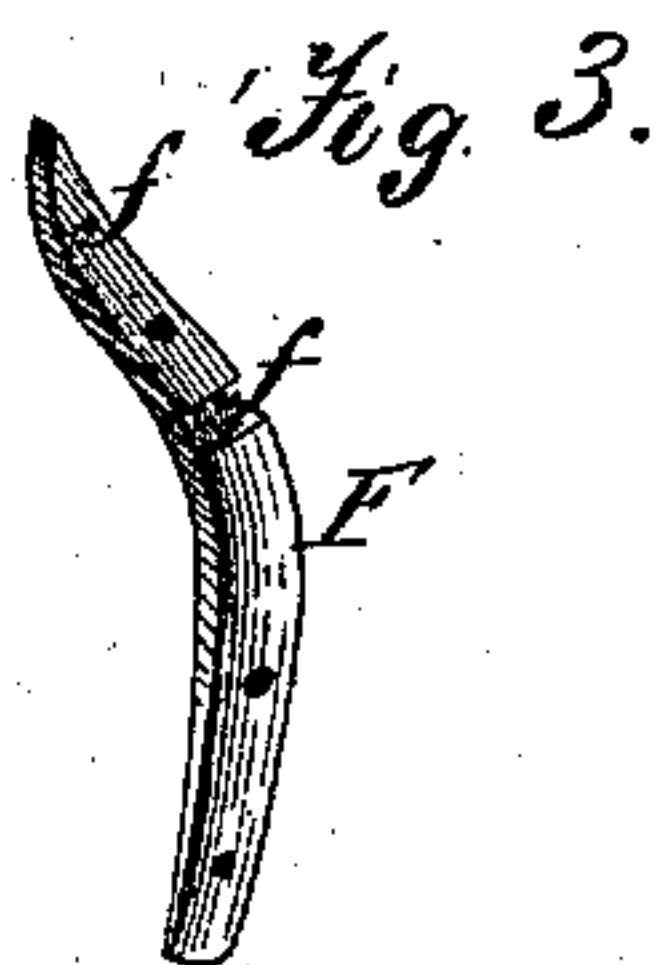
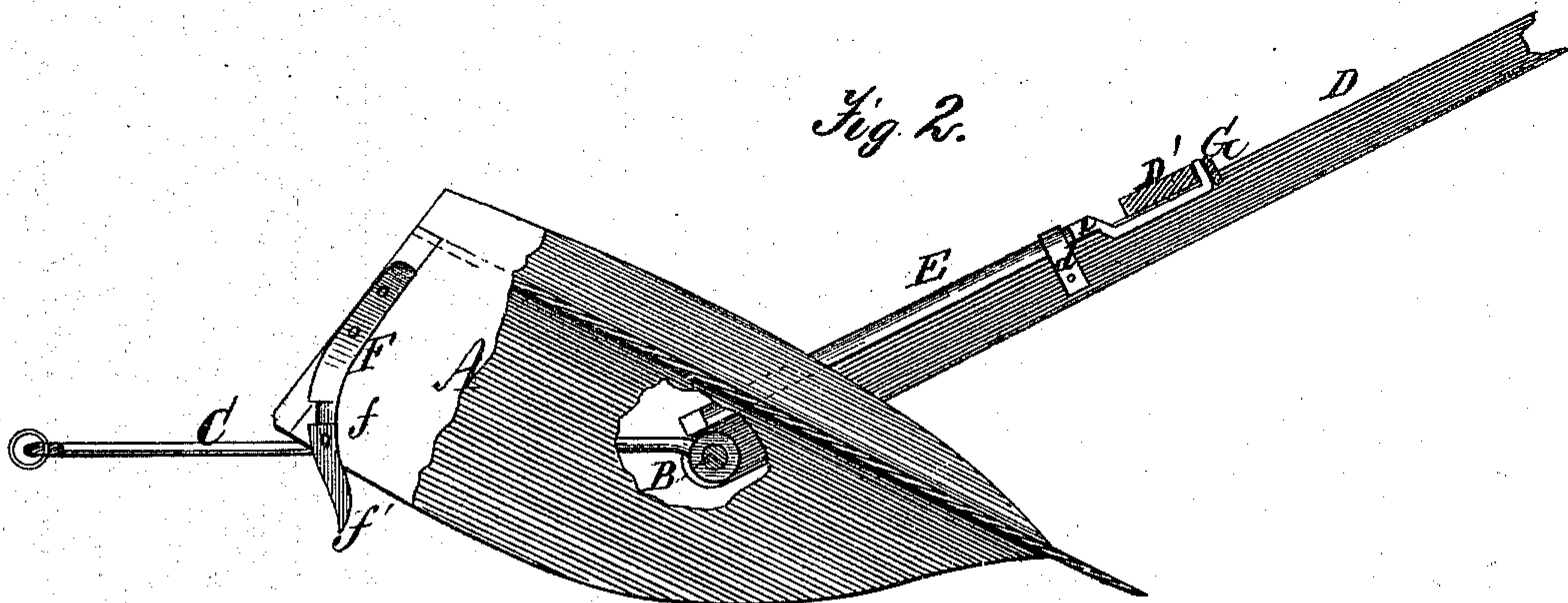
