(No Model.)

3 Sheets—Sheet 1.

P. DEEVY.

WHEELED SCRAPER.

No. 346,147. Patented July 27, 1886.

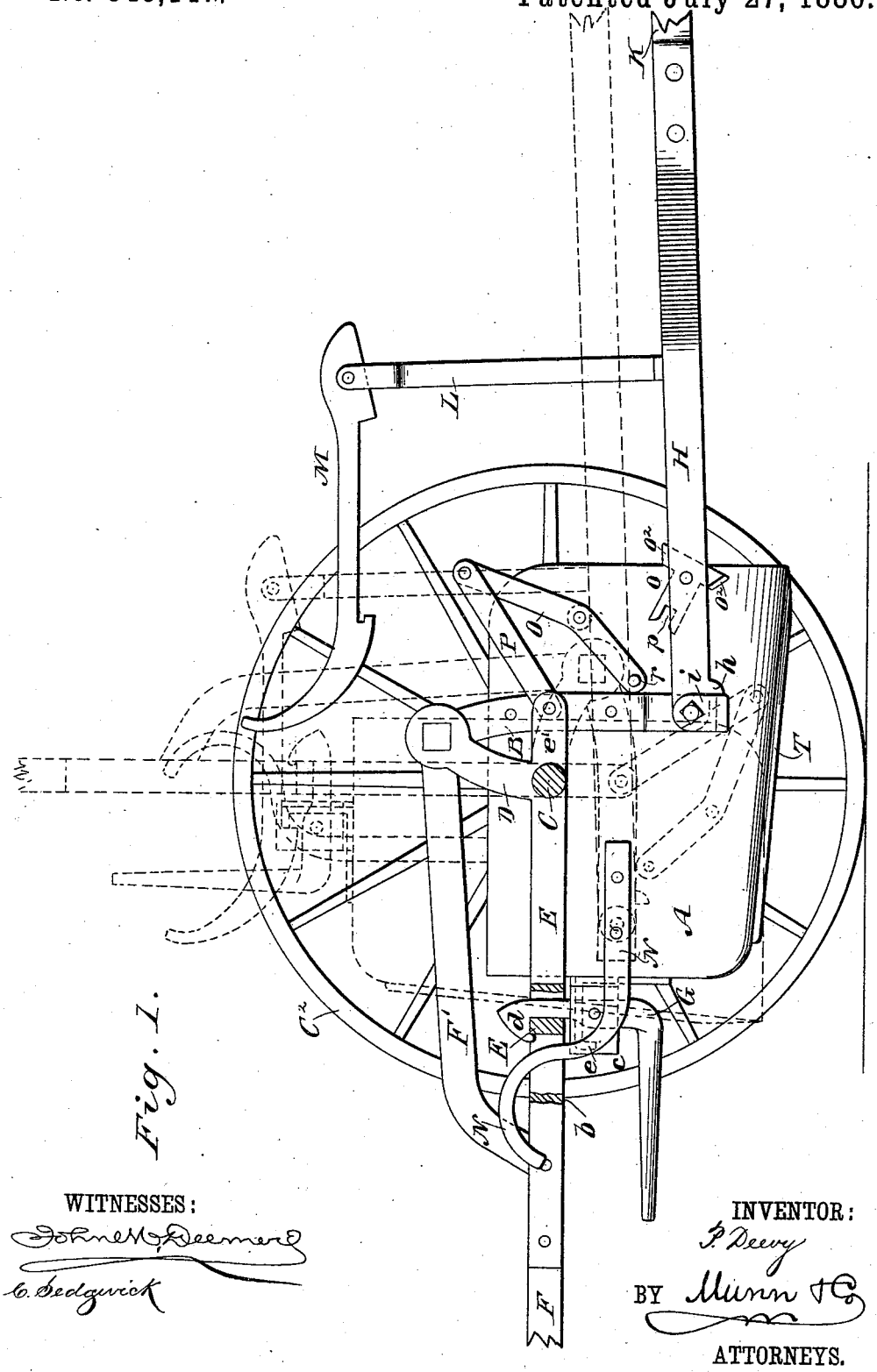

Fig. 1.

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(No Model.)

