(No Model.) 2 Sheets—Sheet 1.

H. D. COOK.

ROAD SCRAPER.

No. 342,068. Patented May 18, 1886.

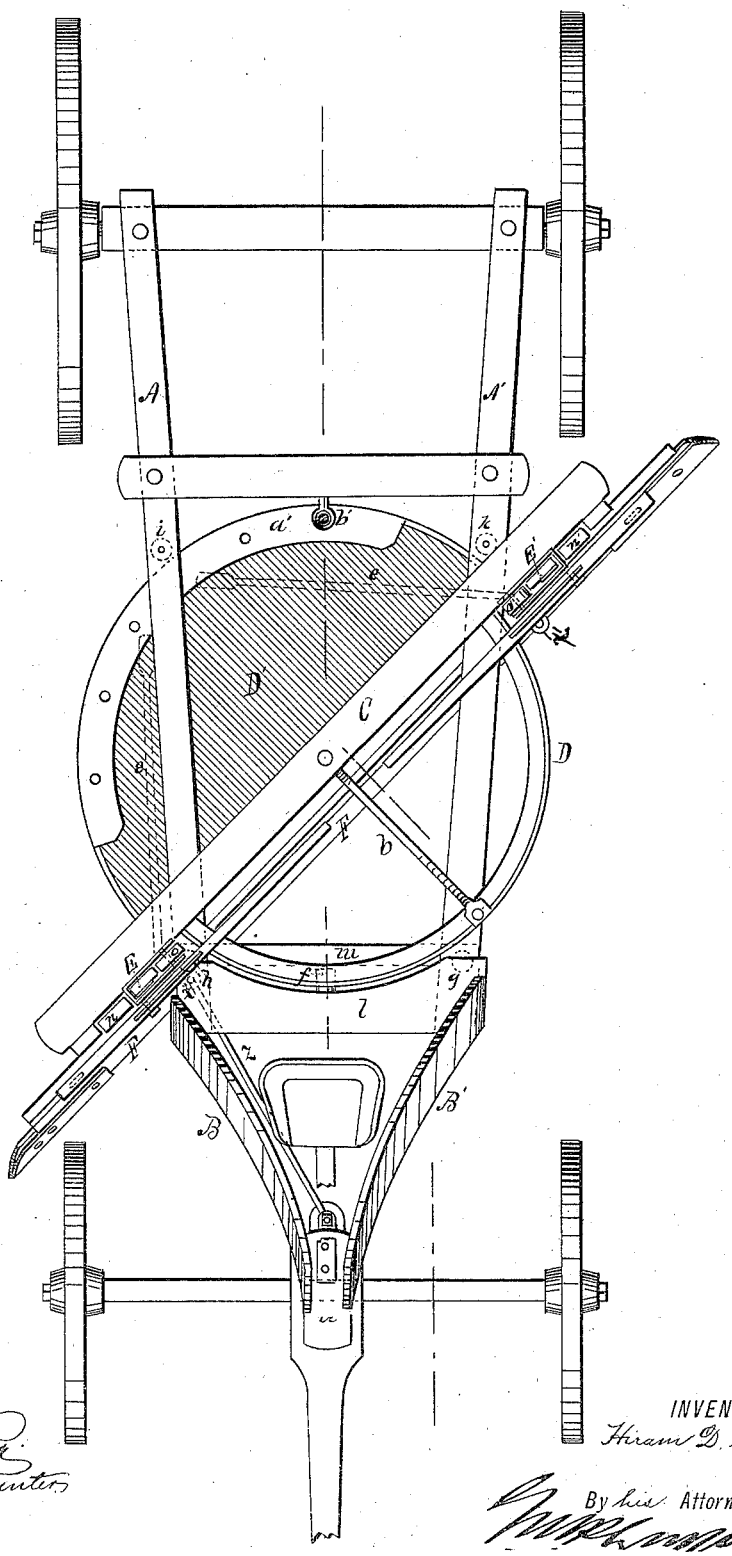

Fig. 1.

WITNESSES
Chas. Nida
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Hiram D. Cook,
By his Attorney
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(No Model.) 2 Sheets—Sheet 2.

