(No Model.)

# W. E. KILBORN.

## EARTH SCRAPER.

No. 377,523. Patented Feb. 7, 1888.

Fig. 1.

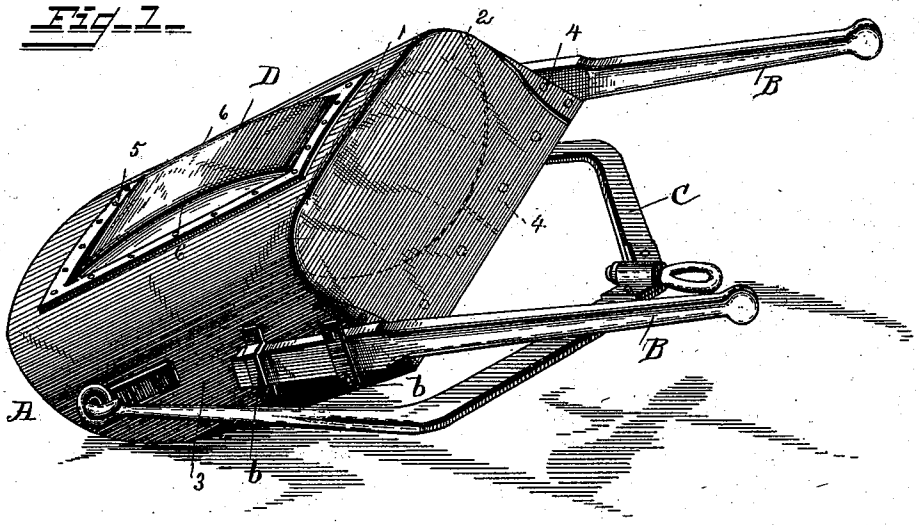



Fig. 2.

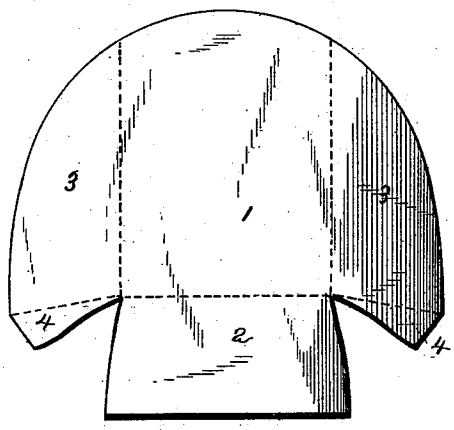



Fig. 3.

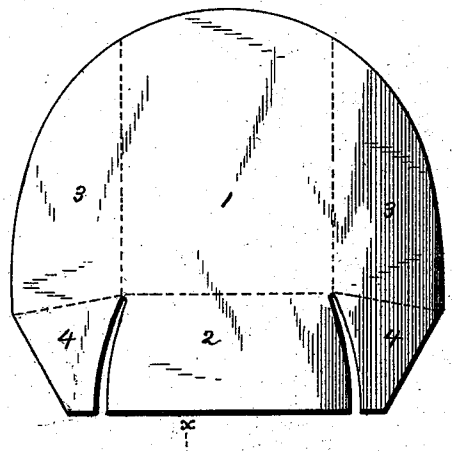



Fig. 4.

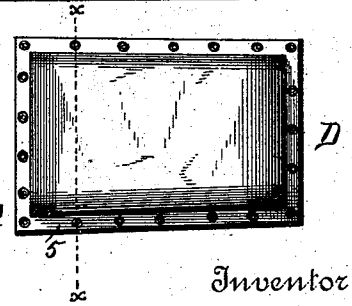



Fig. 5.




Witnesses

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# UNITED STATES PATENT OFFICE.

WILBER E. KILBORN, OF SIDNEY, OHIO.

## EARTH-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 377,523, dated February 7, 1888.

Application filed November 5, 1887. Serial No. 254,407. (No model.)

*To all whom it may concern:*

Be it known that I, WILBER E. KILBORN, a citizen of the United States of America, residing at Sidney, in the county of Shelby and State of Ohio, have invented certain new and useful Improvements in Earth-Scrapers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain improvements in earth-scrapers; and it has for its objects, first, to secure and re-enforce the back of the scoop in a neat, effectual, and inexpensive manner, and, secondly, to provide the scraper with a runner adapted to give the best results in respect to the facility and ease with which the scraper may be turned, and also in respect to its lightness and the durability of its attachment.

The invention consists in a scraper-scoop formed from a single metal blank, the sides being curved upward from the bottom the entire length of the scoop, and provided with integral wings for securing and re-enforcing the back, said wings varying in width from their upper to their lower ends in such manner as to form smooth and neat coverings for the joints between the sides and back, and also to locate their strongest portions on those parts of the back subject to the greatest strain.