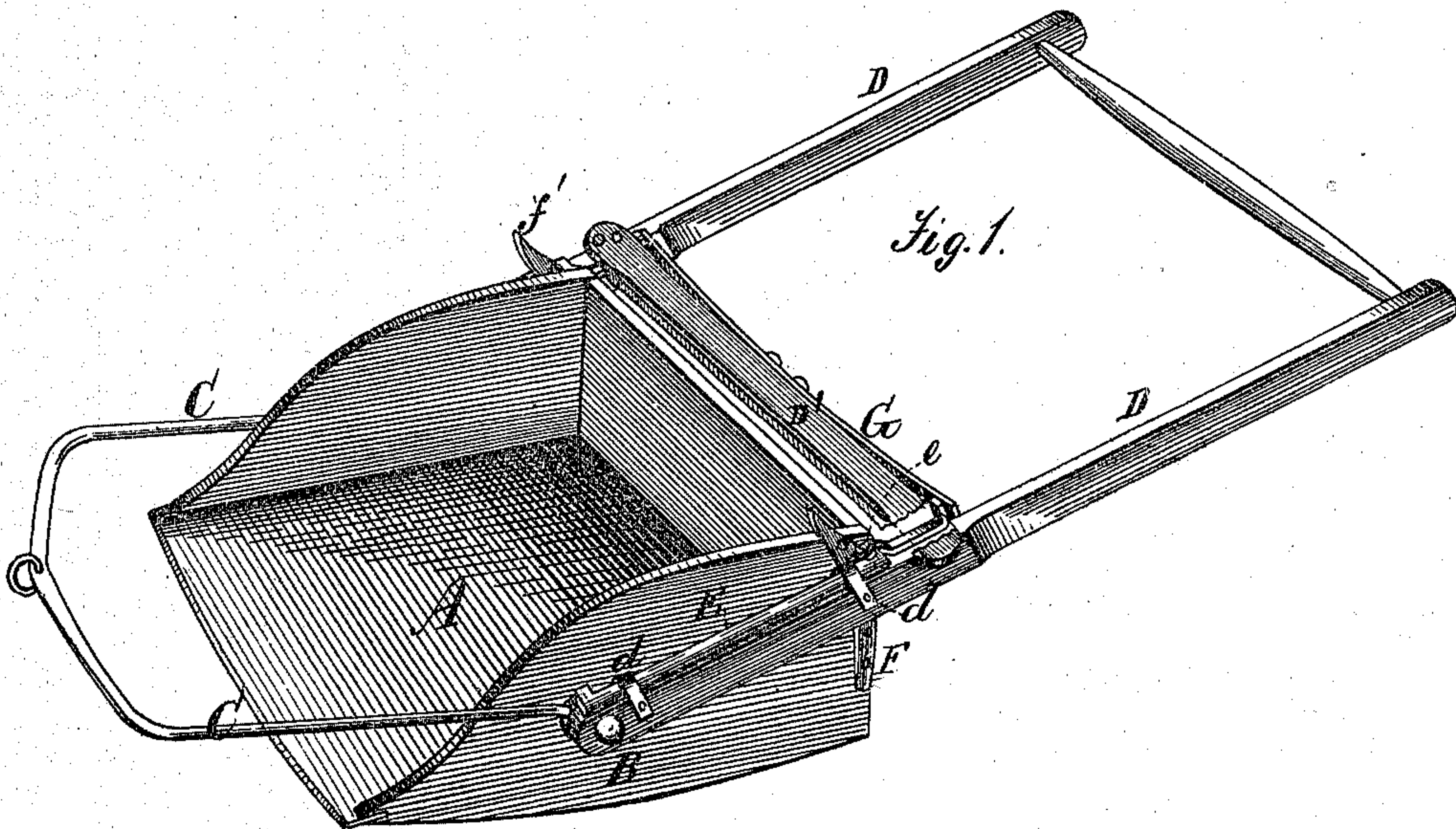