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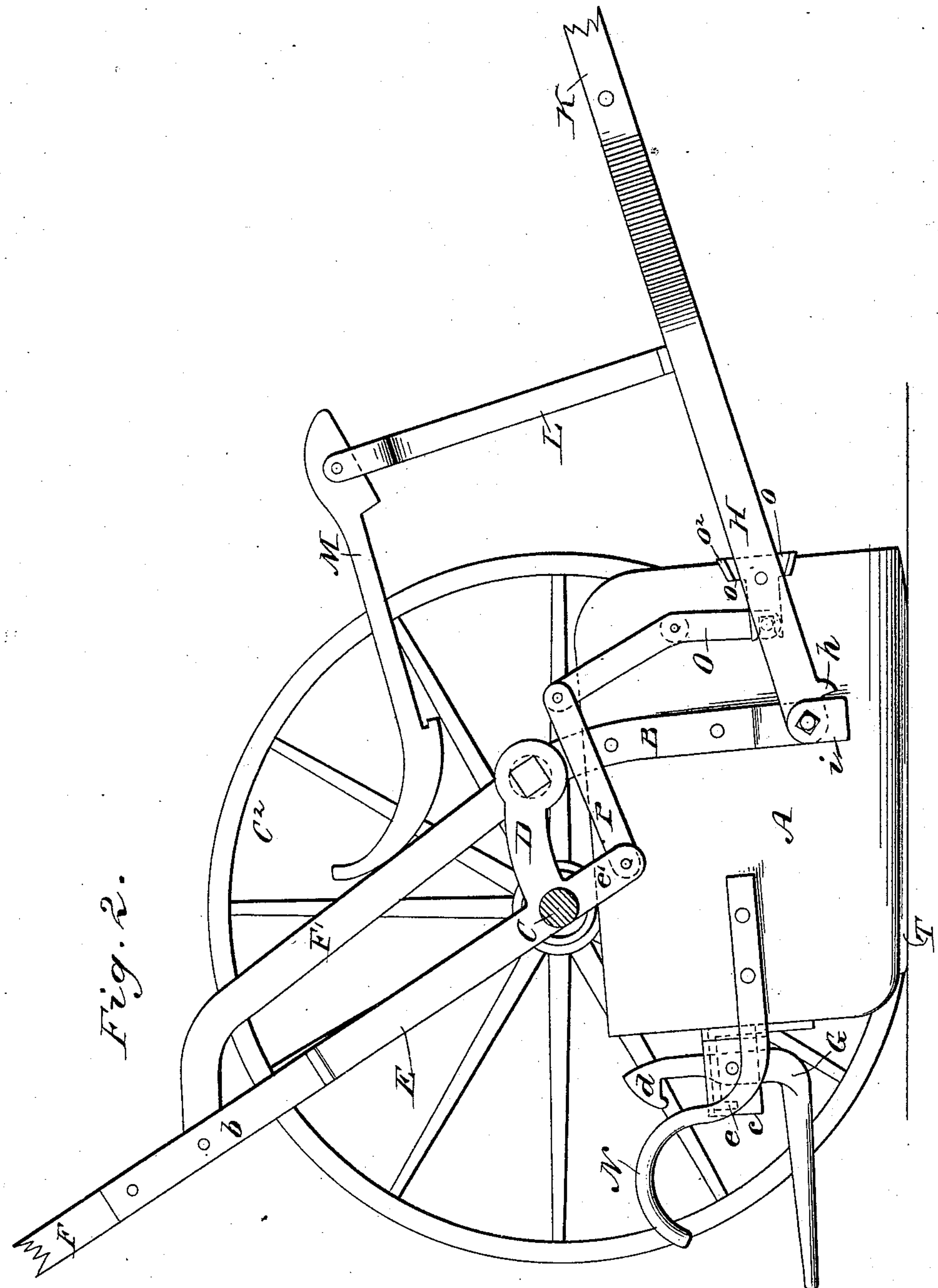