The invention further consists in the combination, with the scoop, of a runner stamped up from a metal plate, wider at its front end than its rear end, provided with attaching-flanges, and having rounded sides, all as and for the purposes hereinafter set forth.

In the accompanying drawings, Figure 1 is a perspective view of a scraper illustrating in full and dotted lines the re-enforced back, and also showing my improved runner attached to the bottom of the scoop. Fig. 2 is a plan view of a blank from which the scoop is formed, the sides being provided with wings which slightly overlap the back, as seen in full lines in Fig. 1. Fig. 3 is a plan view of a blank whose sides are provided with wings which meet midway of the back, as seen in dotted lines in Fig. 1. Fig. 4 is a plan view of the runner. Fig. 5 is a transverse section taken through the line *x x* of Fig. 4.

Referring to the drawings, A represents the scoop, B the handles attached to the sides of the scoop by metallic straps *b*, and C the draft-bail.

I bend or stamp up the scoop A from a steel blank of the form shown either in Fig. 2 or in Fig. 3, wherein 1 indicates the bottom, 2 the back, which may be either straight or rounded, and 3 the sides.

In the first three figures of the drawings 4 represents the wings formed with the sides. It will be seen that the wings are so shaped that they vary in width from their upper to their lower ends. This feature is important, in that while it enables the wings to neatly and smoothly cover the joints between the sides and back, it also provides for placing the heaviest portion of the wings on that part of the back most needing re-enforcement. When the scoop is stamped to shape, these wings are bent over either in front or in rear of the back and secured thereto by rivets or bolts. If it is desired to secure the back to the sides and re-enforce it at the upper corners, as seen in full lines in Fig. 1, I form the scoop from the blank shown in Fig. 2; but if, in addition to that, it is desired to re-enforce the back at its ends and across its top, as seen in dotted lines in Fig. 1, I make use of the blank shown in Fig. 3. It will be apparent, however, that without departing from my invention the wings in either blank can be made of such length as to extend any distance intermediate the points indicated in the full and dotted lines.

For the purposes of lightening the draft and providing for easy manipulation of the scraper, thereby to a great extent lessening the strain on the scoop, I employ a single broad runner, D, of the form shown in Figs. 1, 4, and 5. This runner, which is concave on its outer surface, is struck up from a sheet of metal in such manner as to produce attaching-flanges 5 and rounded sides 6, and I make it slightly wider at the front end than at the rear end, as clearly shown in Fig. 4. I prefer to make the bottom of the scoop, to which this runner is to be riveted, slightly rounded, and shape the runner-flanges accordingly.

With runners as heretofore constructed one great source of annoyance has been their frequent loosening, by reason of the wear to which the rivets are subjected. This I have to a great

extent avoided, for as the rivets at the sides are above the plane of the working-surface of my runner, it follows that they will be subject to little, if any, wear, and therefore, when the rivets at the end give out, the runner can still be worked until convenient to replace them.

Many of the runners now in use have straight or beveled sides, by reason of which the dirt packs solidly against them as the scraper is filling. This renders the turning or changing direction of the scraper very laborious on both man and team. With my single runner wider at front than at rear the earth will not thus bind against the sides, and as the latter are rounded the runner will mount the loose dirt much easier than if its sides were angular.

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

1. In an earth-scraper, a scoop whose bottom, sides, and back are bent or struck up from a single metal blank, the sides being curved upward from the bottom the entire length of the scoop, and provided with integral wings for securing and re-enforcing the back, said wings varying in width from their upper to their lower ends, for the purposes set forth.

2. In an earth-scraper, a scoop whose bottom, sides, and back are struck up from a single metal blank, the sides being provided with integral wings for re-enforcing the back, said wings meeting midway of the upper portion thereof, substantially as described.

3. The combination, with the scoop, of a single broad concave runner struck up from a sheet of metal, said runner having attaching-flanges in a plane above that of the working-surface, and being wider at its front end than at its rear end, for the purposes set forth.

4. The combination, with the scoop, of a single broad concave runner struck up from a sheet of metal, said runner being wider at its front end than at its rear end, and having rounded sides, for the purposes set forth.

5. The combination, with the scoop, of a single broad concave runner struck up from a sheet of metal, said runner wider at its front end than at its rear end, formed with rounded sides, and having attaching-flanges in a plane above that of the working surface, all as described, and for the purposes stated.

In testimony whereof I affix my signature in presence of two witnesses.

WILBER E. KILBORN.

Witnesses:
W. H. C. GOODE,
W. H. MENTE.