(No Model.)

J. W. SKILLEN.

EARTH SCRAPER.

No. 256,752. Patented Apr. 18, 1882.

Fig. 1.

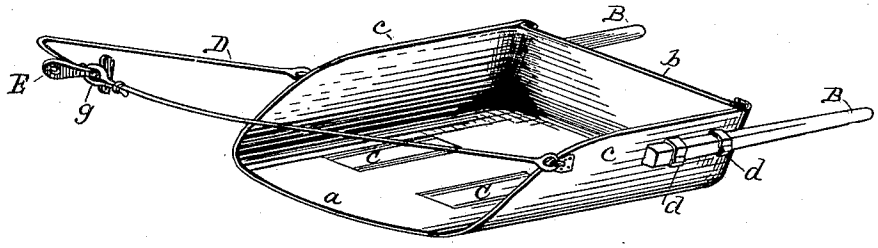


Fig. 2.

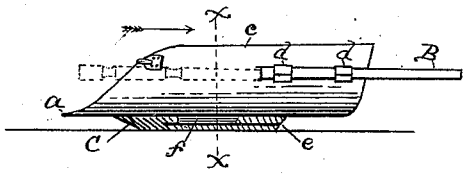


Fig. 3.

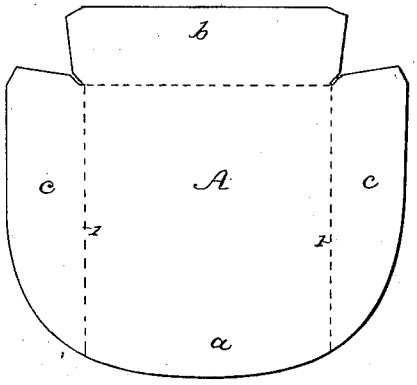


Fig. 4.

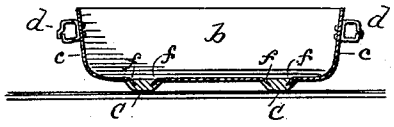


Fig. 5.

Fig. 6.

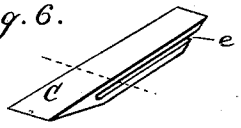


Fig. 7.

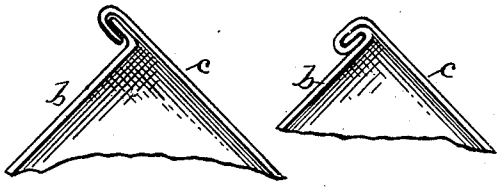


Fig. 8.

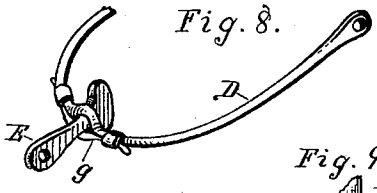
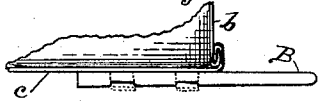


Fig. 9.



WITNESSES:

Thos. Houghton.

Amos W. Hart

INVENTOR:

Jno. W. Skillen

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN W. SKILLEN, OF SIDNEY, OHIO.

EARTH-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 256,752, dated April 18, 1882.

Application filed February 18, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. SKILLEN, of Sidney, in the county of Shelby and State of Ohio, have invented a new and useful Improvement in Earth-Scrapers; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of my invention is the production of an earth-scraper which shall combine maximum lightness, strength, and economy of construction with adaptation for convenient and rapid attachment and detachment of the handles and shoes.

The body of the scraper is constructed of one piece of metal, preferably sheet-steel, and its sides and back united by a firm lock-joint, without the aid of rivets or analogous devices. The handles are likewise attached by means of clamping-rings, which permit them to be easily and quickly inserted in place, or removed when required for shipment of the scraper or other purpose.

