(No Model.) 2 Sheets—Sheet 1.

S. MEINESZ.

DREDGING APPARATUS.

No. 281,905. Patented July 24, 1883.

Fig. 4.

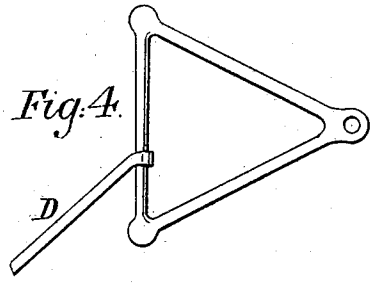


Fig. 3.

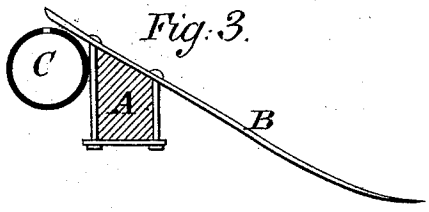
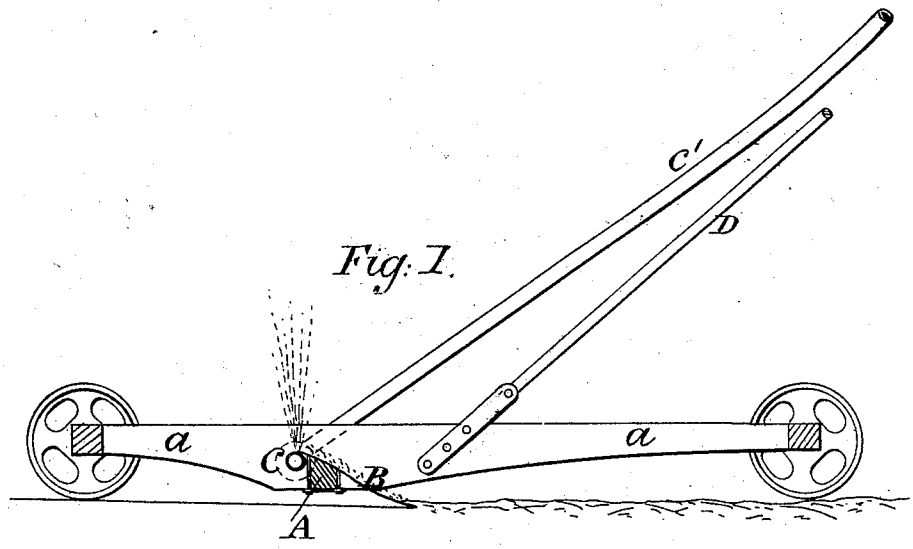


Fig. 1.



Witnesses.

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Robert Everett

Inventor.

Simon Meinesz

By James L. Norris.

Atty

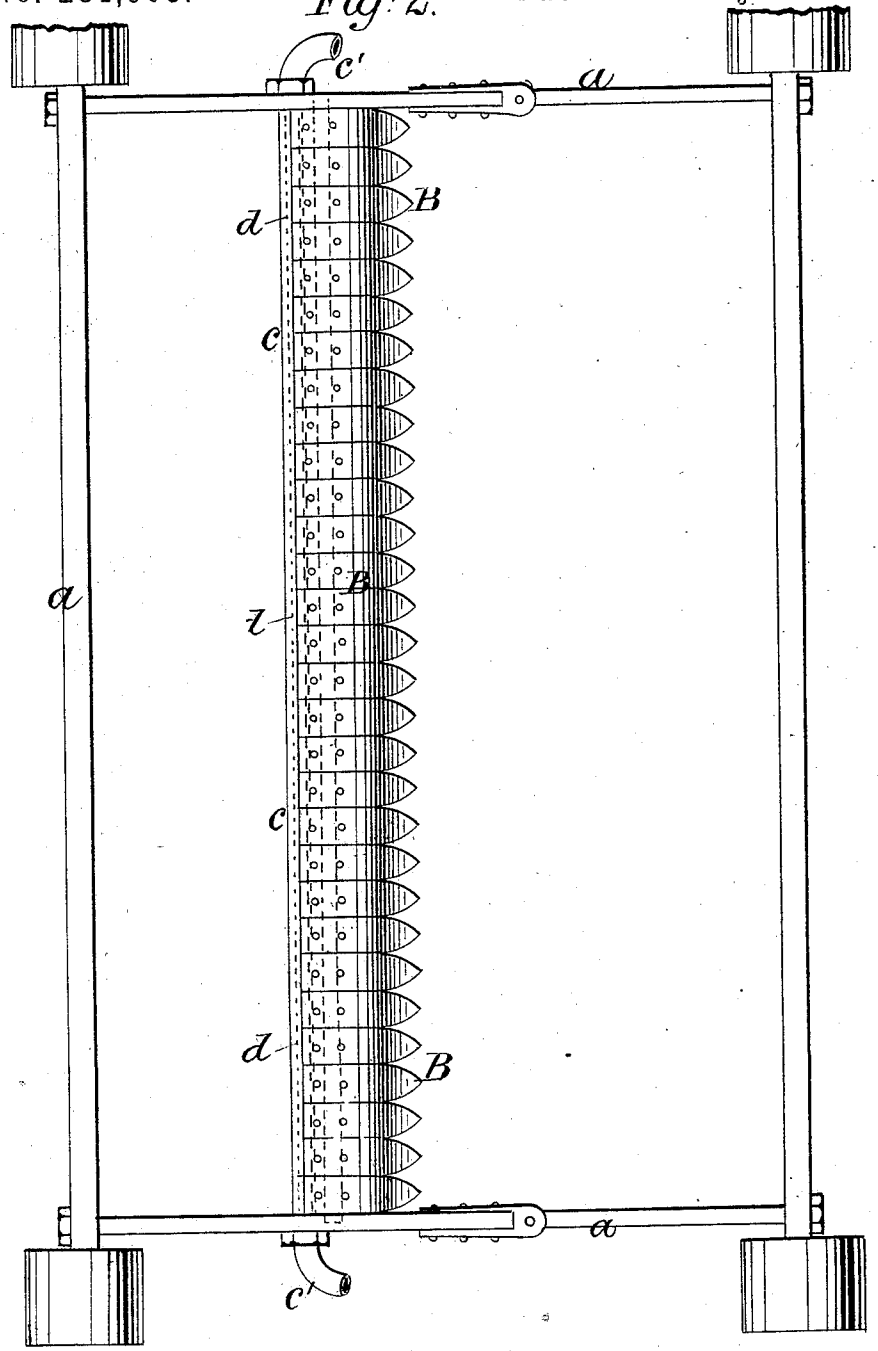
N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

