G. W. PARSONS.

Dyking Attachment for Dredgers.

No. 168,409. Patented Oct. 5, 1875.

Fig. 1

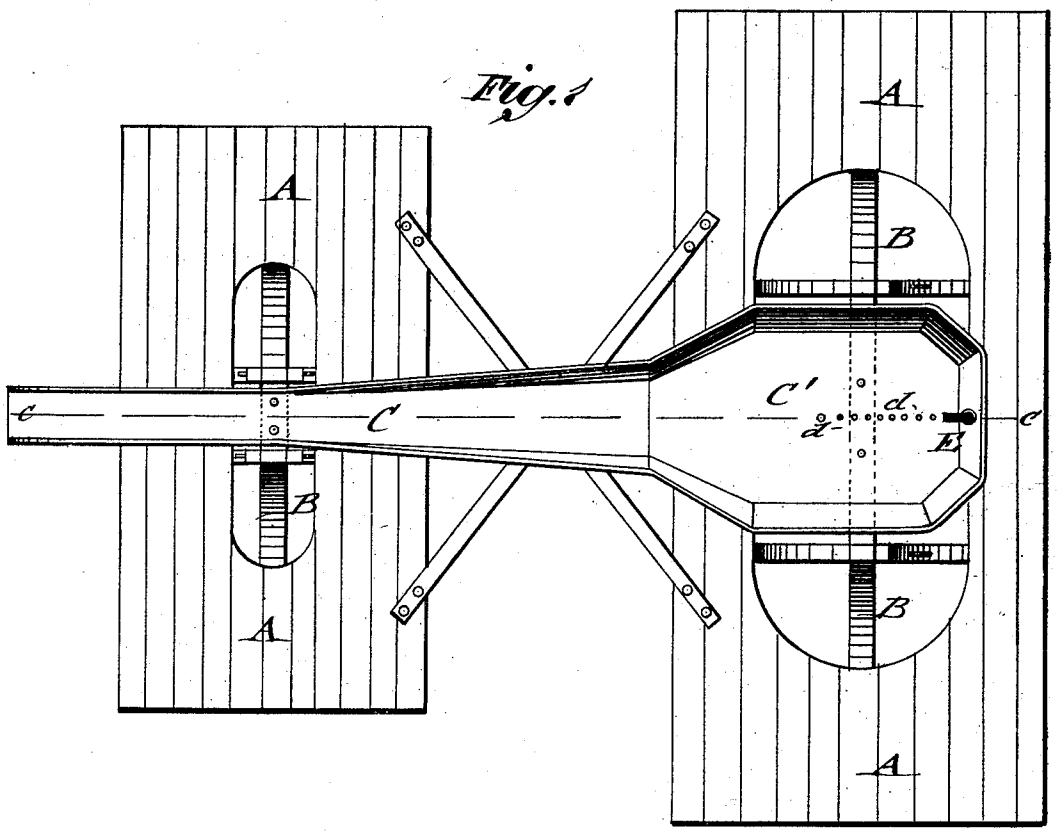
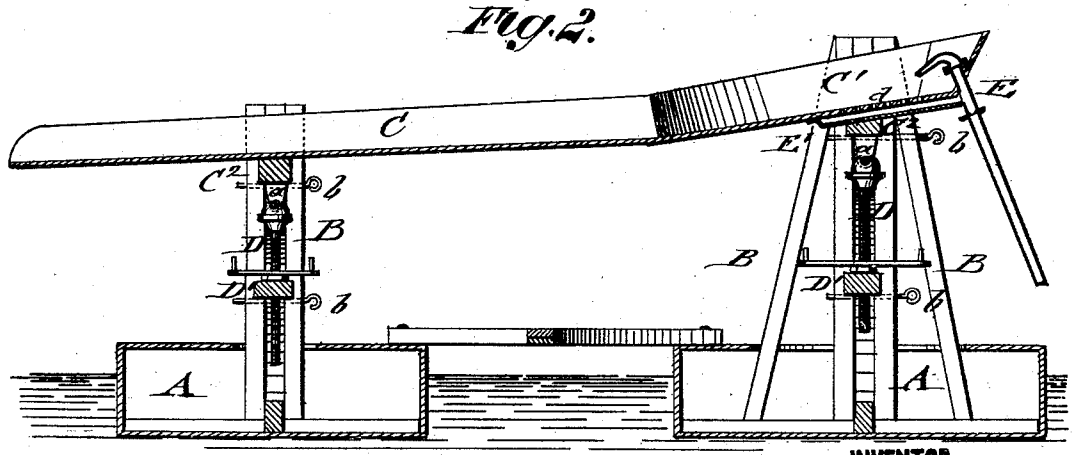


Fig. 2.



WITNESSES:

Francis McArdle.

