B. SLUSSER.

ROAD-SCRAPER.

No. 183,223. Patented Oct. 10, 1876.

Fig. 1.

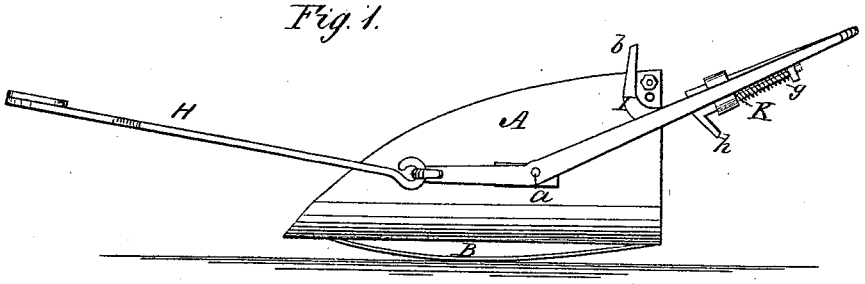


Fig. 4.

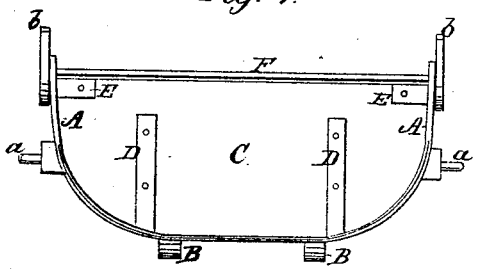


Fig. 2.

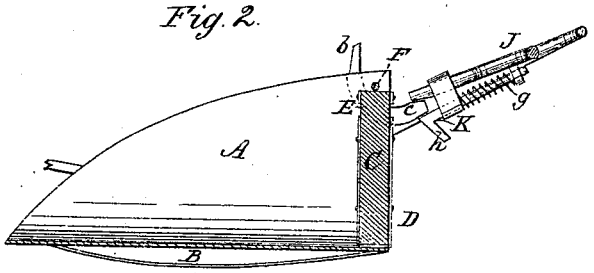
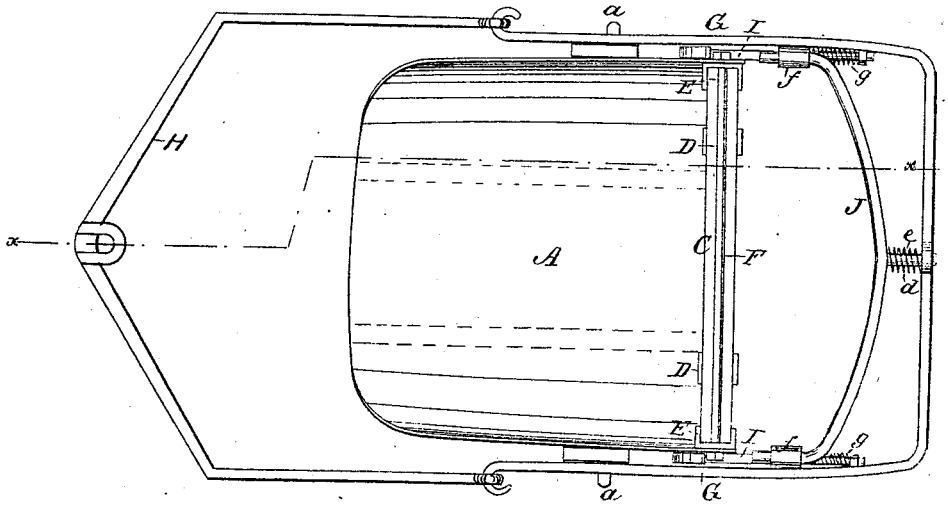


Fig. 3.



WITNESSES:

W. W. Hollingsworth

Solon C. Kemon

INVENTOR:

Benj. Slusser

BY

Munn & Co

ATTORNEYS.

JAMES R. OSGOOD & CO. BOSTON.

UNITED STATES PATENT OFFICE.

BENJAMIN SLUSSER, OF SIDNEY, OHIO.

IMPROVEMENT IN ROAD-SCRAPERS.

Specification forming part of Letters Patent No. **183,223**, dated October 10, 1876; application filed August 8, 1876.

To all whom it may concern:

Be it known that I, BENJAMIN SLUSSER, of Sidney, in the county of Shelby and State of Ohio, have invented a new and Improved Revolving Earth-Scraper; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a side elevation; Fig. 2, a longitudinal vertical section through line *x x*, Fig. 3; Fig. 3, a plan view. Fig. 4 is a front view.

My invention relates to certain improvements in revolving earth-scrapers designed for general purposes of excavating and moving dirt; and it consists in the particular construction and arrangement of the scraper proper, made of a single sheet of steel, bent so as to secure the best results in lightness of draft and perfection of filling, and provided with runners and an end-board of peculiar arrangement, intended to improve the operation and increase the durability of the device. The invention also consists in the arrangement of the scraper with respect to its frame, the said scraper being pivoted therein, so as to be held in rigid position by a spring-catch and locking devices, or allowed to revolve with a complete revolution to dump the contents, all as hereinafter more fully described.

