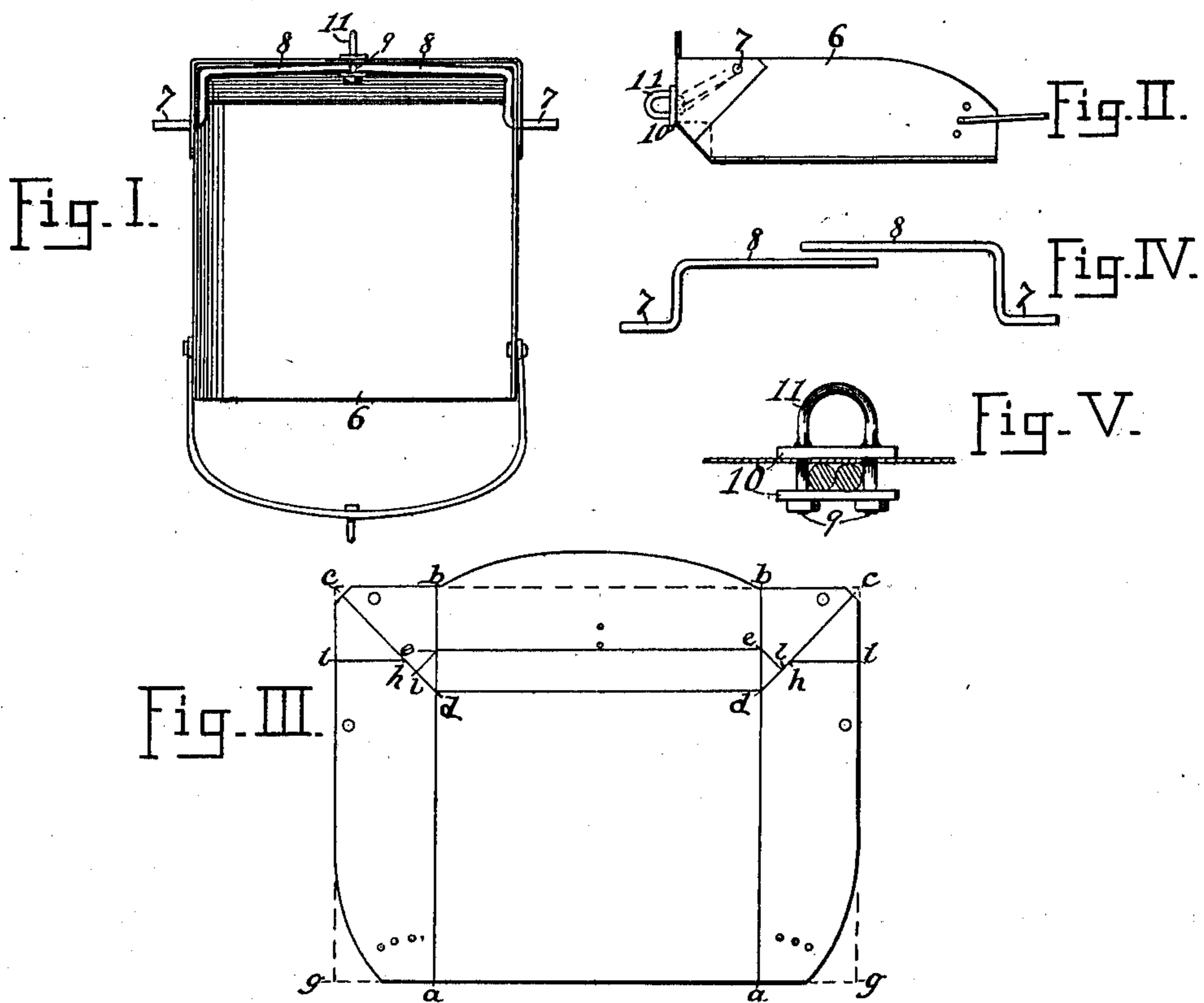


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SCRAPER.

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993,864.

Patented May 30, 1911.



Witnesses

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SCRAPER.

993,864.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LEWIS M. ODEN, a citizen of the United States, residing at Raleigh, in the county of Wake and State of North Carolina, have invented certain new and useful Improvements in Scrapers, of which the following is a specification.

This invention relates to that class of scrapers which are used for excavating by means of drag ropes running over guiding pulleys and drawn to and fro by a local engine, and its object is to make the scraper light, strong, durable, easy to operate and at low cost.

To this end my invention consists in the construction and combination of parts forming a scraper hereinafter more fully described and particularly stated in the claims, reference being had to the accompanying drawings in which—

Figure 1 is a top view of my complete scraper. Fig. 2 is a side view of the same. Fig. 3 is a diagram showing the cuts and folds required to form my scraper of sheet metal. Fig. 4 is a plan view of the trunnions. Fig. 5 is a side view of the return drawing clip, showing adjacent parts in section.

