

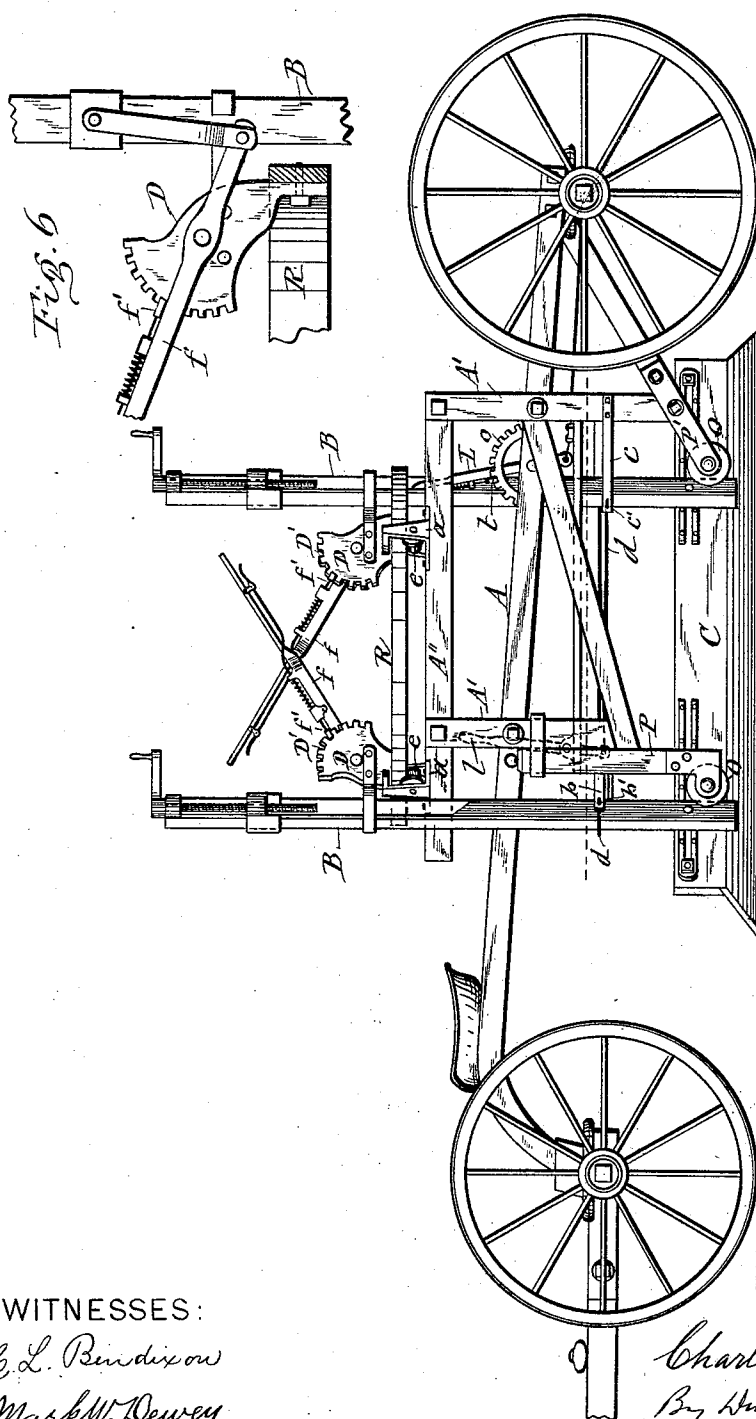
(No Model.)

3 Sheets—Sheet 1.

C. A. McALPINE.
ROAD SCRAPER.

No. 471,800.

Patented Mar. 29, 1892.



WITNESSES:

C. L. Bindixon
Mark W. Dewey

INVENTOR:

Charles A. McAlpine
By Huel, Leass & Dull
his ATTORNEYS.

(No Model.)

