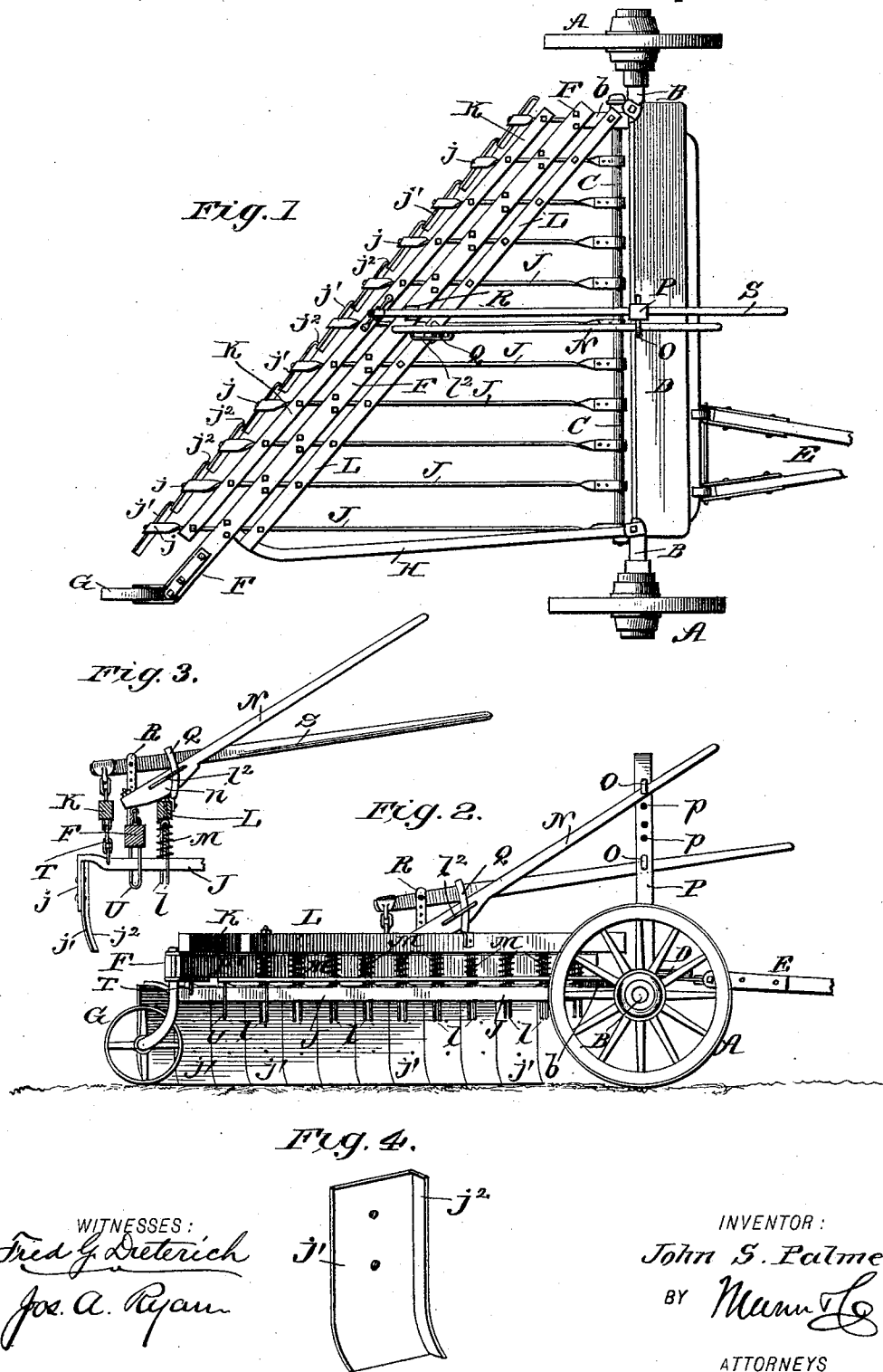


(No Model.)

J. S. PALMER.
ROAD SCRAPER.

No. 483,081.

Patented Sept. 20, 1892.



UNITED STATES PATENT OFFICE.

JOHN S. PALMER, OF WEST DULUTH, MINNESOTA.

ROAD-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 483,081, dated September 20, 1892.

Application filed February 25, 1892. Serial No. 422,815. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. PALMER, residing at West Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Road-Scrapers, of which the following is a specification.

My invention relates to road-scrappers more especially adapted for use on paved streets; and it has for its object to provide a machine of this character which embodies the elements of cheapness in construction, simplicity of operation, and general efficiency; and it consists in the peculiar combination and novel arrangement of parts, such as will be herein-
after fully described in the specification and then pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my improved road-scraper. Fig. 2 is a side elevation of the same. Fig. 3 is a detail cross-section illustrating the operation of the levers; and Fig. 4 is a detail view, hereinafter specifically referred to.