Numeral 6 represents the body of my scraper. I slant the rear lower corner upward at about 45° in order that it may slide backward without piling up dirt behind it, and that it may more easily return over the dumping roller and never be caught thereon, and I make the rest of the rear end to stand practically vertical in order to prevent tough clay and some kinds of earth from sliding right through the scraper over the back. In order to properly shape that lower corner of sheet metal and at the same time to strengthen and to completely close the rising side corners I cut and bend the sheet metal in a peculiar manner described as follows: To make a scraper 4 feet wide, 4 feet long and 15 inches deep requires a sheet of metal $6\frac{1}{2}$ feet wide and 4 feet and $9\frac{1}{2}$ inches long. That is $5\frac{1}{2}$ inches shorter than would be required to make the lower corner full and square. Draw lines $a b$ 15 inches from each side. From the rear corners c , at an angle of 45° cut to the line $a b$. On line $c d$ mark the distance $d h$ equal to $d e$, and fold along $h i$ at right-angles to edge $c g$. In the present diagram $b e$ and $h i$ are each 9 inches. On line $a d$ fold up the side to

a square corner, its original corner at c now pointing inward. At right-angles with line $c d$ cut line $l e$. On line $b d$ fold up both parts of angle $b c d$ to a square corner. Along line $d d$ fold up the rear end against the 45° edge $d h$, guiding the point l inside and the point c outside. On line $e e$ fold forward the top of the back to a vertical position against the side edges $h i$, its wing $b c l e$ lapping around the corner against the side as shown in Figs. 1 and 2. Thus the corner $d e$ is inclosed by its own bent up leaf $d l e$; the vertical corner is inclosed by both folds $e b$ and $h i$, and there are two thicknesses of metal to be riveted together both behind and at the side of the vertical corner, and three thicknesses at the side of the slanting corner, insuring the greatest possible strength that can be derived from the sheet metal, and closing all corners so that no one can be strained open in service. This makes use of the whole of the original sheet of metal, but, to render the scraper more ornate and to dispense with useless weight the corners c may be clipped and the corners g rounded off as shown in full lines. It may, in some cases, be advantageous to curve upward the edge of the back, as shown in full lines, to carry more load. If the whole back were slanted backward it would permit some kinds of earth to slide over it and not fill the sides.

It is common to fasten trunnions to the sides of scrapers to rock on stationary side beams at the dump and support the scraper when tilted to be emptied, but they are liable to get caught on rocks, roots, etc. in service and be torn off or bent, usually turning the scraper out of service for repairs. To obviate this inconvenience I provide two separate trunnions 7, to project through the sides and bent at angles as shown in Fig. 4, to fit into the rear corners and against the back on the inner side of the scraper, the arms 8 being long enough to extend more than half way across the back and overlap each other midway. There, a pair of clip bolts 9, with binding straps 10, hold the two bars 8, rigidly bound to the scraper back, the pair of bolts being united as an eye 11, to engage the withdrawing rope. These trunnions, bent into the corners of the scraper and doubled midway the back, in connection with the folded and riveted corners, stiffen the scraper so greatly that the

body may be made of comparatively thin material, thus making the scraper light, to the great advantage of handling in service and lessening the cost.

5 By loosening the clip bolts the trunnions are liberated to be slipped endwise for removal, and one or both may be replaced in a few minutes if required.

10 What I believe to be new and desire to secure by Letters Patent is stated in the following claims:

1. In a scraper, a bottom, standing sides, and a back having a slanting lower corner; the sides, the standing back and the slanting
15 corner each having a wing passing around the corner and overlapping another portion whereby the whole corner is solidly inclosed.

2. In a scraper, a bottom, standing sides and rear end and a slanting lower rear
20 corner; the sides and the standing portion of the rear end each being folded around the corner at their juncture and secured to the other; at the juncture of the side and the slanting rear corner one of these portions

having a wing which passes around the 25 corner and overlaps the other.

3. In a scraper, a bottom; standing sides and back with joined corners; a pair of trunnions, each projecting through a side and bent to fit a rear corner and extending 30 more than half way across the back, and a clip binding the two bars of the trunnions to the back.

4. In a scraper, a body having standing sides and end; a pair of trunnions extend- 35 ing through the sides and bent to fit the rear corners and extending to overlap each other on the inner side of the rear end; a clip binding the overlapping portions to the end, this clip also having an eye to receive a drag 40 rope, substantially as shown and described.

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

LEWIS M. ODEN.

Witnesses:

J. S. BLAND,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