3 Sheets—Sheet 2.

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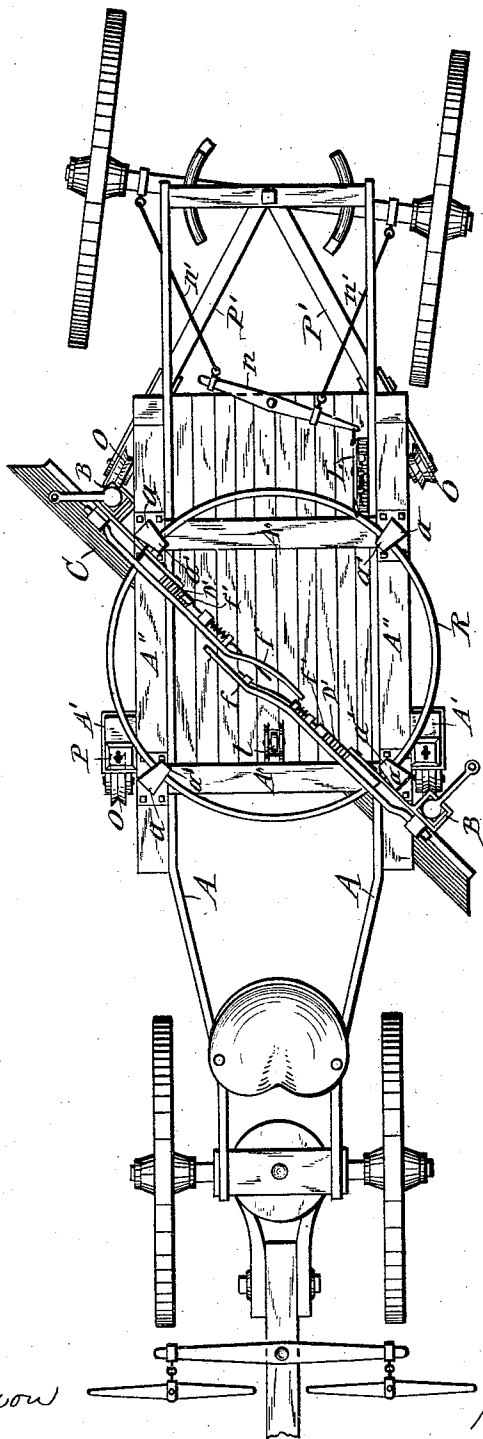


Fig. 2

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(No Model.)

3 Sheets—Sheet 3.

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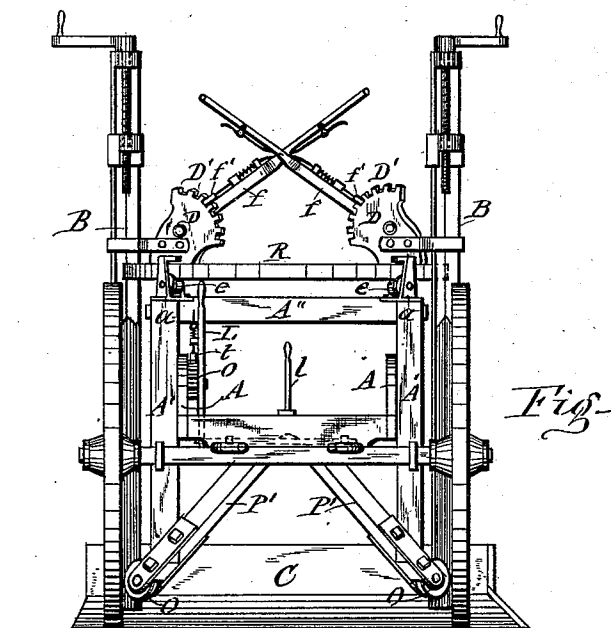