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

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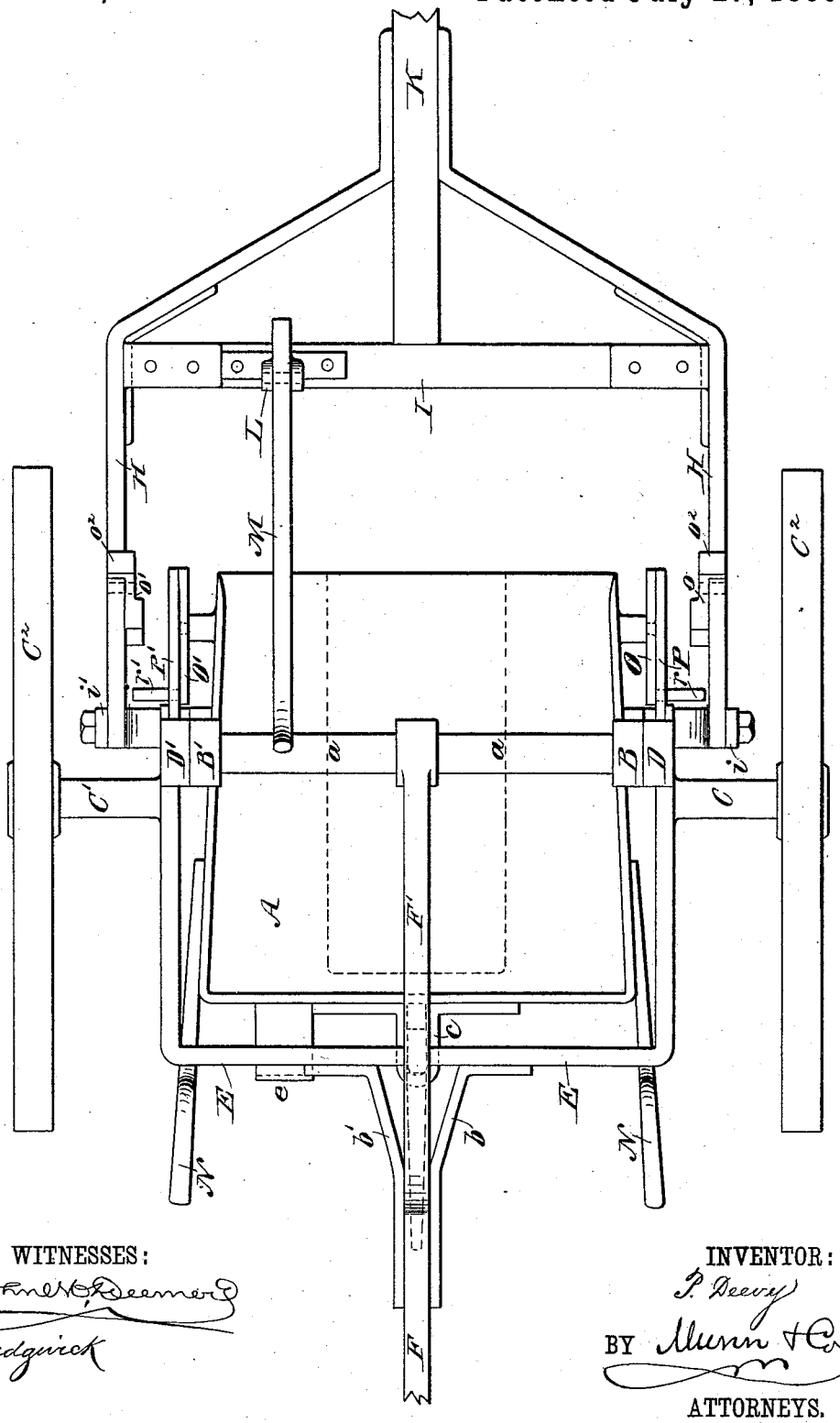

Fig. 3.

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UNITED STATES PATENT OFFICE.

PATRICK DEEVY, OF DUDLEY, IOWA.

WHEELED SCRAPER.

SPECIFICATION forming part of Letters Patent No. 346,147, dated July 27, 1886.

Application filed June 6, 1885. Serial No. 167,897. (No model.)

To all whom it may concern:

Be it known that I, PATRICK DEEVY, of Dudley, in the county of Wapello and State of Iowa, have invented certain new and useful Improvements in Wheeled Scrapers, of which the following is a full, clear, and exact description.