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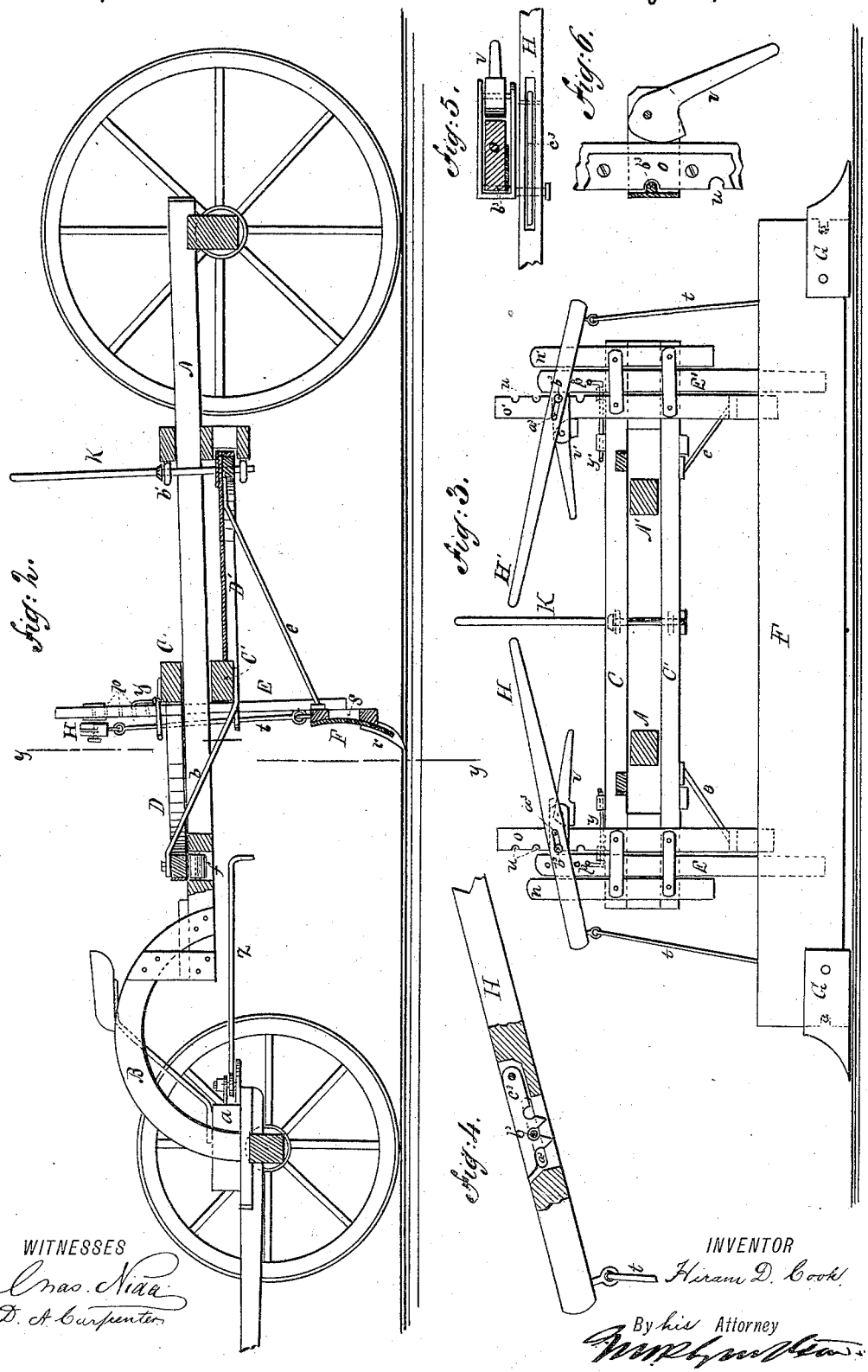

WITNESSES

Chas. Neal

D. A. Carpenter

INVENTOR

Hiram D. Cook

By his Attorney

UNITED STATES PATENT OFFICE.

HIRAM D. COOK, OF DRY BROOK, NEW YORK, ASSIGNOR TO S. PENNOCK & SONS COMPANY, OF KENNETT SQUARE, PENNSYLVANIA.

