

S. Davis.

Road Scraper Attachment.

N^o 7,340.

Patented May 7, 1850.

Fig: 1.

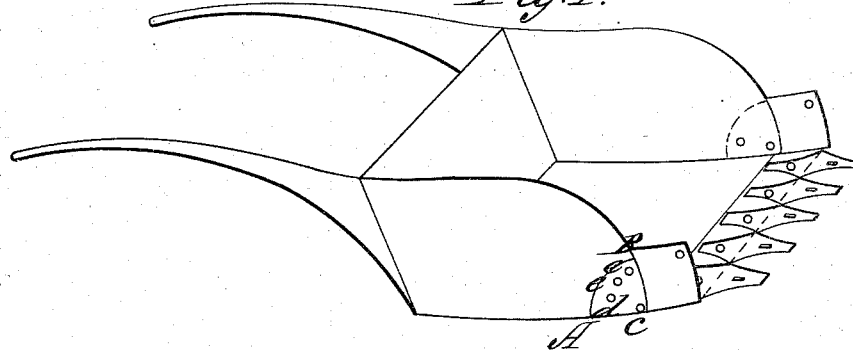


Fig: 2.

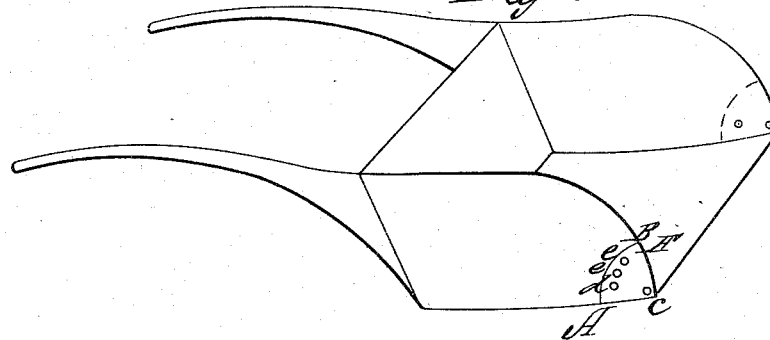


Fig: 3.

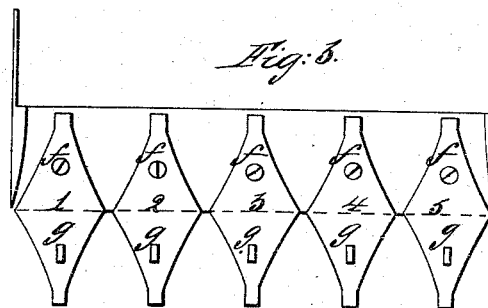
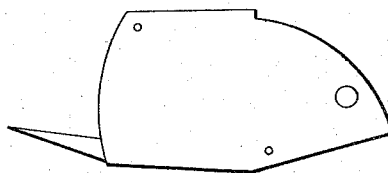


Fig: 4.



UNITED STATES PATENT OFFICE.

SHADRACH DAVIS, OF DARTMOUTH, MASSACHUSETTS.

ADJUSTABLE MOUTHPIECE TO ROAD-SCRAPERS.

Specification of Letters Patent No. 7,340, dated May 7, 1850.

To all whom it may concern:

Be it known that I, SHADRACH DAVIS, of Dartmouth, in the county of Bristol and Commonwealth of Massachusetts, have invented a new and useful Improvement in Road-Scrapers or Soil-Excavators; and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, in connection with the annexed drawings, as hereafter referred to, and which I make a part of this specification, viz: Figure 1, being a perspective view of the instrument when completed. Fig. 2, is a like view of the main body, separated from the mouthpiece. Fig. 3 is a front view, on a larger scale, of the mouthpiece; and Fig. 4 is an end view of the mouthpiece.

This description may be more clearly made and more readily understood by presenting it under the three following heads viz. First, the main body, secondly, the mouthpiece; and lastly, the points or teeth.

1. In describing the main body, it will be sufficient to say, that it is made like the well known road scraper, in a scoop form, with open front, having handles about three feet long, with sides and end hind piece from nine to twelve inches high and about one inch thick, of strong hard wood, with the bottom, and, top of the edge of the side pieces properly ironed, and about twenty-seven and half inches square. A bevel upward, of forty-five degrees is made on the front edge of the bottom to cover a bevel in the mouth piece, when the two parts are joined together. In the outer surface of the forward end of each side piece is cut a cavity or bed, half an inch deep, its forward section describing the arc of a circle A, B, in Fig. 2, whose radius from the center bolt C, is six inches. In the circle of this arc is the set screws *d*, and the holes *e*, *e*, to receive the set screw when the dip or pitch of the mouth piece is changed as hereafter described.