This invention relates to improvements in wheeled scrapers; and it consists of the combinations of parts, substantially as hereinafter set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my improved scraper, partly in section, showing in full lines the positions of the parts when the bowl is loaded and raised from the ground in order to transport the load to the dumping place, and also showing, in dotted lines, the positions the parts assume after the load has been dumped, this also being the position in which the parts are placed when the scraper is moved from place to place. Fig. 2 is also a side elevation, partly in section, showing the scraper-bowl in position to be filled; and Fig. 3, plan view of my improved scraper.

The scraper-bowl A is made in the general form of a scoop, except that instead of having parallel sides it is formed so as to be somewhat narrower at its open end or mouth than at its closed rear end, as shown in Fig. 3. This construction is adopted in order to give a wedge-like action to the bowl when it is being filled, and also in order that the entering earth will not bind upon the inner surfaces of the sides of the scraper-bowl.

To the sides of the bowl A there are secured the suspending-bars B B′, which extend above the upper side of the bowl, and are there provided with eyes, through which passes the cross-bar *a* of the cranked axle of the scraper.

The main supporting-frame of the scraper consists, first, of the cranked axle, which is made up of the journals C C′, that carry the wheels C² of the scraper, the crank-arms D D′, to which the journals C C′ are secured, and the crank-bar *a*, from which, as before mentioned, the bowl A is suspended by means of the bars B B′; second, of the lever-frame E, which is made integral with or rigidly secured to the crank-arms D D′, and extends around the rear end of the bowl, being there provided with two brace-rods, *b b′*, which project outward and are bolted to the lever F, said lever being rigidly secured to the cross-bar *a* by means of its upwardly-curved forward end F′. As the lever F is lowered, the crank-arms D D′ are brought nearer to the vertical plane of the fulcrum of the lever—*i. e.*, the journals C C′—and consequently the effect of the power applied is increased as the lever approaches the ground.

All parts of the supporting-frame are rigidly connected, and are so shaped and formed that when the lever F is in a horizontal position, as shown in full lines in Fig. 1, the bowl A will hang in the position indicated in said figure, its rear end being upheld by means of the gravitating latch G, which is pivoted to a projection, *c*, extending outward from the back of the scraper-bowl in position to allow the latch G to engage with the frame E, by means of its hooked catch-arm *d*, the projection *c* acting as a stop to limit the range of motion of the lever F. The gravitating latch G is formed in the shape of a bell-crank, and is preferably pivoted to the projection *c* at about the center of its catch-arm, which, as shown in the drawings, is beveled off at the top, while the lower or lever arm projects outward from the bowl and tends by its weight constantly to throw the upper end of the catch-arm outward from the bowl, so that while the bowl itself acts as a stop to limit the throw of the latch, and prevents the upper end of the catch-arm from being carried out too far, the latch will always act to automatically catch upon the bar E when the lever F is brought down to a horizontal position, or in contact with the projection *c*, the bar E being, by the throw of the lever, brought against the beveled surface of the catch-arm *d*.

The draft-bars H H′ are pivoted in loops *i i′*, formed at the lower ends of the suspending-bars B B′, and are connected in front of the scraper by the brace-piece I, beyond which the said draft-bars are bent in so as to act as braces to the tongue or pole K. By this arrangement I secure a very strong connection

between the draft-bars and the scraper, and at the same time utilize the draft-bars as braces for the tongue K.

The draft-bars B B′ are so formed as to bring the loops *i i′* in the best position to properly balance the load.

In order to prevent the tongue from dropping to the ground, and also in order at certain times to hold the parts in their proper positions, I provide each draft-bar with a shoulder, as *h h′*, which bear against the loops *i i′*, as shown in Fig. 1.

The brace-piece I carries an upright standard, L, the top of which is slotted, and within the slot so formed there is pivoted a hooked catch-arm, M, which serves to hold the scraper-bowl and its connections in the position shown in dotted lines in Fig. 1, by engaging with a flange, *e*, on a projection, *f*, that is secured to the back of the scraper-bowl. The slot in the standard L, in which the catch-arm M is pivoted is only just deep enough to allow for the necessary range in the movement of said arm, so that when the pawl is in the position shown in Fig. 1, full lines, the catch-arm will be supported, as illustrated in said figure. The free end of the catch-arm M is curved upward, so as to ride over the bar *a* and the back upper edge of the scraper-bowl, and also over the bar E, such formation being adopted in order that when the bowl is dumped, by being pulled over to the position shown in dotted lines in Fig. 1, the catch will automatically engage with the flange *e* and hold the parts in the position indicated until the engagement is broken by the operator.