ROAD-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 342,063, dated May 18, 1886.

Application filed March 17, 1885. Serial No. 159,146. (No model.)

To all whom it may concern:

Be it known that I, HIRAM DWIGHT COOK, of Dry Brook, county of Ulster, and State of New York, a citizen of the United States, have invented a new and useful Improvement in Road-Scrapers; and I declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has for its object an improvement in road-scrapers; and the invention consists in a road-scraper constructed with the several elements and combination of elements hereinafter shown, described, and claimed.

In the accompanying sheets of drawings, Figure 1 is a plan or top view of my scraper. Fig. 2 is a side elevation partly in section. Fig. 3 is a cross-section in the line *y y*, Fig. 1. Fig. 4 is a detail view of lock for adjustable fulcra. Fig. 5 is an end view of cam-lever. Fig. 6 is a side view of same.

Similar letters of reference indicate like parts in the several figures.

The purpose of this invention is to simplify and make better the well-known road-scraper or machine for repairing and making common roads.

In the construction of my machine its reach consists, essentially, of two nearly-parallel beams, A and A′, placed as near together as may be convenient and necessary, and having their rear ends securely bolted to the rear axle. To the front ends of these reach-bars are bolted iron braces B and B′, these braces being also at their front ends bolted to a block, *a*, through which passes a linchpin to unite the reach to the front axle. Extending across the reach-bars A and A′, one above and the other below these bars, are two beams, C and C′. These beams are parallel and lie in the same vertical plane. To the upper beam, C, and extending frontward, is fixed a semicircular frame, D, and to the lower beam, C′, and extending rearward, is fixed a semicircular platform, D′. The frame D is supported in place by a brace, *b*, and the platform D′ is supported by braces *e*. The frame D rests upon a friction-wheel, *f*, and its rim abuts against friction-wheels *g* and *h*, and the platform D′ or its rim abuts against friction-wheels *i k*, these several friction-wheels being journaled to the reach-bars A and A′ and to cross-bars *l* and *m*, as is indicated in the drawings. Additional friction-rollers may be added at other places to facilitate the turning, as aforesaid. To the ends of the beams C and C′, which project on either side of the reach-bars A and A′, are secured vertical guide-bars *n* and *o* and *n′* and *o′*, the guide-bars *o* and *o′* having ratchets *u* formed in their inner faces. Between these guide-bars is fitted, so as to move freely up and down, scraper-arms E and E′, these arms having holes *p* formed in them. To the lower ends of these scraper-arms, and extending from one to the other beneath the reach-bars A and A′, is the scraper F of the machine. This scraper has a concaved front surface and a steel shoe, *r*, fixed to its lower edge. At each lower end of this scraper F, and extending outward beyond and downward below the scraper, are plow or shovel mold-boards G. These mold-boards are removably attached to the ends of the scraper F. To the upper surface of the scraper F, or to its wooden backing *s*, are secured, near the ends of the scraper, lifting-bars *t*. The upper ends of these lifting-bars are linked to the outer ends of levers H and H′, and these levers are pivoted to adjustable fulcra within the ratchets *u*, and these fulcra are held in place within the ratchets *u* by cam-levers *v* and *v′*. To the upper surface of the cross-beam C are journaled locking-levers *y* and *y′*. Extending rearward from the front axle or from the block *a*, fixed thereon, is a brace-bar, *z*, the rear end of this brace-bar terminating in a hook that will enter into eyes *x* and *x′*, fixed to the outer face of the cross-bar C′. On the upper surface of the semicircular platform D′, and following the curvature of that platform, is fixed a curved plate, *a′*, with perforations in it at suitable intervals, and through an eyebolt, *b′*, passes a lever, K, with its point fashioned to enter into the perforations in the curved plate just named.