A. F. Terry

INVENTOR:

G. W. Parsons

BY Munn & Co

ATTORNEYS.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON PARSONS, OF SALISBURY, MARYLAND.

IMPROVEMENT IN DIKING ATTACHMENTS FOR DREDGERS.

Specification forming part of Letters Patent No. **168,409**, dated October 5, 1875; application filed August 21, 1875.

To all whom it may concern:

Be it known that I, GEORGE W. PARSONS, of Salisbury, in the county of Wicomico and State of Maryland, have invented a new and Improved Diking Attachment for Dredging-Machines, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view, and Fig. 2 a vertical longitudinal section on the line *c c*, Fig. 1, of my improved diking attachment to dredging-machines.

Similar letters of reference indicate corresponding parts.

My invention relates to a diking attachment for dredging-machines, which allows the rapid and economical conveyance of the dredged material from the dipper of the dredging-machine to the dikes, the attachment working in equally effective manner in the water and on land, and being capable of adjustment to various inclinations and heights, according to the consistency and flow of the dredged material.

The invention consists of an inclined hopper and chute supported on vibrating cross-pieces placed on suitable frame-work of lighters or tracks. Vertically-adjustable screw-bolts allow the raising or lowering of the chute, while water-supply pipes and spurt-holes of the hopper produce the flow of the dredged mass, in connection with a proper inclination of the chute.

In the drawing, A represents lighters or trucks, which are connected in any convenient and suitable manner with the dredging-machines, according as the same are used floating in the water or on the land. The lighters or trucks are connected by diagonal or other braces at fixed or variable distances, according to the distance to which the dredged material has to be conveyed. The lighters or trucks A support upright frame-works B, on which the mud-conveying chute C is supported. The chute C is attached to cross-pieces C^2, which are connected by a pivot-bolt, *a*, to the recessed top ends of strong screw-bolts D, and rounded off at the ends, so as to turn readily and allow the chute to give when the dipper discharges its contents thereon and causes the lighter to settle in the water, and to rise again when the mass is flowing off through the chute. The screw-bolts D are supported in cross-pieces D′, and serve to adjust the chute higher or lower in the guide-standards of the frames B, so as to give the chute the proper inclination to cause the material to flow, which inclination varies according to the stiffness of the sand or mud. The screws D serve, also, to vary the height of the chute as the tide rises and falls, thus saving power in low water by lessening the height to which the material has to be raised by the dredge, and also the quantity of water used to wash the material through the chute. The cross-pieces supporting the screws, as well as the cross-pieces bolted to the under side of the chute, move vertically in the frame-works, and are supported on iron bolts or pins *b*, placed into holes of the guide-standards, so as to hold the weight of the chute and relieve the screws of the entire strain of the superincumbent weight. The chute C is preferably constructed of boiler-iron, with a hopper, C^1, having inclined sides to receive the contents of the dipper. The hopper is narrower at the neck, and conveys the material to the narrow part of the chute, the inclination of the bottom of the hopper being greater than that of the narrow part of the chute, to facilitate the starting of the dredged material when it strikes the bottom. In the upper end of the hopper is fitted a short pipe, E, that terminates in a swiveled discharge-nozzle, for directing the stream of water upon any portion of the hopper in case the material should chance to lodge thereon. One or more branch pipes, E′, extend from the main pipe to some distance along the bottom of the hopper, discharging the water in small jets through perforations *d* of the bottom, against the under side of the material, so as to lubricate it and secure its forward motion. The main pipe E is connected by a hose or pipe with the pump on the lighter or dredge for supplying the water to the hopper. The chute conveys the material for the dikes, and also levels the same, as it settles rapidly, being saturated with water. It exerts but little pressure against the frame-work of the dikes, which may be constructed much less substantial than when it is necessary to resist the pressure of dumping it from

the dredge directly against them, and also the weight of the bank of material which accumulates on top. Though the material has to be raised higher to reach the chute than when deposited directly on the dike, it has been found by actual tests that the attachment produces a saving both in power and time, as the dipper does not have to run out and swing the second time with great strain upon the dredge, as in embarking, so that we obtain a clear saving in the perpendicular lift, and especially less wear on the hull and machinery of the dredge.

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

1. The combination of the chute-supporting cross-pieces, having pivot-pins and rounded ends, with the adjustable screw-bolts and cross-pins of the guide-standards, to allow the oscillation of the chute on the settling of the lighter when dumping the material from the dipper, substantially as specified.

2. The inclined hopper of the chute, provided with a main water-pipe and branch pipes, for discharging jets of water through perforations of the bottom, substantially as set forth.

GEORGE W. PARSONS.

Witnesses:

LOUIS W. GUNBY,

SAMUEL S. SMYTH.