Fig. 3

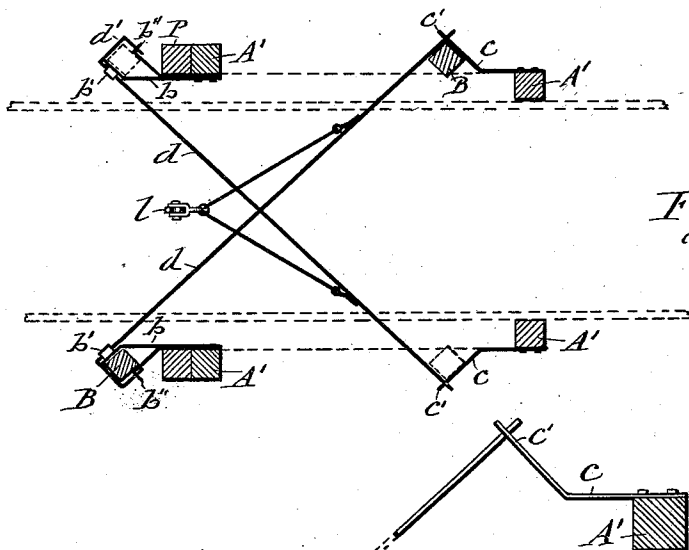


Fig. 4

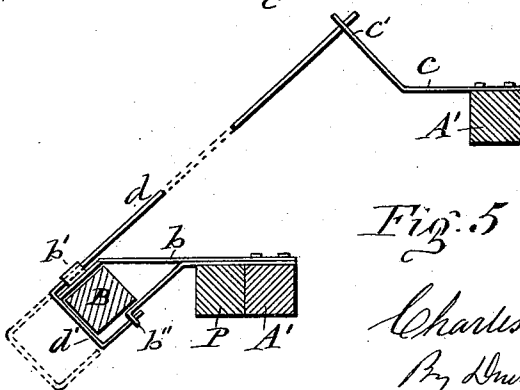


Fig. 5

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES A. McALPINE, OF MARATHON, NEW YORK, ASSIGNOR TO THE
CLIMAX ROAD MACHINE COMPANY.

ROAD-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 471,800, dated March 29, 1892.

Application filed October 10, 1891. Serial No. 408,318. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. McALPINE, of Marathon, in the county of Cortland, in the State of New York, have invented new and useful Improvements in Road-Scrapers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of road-scrapers in which the scraper-blade is hung adjustably on the main supporting-frame between the front and rear axles upon which said frame is carried; and the invention consists, first, in an improved construction of the means for adjustably hanging the scraper-blade on the main supporting-frame; secondly, in simple, efficient, and convenient means for locking in their requisite positions the hangers which carry the scraper-blade, and, thirdly, in simple and convenient devices for setting the rear axle into different angles to the line of draft; and the invention also consists in certain novel features of the details of the aforesaid devices, all as hereinafter fully described, and specifically set forth in the claims.

In the annexed drawings, Figure 1 is a side elevation of a road-scraper embodying my improvements. Fig. 2 is a plan view of the same. Fig. 3 is a rear end elevation. Fig. 4 is a horizontal transverse section on line *xx*, Fig. 1. Fig. 5 is an enlarged detached plan view of the hanger-locking devices, and Fig. 6 is an enlarged detail view of the connection of the lever with the hanger of the scraper-blade.

Similar letters of reference indicate corresponding parts.

A represents the main supporting-frame of the machine, which frame is secured at opposite ends to bolsters, which are pivoted to the front and rear axles by means of the usual king-bolts passing through said parts. Between the two axles the aforesaid frame is provided with rigid posts *A' A'*, to the top of which is secured a horizontal frame or platform *A''*. On this platform are firmly secured the brackets *a a*, to which are pivoted the rollers *e e*, which are disposed with their axes converging to a common center over the frame A. The said rollers have the tops of their peripheries in one and the same hori-

zontal plane to properly support the ring R, which is mounted on said rollers, and is thus revoluble in a horizontal plane. The rollers are formed with a flange on their outer side to properly guide the ring. The tops of the brackets are formed with inward projections *a' a'* extending across the top of the ring to prevent the same from tilting.

B B denote the hangers, to the lower ends of which the scraper-blade C is connected. These hangers I support movably on the frame by rigidly securing to the ring R the head-blocks D D, formed with toothed segments *D' D'* and having pivoted to their sides the levers *ff*, the outer ends of which are connected to the hangers B B in a manner similar to that shown in the patent to C. E. Kilpatrick, No. 431,470, dated July 1, 1890, or as shown in Fig. 6 of the drawings. By operating the said levers the scraper-blade C can be raised or lowered, as may be desired. By means of dogs *f'*, connected to the levers and engaging the segments *D'*, the hangers are retained at the desired elevation.

Inasmuch as the scraper-blade is carried by the hangers B B and the latter are carried by the ring R, said scraper-blade can be adjusted to different angles in relation to the line of draft by turning the aforesaid ring. To support the lower ends of the hangers when the scraper is set diagonally across the machine, as represented in Fig. 2 of the drawings, the frame A is provided on opposite sides with props or braces P and P', having pivoted to their lower ends the rollers O O, against which the hangers B B rest with their backs. Said rollers obviate undue friction in raising and lowering the hangers in the operation of adjusting the scraper-blade in its elevation.