My road-scraper being constructed substantially as hereinbefore described, a team being hitched to it, the operator of the machine stands upon the semicircular platform D′, and by means of the levers H and H′ through the

lifting-bars *t* raises or lowers the scraper F upon or at the desired distance from the surface of the road, which vertical position of the scraper is maintained by the locking-levers *y* and *y'*, which enter into the holes *p* in the scraper-arms E and E'. The machine traveling over the surface of the road causes the scraper to remove its surface as desired, each depth of cut being regulated in the manner stated; but, as in all road-scrapers for work of this kind, in order to remove the dirt from one part of the road and deliver it at another it is necessary to place the scraper in an angular position to the direction of its travel. This is accomplished in my scraper by inserting the end of the lever K into the holes formed in the curved plate *a'*, using the eyebolt *b'* as a fulcrum, forcing around to the right or left, as may be desired, the platform D', which, inasmuch as that platform is fixed to the cross-beams C and C', carry around to the desired angle the scraper F, which in turn is fixed to those cross-beams, and when the scraper has been adjusted to the proper angle in this way it is held in that position by the lever K, which passes through the eye-bolt *b'* the plate *a'* and platform D', and, finally, into an eyebolt immediately below the platform D', as shown in Fig. 2. This way of locking the scraper is sufficient when the scraper is at right angles to the reach-bars A and A'; but when the scraper F is placed diagonally in addition to this locking by the lever K, the brace-bar *z* is hooked into the eyes *x* and *x'*, or that one of them which is brought nearest to the hook on its end when the scraper is diagonally arranged.

Under some conditions of the road surface—that is, when the dirt is hard, or when it is desired to cut or scrape a portion less in width than the length of the scraper F—the mold-boards G may be fixed to the ends of the scraper, and these mold-boards being sharper and presenting less surface will under such circumstances remove the dirt with greater ease than would be the case if the entire surface of the scraper was engaged with the dirt or hard surface, and these mold-boards being on the ends of the scraper the operator can, by one of the levers H and H', elevate one end of the scraper F and correspondingly depress the other, so the depressed mold-board may cut more or less deeply.

In the operation of swinging the scraper diagonally, the curved frame D and platform D', bearing against the friction-rollers *f*, *g*, *h*, *i*, and *k*, are enabled to turn with comparatively small effort, so that one man can unaided make the adjustment. To adjust the levers H and H', or, rather, the fulcra for these levers, the cam-levers *v* and *v'* are raised, and the fulcra are then easily placed in any desired notch, *u*, of the guide-bars *o* and *o'*, in which position they are held by depressing the cam-levers before named.

In addition to the vertical adjustment of the fulcra in the notches *u*, each of the levers H and H' has a slot, a^3, through which the fulcrum b^3 protrudes, and this slot enables the lever to be lengthened and shortened in relation to its fulcrum, and when so adjusted it is held in place by the locking-bar c^3. This locking-bar is simply a plate of metal pivoted at one end to the levers H and H', respectively, and provided with notches in its lower edge, either one of which may embrace the fulcra b^3 as these fulcra are brought opposite the notches. (See Figs. 4 and 5.)

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

1. In a road-scraper, the scraper thereof, in combination with cross-beams C and C', and a semicircular frame fixed to the cross-beam C and above the reach-bars A and A', and a semicircular platform fixed to the cross-beam C' and below the reach-bars A and A', as and for the purpose described.

2. In a road-scraper, in combination, the scraper F, cross-beams C and C', reach A and A', semicircular frame D, semicircular platform D', and friction-rollers *f g h i k*, as and for the purpose described.

3. In combination, a road-scraper, F, a semicircular platform, D', a perforated curved plate, *a'*, an eyebolt, *b'*, and lever K, as and for the purpose described.

4. In combination, a scraper, F, supporting-bars *t*, scraper-arms E and E', guide-bars *n o n' o'*, levers H and H', locking-levers *y* and *y'*, as and for the purpose described.

5. In combination, a scraper, F, levers H and H', notched guide-bars *o o'*, adjustable fulcra b^3, with a slot, a^3, and locking-bars c^3, as and for the purpose described.

6. In a road-scraper, in combination, the scraper F thereof, cross-beams C and C', eyes *x* and *x'*, and a pivoted brace-bar, *z*, as and for the purpose described.

HIRAM D. COOK.

In presence of—
G. M. PLYMPTON,
D. A. CARPENTER.