver's seat on the frame.

When it is desired to change the scraper about, or in the opposite oblique position, the chains can be released from their hooks and the long arms of the toggles slid up in the lever-sockets, the scraper elevated by the lever E, and the levers M M moved over. The parts can then be connected again, the lever E released, and the machine is ready to work from the opposite side. While the lever E is employed to elevate or raise the scraper bodily, yet the levers M M are adapted to lift, depress, or hold down the ends thereof.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The beam A′ and depending bar J, having loop or eye *j*, and adjustable in said beam, in combination with the rod R and scraper D, the said bar being adapted to tilt the scraper forward or backward, as set forth.

2. The combination of L-lever F, bar J, having holes *j*, rack-segment K, rod R, and scraper D, as set forth.

3. The combination of hanger I, having loop *i*, rod R, bar J, and scraper, as set forth.

4. The toggles L, levers M, having sockets *m*, pivot-rod N, and scraper, as set forth.

5. The toggles L, having short arms *l*, and levers M, pivoted to the sides of the frame and formed with the sockets for receiving the long arms, in combination with the scraper, as set forth.

6. The combination of scraper D, suspended beneath frame A by chain G, attached to lever E upon said frame, with rod R, attached to said scraper, supporting-hanger I, having a loop in its lower end and rigidly attached to said frame, and bar J, adjustably attached to lever F, said lever F being provided with a spring-pawl and rack-segment, as set forth.

7. In a road-scraper, the frame A, mounted upon wheels B, and caster wheel or wheels C, in combination with toggles L L, levers M M, hinged to said frame by rod N, passing laterally through said frame, and having sockets, the scraper D, and chain G, attached to said frame by a lever, as set forth.

MARTIN AMMEL.

Witnesses:

AUGUST C. HUCKE,

HENRY E. SCHRADER.