S. MEINESZ.

DREDGING APPARATUS.

No. 281,905. Fig. 2. Patented July 24, 1883.



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UNITED STATES PATENT OFFICE.

SIMON MEINESZ, OF BRUSSELS, BELGIUM.

DREDGING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 281,905, dated July 24, 1883.

Application filed February 24, 1883. (No model.) Patented in Belgium November 27, 1882, No. 43,423.

To all whom it may concern:

Be it known that I, SIMON MEINESZ, of Brussels, in the Kingdom of Belgium, have invented certain new and useful Improvements in the Construction of Dredging Apparatus, of which the following is a specification, reference being had to the accompanying drawings.

This invention consists in an improved dredging apparatus composed of a series of steel blades arranged to work on the bottom of a river or of the sea. By their construction the said blades force the sand which they dredge up to accumulate upon their upper extremities, whence it is driven to the surface of the water by means of a current of compressed air, or any other element, as hereinafter described with reference to the accompanying drawings.

As may be seen from Figure 1 of the accompanying drawings, the said apparatus is composed of a frame with wheels or cylinders provided with a cross-bar, A, on which are connected the steel blades B. The bar A extends continuously from end to end of the frame, and the blades B are clipped or otherwise secured to the bar to stand in an inclined position, the upper rear ends of the blades projecting a short distance behind the rear edge of the bar, and the blades have their side edges arranged against each other to form a continuous inclined plane or surface. A pipe, C, is arranged longitudinally below and partially under the upper rearward extensions of the blades, and is provided with a line of perforations, *d*, said pipe being parallel to the bar A and provided at each end with a flexible pipe, C′, receiving the compressed air or water from a strong force-pump, which air or water is to drive upward, as it emerges through the small holes *d*′, the sand brought within its reach by the blades B. This pipe C receives the compressed air or water through the pipes C′, descending from the boat, whence the pressure is imparted.

Fig. 2 is a top view of the apparatus. The pipes C′ are by preference made of leather or india-rubber. The apparatus is connected with a boat by means of two coupling-rods, D, and in order that it should not be subjected by its connection with the boat to the effects of a high sea, the coupling-rods D are arranged on the sides of the ship in the way shown in Fig. 4. The extremities of the said coupling-rods slide, respectively, along the base of a triangle, which may be made of any required size.

Fig. 3 is an enlarged detached view of a blade B. When it is necessary to work the apparatus, it will suffice to connect the boat with it in the manner hereinbefore specified, an air force-pump or a water force-pump being provided, with which pump are connected pipes starting from each side of the boat, and adapted to the tube *c* at the point V of the design. The said preparations having been terminated, it will be sufficient to let the apparatus fall to the bottom, and the traveling of the boat will make it perform its work.

I am aware that a submarine plow has been suspended from a vessel and provided with a pipe connected with a force-pump on the vessel, so that as the plow loosens the sand and mud the blast of water through the pipe produces an under-current to carry off the loosened sand and mud. Such, therefore, I do not claim.

What I claim is—

1. A dredging apparatus combining in its structure a frame provided with a longitudinal cross-bar, A, a series of blades, B, secured in an inclined position along said bar, with their side edges abutting, and a perforated pipe, C, arranged behind and along the length of the cross-bar below the upper rear edges of the blades, and having means to connect it with an air or water forcing mechanism, substantially as described.

2. The combination, in a dredging apparatus, of a frame, a cross-bar, A, extending from end to end of the machine, a series of blades, B, secured along the bar in an inclined position, a perforated pipe, C, arranged behind and along the length of the cross-bar and below the upper edges of the blades, and pipes C′ C′, connected, respectively, with opposite ends of the perforated pipe, substantially as and for the purpose described.

3. The combination, in a dredging-machine, of a frame, a cross-bar extending horizontally from end to end thereof, a series of blades se

cured to the bar in an inclined position, with their side edges in contact, and projecting rearward beyond the bar at their upper ends, a perforated pipe arranged under the rearward extensions of the blades and parallel to the cross-bar, and a pipe or pipes connected with the perforated pipe for forcing air or water into the same, substantially as described.

4. The combination, in a dredging-machine, of a frame mounted on wheels and provided with rods to connect it with a floating vessel, a cross-bar extending horizontally from end to end of the frame, a series of blades secured to the bar in an inclined position, with their edges in contact, a perforated pipe arranged parallel to the cross-bar below the upper rear ends of the blades, and a pipe or pipes connected with the perforated pipe, substantially as and for the purpose described.

SIMON MEINESZ.

Witnesses:
KACLOT,
ADOLPH STEIN.