When it is desired to fill the scraper-bowl, the latch G is thrown out of engagement with the frame E, and the bowl dropped to the position shown in Fig. 2, the operator at this time having hold of the handles N N′, by means of which the bowl is held to its work and tilted to the desired angle. In order, however, to prevent the bowl from being accidentally dumped during the process of filling, I pivotally secure to each of the draw-bars a short strip of metal, as *o o′*, in the rear end of which there is a longitudinal slot, as *p p′*.

Secured to studs upon the sides of the scraper-bowl, at points near its forward end, are two arms, O and O′, which are preferably slightly bent, as shown, and which are pivoted to their supports at points slightly below their centers. The upper ends of these arms O O′ are connected to projecting ends or lugs *e′* of the frame E by links P and P′, and at their lower ends these arms O O′ carry pins *r r′*, that are arranged to engage with the slots *p p′* when the bowl A is lowered to be filled. The oscillating strips *o o′* are each provided with two outwardly-extending lugs or ears, o^2, one of the lugs being arranged above the draft-bar, while the other lug is below said bar, so that while a certain amount of play is allowed the strips will be held within a limited range of motion, and will thus prevent the bowl from being dumped until the pins *r r′* are withdrawn from engagement with the slots *p p′*. After the bowl is filled the lever F is lowered until the bowl is raised from the ground and the catch-arm of the latch G brought into engagement with the frame E, and as the lowering of the lever F carries forward the projecting end *e′* of the frame E the upper ends of the arms O O′ are in turn forced forward through the medium of the links P P′, which movement of the arms O O′ will withdraw the pins *r r′* from the slots *p p′* and leave the bowl free to be dumped. This dumping of the bowl is accomplished by forcing the lever F upward until the forward edge of the scraper is brought in contact with the ground, and as at this time the team employed to drag the scraper must be in motion, the continued advance of the scraper, the forward edge of the bowl being held stationary by its contact with the ground, will force the parts to the position shown in dotted lines in Fig. 1.

The continual wear incident to the dragging of the bottom of the scraper upon the ground would soon wear it through if it was unprotected, and to guard against this danger I apply a strip of steel, as T, which I rivet to the bottom of the bowl.

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

1. A wheeled scraper provided with an automatic locking device consisting of a catch-arm, as M, pivotally mounted on a standard, as L, the free end of said catch-arm being curved upward, as shown, all substantially as described.

2. In a wheeled scraper, the combination, with a crank-axle, of a scraper-bowl pivotally connected thereto by suspending-arms, draft-bars, and a mechanism for preventing the accidental dumping of the bowl, the same comprising slotted pivoted strips connected to the bowl, and having detachable connection with jointed arms of the lever-frame between which the bowl is supported, substantially as set forth.

3. A wheeled scraper provided with a mechanism consisting of a slotted strip pivotally connected to and having a limited range of motion upon the draft-bars, a lever-arm pivoted to the scraper-bowl and provided with a pin at its lower end adapted to engage with the slotted strip, and a link connecting said lever-arm with the main-lever frame, substantially as set forth.

4. In a wheeled scraper, the combination, with the cranked axle, of a scraper-bowl pivotally connected thereto, draft-bars, as H H′, provided with slotted vibrating strips, as *o o′*, lever-arms, as O O′, links, as P P′, and a main operating-lever, substantially as described.

5. In a wheeled scraper, the combination, with a crank-axle, of a scraper-bowl and a manipulating-lever supported by a frame, E, within which the bowl swings, and an arm, F′, arranged above the bowl, substantially as described.

6. In a wheeled scraper, the combination of the following-named elements: bowl A, suspending-arms B B′, crank-axle lever F, the frame of which is arranged so that the bowl may swing therein, latch G, having an extending manipulating-arm, and stop *c*, substantially as described.

7. In a wheeled scraper, the combination, with a crank-axle, of a scraper-bowl, suspending-arms formed with eyes at their upper ends, through which eyes the cross-bar of the crank-axle passes, and with loops at their lower ends, and draft-bars formed with shoulders *h*, substantially as described.

PATRICK DEEVY.

Witnesses:
JOE. J. CONNELL,
H. W. CARVER.