In the accompanying drawing, A represents the body of the scraper, which is made of a single plate of steel, cut out into a nearly semicircular form, and bent up at the sides, which form permits the same to be most readily and perfectly filled with the lightest draft, while the thin steel gives the requisite lightness, strength, and ease of cut. Upon the bottom of the scraper are arranged two or more rockers or runners, B B, made of steel, or wood faced with steel. Said runners are riveted to the bottom of the scraper in the line of draft, and, being made rounded or curved throughout their entire length, serve also as rockers. These runners or rockers secure important advantages, in that they stiffen the scraper against breakage, diminish the wear on the scraper, and lighten the draft. Being rounded to form rockers, moreover, they enable the operator to rock the scraper, and thus more readily regulate the depth the scraper is intended to go. The back C of the scraper is, by preference, made of wood, and is secured to the scraper inside of its rear edge by means of iron straps D and E. These straps D are securely riveted to the scraper at the bottom, and extend up on each side of the back, and are riveted also to it, while the shorter straps E are riveted to the upturned sides of the scraper, and are riveted to the back in a similar manner, the whole being strengthened and provided with additional security in the shape of a tie-rod, F, extending across from the upturned edges just above the upper edge of the back. The frame in which the scraper, as thus described, is pivoted consists, mainly, of a bar of iron, G, extending to the rear, and bent twice at right angles, so as to form the handle. In this frame the scraper is pivoted at *a*, while the front ends of said frame project forward, and are secured with a loose connection to the bail H, constituting the draft attachment. I are curved bars, attached to the rear sides of the scraper, and projecting upwardly at *b*, to form grappling-extensions, and projecting rearwardly at *c*, to form locking-bolts. The first of these extensions, *b*, serves, in the revolution of the scraper, when the latter is dumped, to catch into the earth and compel the scraper to make a complete revolution, instead of lying upside down, and thus restore it automatically to a position ready to be filled again. The other extensions, *c*, of the curved bars I form locking-bolts, that co-operate with devices about to be described to hold the scraper in a rigid position during the filling operation. These devices consist of a draw-bar, J, bent and fitted inside of bar G, as shown, so as to be easily drawn back by the operator. This draw-bar is provided with a central stud, *d*, that passes through a guide and supporting-hole in the frame G, around which stud is arranged a spiral spring, *e*, whose function is to press said draw-bar forward. The front ends of this bar pass through keepers or guides *f f*, attached to the main frame, and, when projected forward by spring *e*, serve to form one side of the notch which contains the locking-extension *c c*. The other side of the said notch is formed by a spring-seated catch, K,

arranged in guides, and provided with a spring, *g*, and a beveled or inclined head, *h*.

The operation of the device is as follows: The rear extension or locking-bolts of the scraper being securely held by the spring-catch and draw-bar, and the team attached to the bail, the scraper is drawn forward and filled, its load being regulated by the operator in the rear through the instrumentality of the rockers. The scraper is thus drawn to the desired place with the bail swiveling upon the front pivots, and in front of the center of gravity of the load. In dumping the same, the draw-bar is retracted, and the draft-strain being transferred to the rear pivots *a*, (which are in the rear of the center of gravity,) the scraper with its load revolves upon said rear pivots to discharge the load, while the grappling-arms and the locking-bolt successively catch in the earth to complete the revolution, until the locking-bolts strike the inclined heads of the spring-seated catch, and compel the automatic engagement of the same, for the shifting of the pivots to the front again, ready for the next load.

In defining more clearly my exact invention, I would state that I do not claim the rockers, broadly, as the same are old when formed upon the bottoms of the vertical sides; but when arranged close together, as shown, and at a distance from the sides, they have a special function with the scoop curved in transverse direction, in that they stiffen it, allow its oscillation from side to side, as well as in the line of draft, and permit the easy turning of the scraper as upon a central pivot. I am aware of the fact, also, that the arrangement of the draw-bar with a spring and a set of locking devices is not, broadly, new, and, with respect to these features of my invention, I claim only my particular construction.

Having thus described my invention, what I claim as new is—

1. The combination, with the scraper curved in transverse direction, of the rockers B B, located in alignment, with the draft upon the convex bottom at a distance from the sides, substantially as and for the purpose described.

2. The combination of the scraper A, end-board C, straps D E, and tie-rod F, substantially as and for the purpose described.

3. The combination, with the scraper A, of the bar G, attached thereto by means of pivots and locking devices, and extending forward of the pivots, to form connection with the draft-bail, and extending to the rear of the same to form a handle, substantially as and for the purpose described.

4. The combination, with the scraper having a locking-bolt, of the bar G, the draw-bar J, having stud *d* and spring *e*, the spring-seated catch K, and keepers *f f*, constructed and arranged substantially as and for the purpose described.

5. The combination, with the scraper A, of the curved bar I, attached to the rear upper portion of the sides of the same, and having upwardly-projecting end *b*, to form a grappling-extension, and rearwardly-projecting end *c*, to form a locking-bolt, substantially as described.

BENJAMIN SLUSSER.

Witnesses:

A. BRADFORD,

N. W. MAXWELL.