In accompanying drawings, forming part of this specification, Figure 1 is a perspective view of the scraper complete. Fig. 2 is a side view with one of the shoes in section. Fig. 3 is a plan view of the piece from which the body of the scraper is formed. Fig. 4 is a vertical cross-section of the scraper on line *x x*, Fig. 2. Figs. 5 and 6 are respectively a cross-section and perspective view of one of the shoes detached. Fig. 7 illustrates the construction of the joint between the back and sides of the body of the scraper. Fig. 8 illustrates the attachment of the coupling device to the bail. Fig. 9 is a detail plan view of a portion of the scraper.

The body of the scraper is constructed of one piece, A, Fig. 3, of sheet-steel, which is cut out in the flat by means of suitable dies and afterward bent into the proper shape—that is to say, I take a rectangular sheet and cut one end, *a*, in nearly circular outline to form the front edge of the scraper, and the other or rear end is notched or cut out at each corner, thus leaving a tail-piece, *b*, which subsequently forms the back of the scraper. The lateral portions *c c* of this piece A are bent upward on the dotted longitudinal lines 1 1, into the inclined position required for the sides of the scraper, Fig. 1, and the tail-piece *b* is bent upward into the required corresponding relation to such sides. In place of uniting the juxtaposed edges of these parts *c b* by means of rivets, as usual heretofore, I lock them together by means of hook-shaped flanges—that is to say, one of such edges is turned inward and the other outward, as shown in Fig. 7, and the two then engaged and rolled or otherwise flattened, thus forming a close and firm lock-joint without the aid of any extraneous device.

The wooden handles B B are attached by open rings *d*, which are riveted or bolted in place on the sides *c c* of the scraper. These rings *d d* are formed from a single elastic strip of metal. The front ring is slightly larger than the rear one, and the handles B are correspondingly larger at the front end, being tapered, and also circumferentially grooved or reduced in diameter at the points where the rings clamp them, Fig. 9. The handles are inserted in the rings *d* by driving them from the front, as indicated in dotted lines, Fig. 2, until the rings *d* clasp them at the points shown.

Two metal shoes, C C, are applied detachably to the bottom of the scraper. These shoes are larger at their front ends, being tapered toward their rear ends; also, provided with lengthwise side grooves, *e e*, to receive wings *f f*, formed by slitting the bottom of the scraper lengthwise and crosswise and bending downward at an acute angle, Fig. 4, the edges of the portions being thus outlined and partly severed from the surrounding metal. The shoes C C are attached by inserting their rear ends between the opposite wings *f f* of a pair, and forcing them backward until arrested by contact of the wings with the end walls of the grooves *e*. It is obvious that the shoes may be readily removed by reversing this operation—namely, by driving them backward or toward the front. The shoes, being thus secured without rivets, may be readily detached when required.

The curved bail D is attached to the scraper A in the usual manner. A device, E, for coupling the team thereto is swiveled to its front end, the bail being bent upward at that point, Figs. 1, 8, to receive the shank of said coupling device, and a metal keeper, *g*, applied beneath it and attached to the bail in any suitable manner. This combination and construction

of parts produces a universal joint, which enables the scraper to be turned laterally or otherwise manipulated, as required, without injury to the team or scraper.

By the construction above described I produce a scraper which is distinguished by lightness, strength, rigidity, durability, adaptation for shipment in compact form, and for convenient replacement or substitution of detachable parts.

What I claim as new is—

1. The body of the scraper, formed of a single piece of metal, and having its rear end and sides united by hook-shaped flanges which interlock, as shown and described.

2. The combination of elastic open rings attached to the body of the scraper, with the handles having circumferential grooves to receive said rings, for the purpose specified.

3. The body A of the scraper, having parallel wings or flanges projecting from its under side, and formed in one piece therewith, as and for the purpose shown and described.

4. The combination of the detachable shoes having lengthwise side grooves, with the body of the scraper having wings or flanges bent downward from the bottom thereof and entering said grooves, as shown and described.

JOHN W. SKILLEN.

Witnesses:
W. D. DAVIS,
D. L. BUSH.