In order to retain the hangers in their bearings on the rollers O O, I employ suitable locking devices connected to the frame separate from the supports of the hangers. I preferably form said locking devices of braces *b* and *c*, secured, respectively, to the front and rear posts *A' A'* at each side of the frame and in such positions as to stand immediately back of the hangers B B. The braces *b* on the front posts are each formed with a guide *b'* and a perforated ear *b''*, which are in such

position as to stand at opposite sides of the hanger B when brought to bear on the roller O. The braces *c* on the rear posts are each formed with a perforated ear *c'*, which extends across the rear and outer portion of the hanger and has its eye at the outer edge of the hanger, as shown in Fig. 5 of the drawings. In connection with these braces I use two longitudinally-movable locking-bars *d d*, disposed diagonally across the machine and each formed at its front end with a hook *d'*, which passes through the guide *b'* and around the front of the hanger and has its extremity entering the perforated ear *b''*, while the rear end of each locking-bar passes across the front and outer side of the hanger and enters directly into the perforated ear *c'* of the rear brace *c*. To move the two locking-bars simultaneously, I connect both to a lever *l*, pivoted to the frame. By drawing the locking-bars forward they become disengaged from the braces *b* and *c* and from the hangers, and thus allow the latter to be shifted to carry the scraper-blade C toward the opposite side of the machine, in which position the hangers are then again locked by pushing the locking-bars *d d* rearward to re-engage the perforated ears of the front and rear braces *b* and *c*.

In order to enable the rear end of the machine to better resist the lateral strain produced by the pressure of the material scraped up and moved to one side of the road by the diagonally-disposed scraper-blade, the rear axle is made adjustable in its angle to the line of draft in various ways. This I prefer to accomplish by pivoting the rear axle to the bolster which carries the rear end of the frame A by simply passing a king-bolt through the centers of said bolster and axle and pivoting to a suitable support attached to the frame a horizontal lever *n*, extending across the frame and connected at its ends to the corresponding ends of the axle by rods *n' n'*, the connections of said rods being made by loose joints to permit free movement of the lever and axle. To the side of the frame is pivoted a lever *L*, which is connected to one end of the lever *n* to move the same when desired. By means of suitable locking devices—such as a toothed segment *o*, attached to the frame, and a dog *t*, connected to the lever and engaging the segment—the lever *L* is retained in position to hold the rear axle in its requisite angle to the line of draft.

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

1. The combination, with the main supporting-frame, of brackets secured to said frame, rollers pivoted to said brackets, with their axes converging to a common center and with the tops of their peripheries in one and the same horizontal plane, a ring mounted on said rollers, hangers connected to the ring, and a scraper-blade connected to the hangers, as set forth.

2. In combination with the main supporting-frame and hangers supported movably on said frame to carry the scraper-blade in different angles to the line of draft, locking devices connected to the frame separate from the supports of the hangers and engaging the hangers to retain them in their requisite positions, as set forth.

3. In combination with the main supporting-frame and hangers supported movably on said frame and carrying the scraper-blade, braces secured to the frame back of the lower portions of the hangers, and movable locking-bars extending across the hangers and interlocking with the braces to sustain the hangers thereon, as set forth.

4. In combination with the main supporting-frame and hangers supported movably on said frame and carrying the scraper-blade, two sets of braces secured, respectively, to opposite sides of the frame and back of the lower portions of the hangers, and longitudinally-movable locking-bars extending diagonally across the frame and each interlocking at both ends with one of the braces at each side of the frame to retain the hangers resting in said braces, and a lever pivoted to the frame and connected to both locking-bars to move them simultaneously, as set forth.

5. In combination with the frame A and hangers B, the brace *b*, attached to one of the posts on one side of the frame and formed with the guide *b'* and perforated ear *b''*, the brace *c*, attached to the post on the opposite side of the frame and at a point in a line diagonally across the frame and formed with the perforated ear *c'*, and the locking-bar *d*, sliding in the guide *b'* and formed at one end with the hook *d'*, entering the ear *b''*, and having the opposite end entering the ear *c'*, substantially as described and shown.

In testimony whereof I have hereunto signed my name this 18th day of September, 1891.

CHARLES A. McALPINE. [L.s.]

Witnesses:

M. M. CLARK,
HENRY E. WILSON.