Referring to the accompanying drawings, A A indicate the wheels which support the main axle B, upon the rear edge of which is mounted a rod C, to which the several scraper-bars are hinged in a manner presently described, the axle B being also provided with the usual front board D and tongue E, as shown.

F indicates the rigid diagonal brace and supporting-beam, which is connected at one end to an extension b, projected rearward from the main axle, and at its outer end it is supported upon a caster-wheel G, such end being also braced and connected by the bar H, which connects with the main axle B, as most clearly shown in Fig. 1.

The scrapers are arranged in a series, their blades being arranged in a line parallel with the bar F, such scrapers consisting each of a bar J, hinged at its forward end upon the rod C, (such bars being of graduated lengths, as shown,) while its rear end is formed with a downwardly-extending flange j, to which are bolted the blades j'. These blades, as will be noticed by reference to Figs. 1 and 4, have each an inwardly-projecting lip j² at one end, and such ends overlap the adjacent end of the next blade, the lips j² contacting with the rear face of such adjacent blades, whereby the spaces between the several blades are held

closed and dirt prevented from passing rearward between them.

Referring more particularly to Figs. 1 and 3, it will be seen that at a plane above the rigid beam F and parallel therewith are arranged the lifting-bar K and the spring-bar L, which is in front of the beam F. The bar L has a series of depending guide-bails l, which embrace the several scraper-bars J, and disposed upon these bails between the bottom of the bar and the tops of the scraper-bars L are coiled springs M, which serve to normally press the scraper-bars downward. To provide for applying increased pressure to such scraper-bars, I employ a lever N, formed with a cam-like enlargement n, which rests upon the bar L, the forward end of such lever having a link pivotal connection with the rigid beam F, as shown. By this construction it will be observed that by depressing the lever the cam portion will be caused to bear down against the bar L, applying, as it were, additional tension to the spring. To hold the lever to its depressed position, its front end is arranged to engage the hooked ends of key-bolts O, held in the aperture p of a guide-bail or standard P on the front platform D, and to hold the said lever in its proper position on the bar L it is formed with a guide-loop l², which is arranged for engagement with a curved vertically-arranged guide member Q. (See Fig. 2.) Apertured lugs R are projected up from the rigid beam F, in which is pivoted the lifting-lever S, the outer end of which has a link connection with the lifting-bar K, disposed to the rear of the said beam F, which in turn has a series of chain connections T with the scraper-arms J, which are further guided in bails U, projected down from the beam F, as shown. The front end of the lever S operates in the bail P and is held in its depressed position by means of the key-bolts O, which pass transversely through such bail, as shown. It will thus be seen that when it is desired to travel from one point to another by releasing the front end of the lever N from the bail P and by depressing the lever S and locking it to its depressed position the scrapers will be elevated from the ground and held up.

From the foregoing description, taken in connection with drawings, the operation and advantages of my improved machine will be

readily understood by those skilled in the art to which it appertains.

It will be noticed that it is impossible for any of the dirt to slip between the blades, and owing to the peculiar arrangement of the spring-bar and its operating-lever the entire weight of the machine can be made to rest upon the blades or a less pressure, if desired, such pressure being governed by the adjustment of the lever.

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

1. A road-scraper comprising the main supporting-wheels and axle, the rigid diagonal beam secured at one end to the main axle, its opposite end having a wheel-support and connected with said main axle, a series of scraper-arms independently hinged at their front ends on the axle, their rear ends extended beyond the rigid beam and provided with scraper-blades, and the lifting-lever mechanism connected with the scraper-arms, substantially in the manner and for the purposes described.

2. The combination, with the main axle and supporting-wheels, the rigid beam F, secured to the axle and provided with a wheel-support, of the arms J, carrying the scrapers at their rear end and hinged at their forward end to the main axle, the spring-bar L, disposed in front of and parallel with the beam F, provided with guide-bails l, the spring disposed about such bails and held between the bar L

and the tops of the arms J, and the lever N, pivotally connected at its outer end to the rigid beam F and formed with a cam portion engaging the spring-bar L, all arranged substantially as shown, and for the purposes described.

3. In a road-scraper, the combination, with the draft and supporting-frame mechanism, of a series of scrapers having their blades arranged to overlap, the overlapping ends having an inwardly-projecting flange adapted to close the space between the overlapping ends of the blades, substantially as and for the purpose described.

4. The combination, with the main axle and supporting-wheels, the rigid beam F, the cast-er-wheel support, and the connections between such beam and the axle, of the lifting-bar K and the spring-bar L, arranged parallel to the beam F, and the springs and bail devices on the bar L, the scrapers having their arms pivoted at their front end to the axle, their rear ends having flexible connections with the bar K, the levers N and S, operating the bars K and L, respectively, and the mechanism for holding the levers to their adjusted position, all arranged substantially as and for the purpose described.

JOHN S. PALMER.

Witnesses:

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