J. A. STAFFORD.

Improvement in Revolving Road-Scrapers.

No. 131,717.

Patented Sep. 24, 1872.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOAB A. STAFFORD, OF GRANVILLE, OHIO.

IMPROVEMENT IN REVOLVING ROAD-SCRAPERS.

Specification forming part of Letters Patent No. 131,717, dated September 24, 1872.

To all whom it may concern:

Be it known that I, JOAB A. STAFFORD, of Granville, in the county of Licking and State of Ohio, have invented certain Improvements in Revolving Road-Scrapers, of which the following is a specification:

The first part of my invention, relating to the mechanism of locking the scoop to the handles, consists in the combination, with the handles and the bail-bars, of an independently-movable detent, so arranged with relation thereto and the catch that, as the rear end of the machine is tilted up beyond a certain point, either by hand or automatically by the scoop encountering a root or other obstruction, the said detent will be liberated from the catch and allow the scoop to revolve to discharge its load. The second part of my invention consists in the construction of the catch, whereby it is made to subserve the threefold purpose of a guide and keeper for the detent, of a brace for strengthening the connection between the respective side piece and the tail-board of the scoop, and of a spike or grab for striking into the earth as the scoop is turned upside down, and causing it to complete its revolution and right itself automatically ready to scrape up another load.

Figure 1 is a perspective view of the improved scraper. Fig. 2 is a sectional elevation, showing the scoop in the act of dumping the load; Fig. 3, a perspective view of the catch and grab on an enlarged scale.

The same letters of reference are employed in all the figures in the designation of identical parts.

The scoop A may be of any preferred construction. The one shown is made with a metallic bottom and with wooden tail-board and side pieces; the latter, projecting beneath the bottom, form runners of required curvature, which support the machine in transporting it from place to place, whether empty or loaded. Each side board is provided with an outwardly-projecting horizontal stud or bolt, B, to which both the bail-bars C C and handles D D are pivoted, so as to carry the scoop between them, in the manner shown. The locking of the scoop to the handles is effected by sliding bars E, which are attached to the handles by straps *d d*, and constructed with projecting detents *e*, adapted to enter corresponding notches

in the catches F, which are rigidly secured to the scoop, in manner hereafter to be explained. The sliding bars extend forward to the fulcrums of the handles, and their extreme front ends are arranged to lie within the planes of oscillation of the bail-bars, so that the latter, as the handles are turned up beyond what is necessary to give to the scoop the required inclination or dip for scraping, will come in contact with the ends of these sliding bars, and, pushing them back, release their detents from the catches on the scoop. This operation will take place whether the handles are turned up by hand or caused to rise automatically with the rear end of the scoop when the cutting front edge of the latter encounters a root or other obstruction. The moment the detents are thus liberated the scoop will begin to turn over and dump its load, the draft on the bail being continued, while the handles fall back by their own gravity, because they are unlocked from the scoop when still inclining rearward at a considerable angle. Thus an incidental, though a none the less important, advantage results from this locking-and-releasing mechanism in that the handles can under no circumstances go over and strike the horses. The rear ends of the sliding bars play through guides on the cross-bar D' of the handles, and bear against the ends of a spring, G, which causes the locking of the detents to the catches when brought into line with the notches therein. The bars are bent and terminate in upturned lips, as shown best in Fig. 2, to check their movements in each direction at the proper points.

The described construction of the movable detents and their arrangement with relation to the handles, bail-bars, and catches are simple and effective; but they are capable of many modifications—for instance, the catches may be placed on the handles and the movable detents on the scoop. I therefore wish it to be distinctly understood that my invention is not limited to the peculiar construction and arrangement of the parts composing the locking-and-releasing mechanism, as hereinbefore specified; but that it covers every such mechanism wherein are employed substantially the same, though modified, elements in combination, producing the same results.

The catches F are bars of metal, with notches *f* for the reception and retention of the mova-

ble detents, being suitably curved and beveled to guide the detents into said notches in the act of locking the scoop to the handles. The bars project above the top of the scoop, and, being pointed, form spikes or grabs f' , which strike into the earth as the scoop is turned upside down in dumping its load, and, preventing the scoop from moving forward, cause it to make another half-revolution to right itself. This done, the handles are borne down a little to lock the detents, when the machine is ready for another operation. Advantage is taken of the curved form of the combined catches and grabs to use them also as braces for strengthening the connection between the tail-board and the side boards, the bars being to this end spiked or otherwise secured to the tail-board at their lower ends and to the respective side boards at their upper ends, in the manner clearly shown.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a revolving scraper, the combination, with the handles and the bail-bars, of a detent which moves independently of the handles,

and which, as the rear end of the machine is tilted up either by hand or automatically, is liberated by the bail-bars from a catch to unlock the scoop from the handles, substantially as set forth.

2. The combination, with the handles D and bail-bars C, of the spring G and sliding bars E, which are constructed with detents e , and arranged in relation to the catches F, substantially as set forth.

3. The catches F f , curved and beveled, as set forth, and terminating in projecting spikes or grabs f' , substantially as specified.

4. The arrangement of the curved combined catch and grab F in relation to the side board and tail-board of the scoop, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOAB A. STAFFORD.

Witnesses:

W. E. JACOBS,
J. V. LEE.