2. The mouth piece represented by Fig. 3 is made of cast iron, cast in one piece, except the points or teeth which are cast each separately. Although this be cast in one piece it has various forms in different parts of it fitted both for its junction with the main body, and also for receiving the points or teeth. The bottom is seven inches, fore and aft, and twenty-seven and half inches from sides, inclusive; its back edge being

an inch thick, is beveled downward forty-five degrees to match the bevel upward, as already stated in the main body when joined. In the under surface of the bottom, are cast five cavities, directly under the teeth 1, 2, 3, 4, 5, which cavities correspond to the cavities in the teeth as hereafter described. In the top surface, are cast five places to receive these teeth. These places are five and half inches wide forward, tapering three and one half inches, to the width of two inches, then continuing that width till they terminate in the bevel aforesaid. These places are cast with dovetailed grooves in the sides about half an inch deep, and so convex from side to side as to fill the cavities of the teeth hereafter described, as they slide into these places in a dovetailed way. This bottom is made gradually thinner, terminating forward in an edge. The sides of the mouth piece are about nine inches high, with parts extending backward beyond the bottom, of size and shape fitted to fill the cavities or beds, in the forward ends of the sides of the main body as before described. The sides of the mouth piece also are cast with shoulders on their inner surfaces, and of shapes fitted to rest against the sloped ends of the sides of the main body, as represented at F in Fig. 2. These shoulders are of the same thickness, as the ends of the main body, against which they rest. And the whole thickness of these sides at the shoulders is one inch, made gradually thinner and terminating forward in edges. The mouth piece, being thus prepared, is joined to the main body and kept firmly in its place by the center bolt *c*, and the set screw *d*, in Fig. 1. This bolt and screw are half an inch in diameter. The peculiar advantage of this joint, connecting the mouth piece to the main body, consists in regulating at pleasure, the dip or pitch of the teeth, to accommodate the improvement to uneven surfaces, and hard and loose soils. This dip is altered by moving the set screw *d*, using the same hole in the side of the mouth piece, to either of the holes *e*, *e*, in the sides of the main body, Fig. 2.

3. The teeth are five in number; and are set as represented in Fig. 3.—Their bottom surfaces are cast about three fourths of an inch concave in the deepest of the cavity; and are slightly convex on top; being three fourths of an inch thick in the center; and made gradually thinner, toward their points

and sides, until they terminate in an edge.—
 They are five and a half inches wide, in the
 center, and five and one-half inches long
 from the center, each way, eleven both ways)
 5 tapering three and half inches each way, to
 the width of two inches, and terminating
 in points of two inches square. These teeth
 are cast with holes at one end half an inch
 10 in diameter, and slits in the other of that
 width and an inch long, the sides of the
 holes and slits nearest to the ends of the
 teeth being two inches and three fourths of
 an inch from those ends as represented by,
 15 *f, f, f, f, f,* and *g, g, g, g, g,* in Fig. 3.—
 These holes are made to fasten the teeth to
 the bottom of the mouth piece when they
 are new, with screws; and the slits are for
the same purpose when the points are re-
versed, and by use, have become shorter.
 20 The teeth in Fig. 3,—are represented as fast-
 ened in their appropriate places, when
 new, with screws, after having been slid
 into the grooved places prepared for them
 in the bottom of the mouth piece. These
 25 teeth combine many advantages over any
 other contrivance heretofore in use. For be-
 ing double pointed one is nearly equal to
 two of those before used with but one point;
 being concave they are not so liable to be
 30 thrown out of the ground when in operation,
 and will continue sharp by use; being mov-
 able, when no longer fit for use, they can be
 replaced with others at trifling expense with-

out a new bed piece; and being concave and
 convex, sufficient strength is given them, 35
 with less weight of iron.

Fig. 1, represents the instrument or ma-
 chine, with my improvement completed and
 ready for operation; the common and well
 known fixtures being added, by which to ap- 40
 ply the moving power.

I have described the several parts and the
 entire machine as to dimensions, as appli-
 cable to one of a convenient size and strength
 for common uses by horses or oxen. But 45
 when it is wanted for removing sand bars
 in rivers or harbors, or deepening anchorage
 ground, and other heavy operations, with
 steam or other great power, as it may be, its
 size and strength must be increased accord- 50
 ingly. On land it may be operated with or
 without wheels, and in the water by any
 known appliances adapted to the particular
 operation intended.

What I claim as my invention and desire 55
 to secure by Letters Patent is—

Combining with the body of a scraper, a
 mouthpiece which can be adjusted to form
 various angles with the bottom of the
 scraper substantially in the manner and for 60
 the purposes herein described.

SHADRACH DAVIS.

Witnesses:

CYRUS ALDEN,
 WESTON CLARK.