

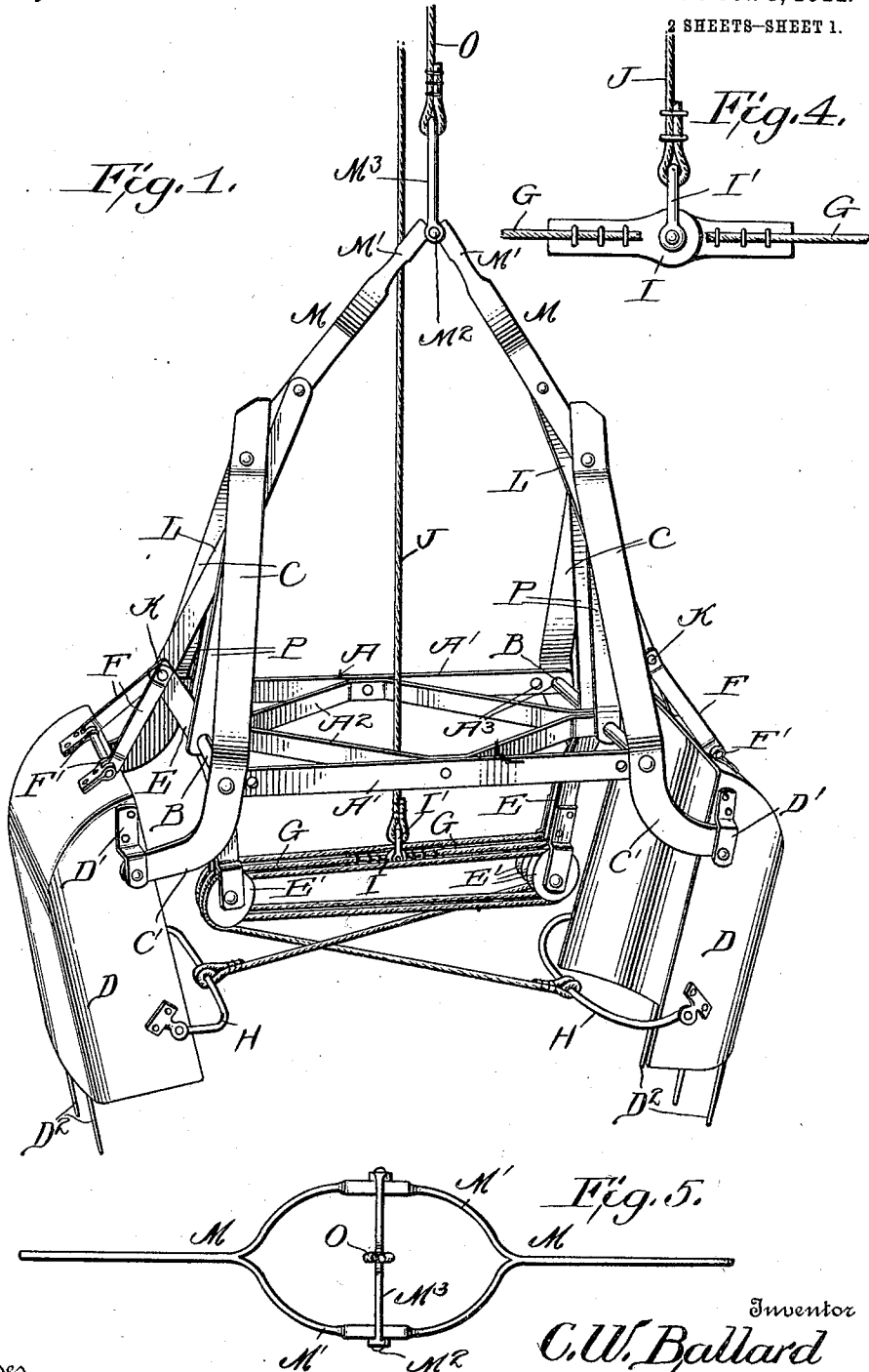
C. W. BALLARD.
DREDGE.

APPLICATION FILED SEPT. 28, 1910.

Patented Oct. 3, 1911.

1,004,723.

2 SHEETS-SHEET 1.



Witnesses

Oliver H. Holmes
John D. Wright

By

Inventor
C. W. Ballard
By *Chas. E. Brock*
Attorney

C. W. BALLARD.

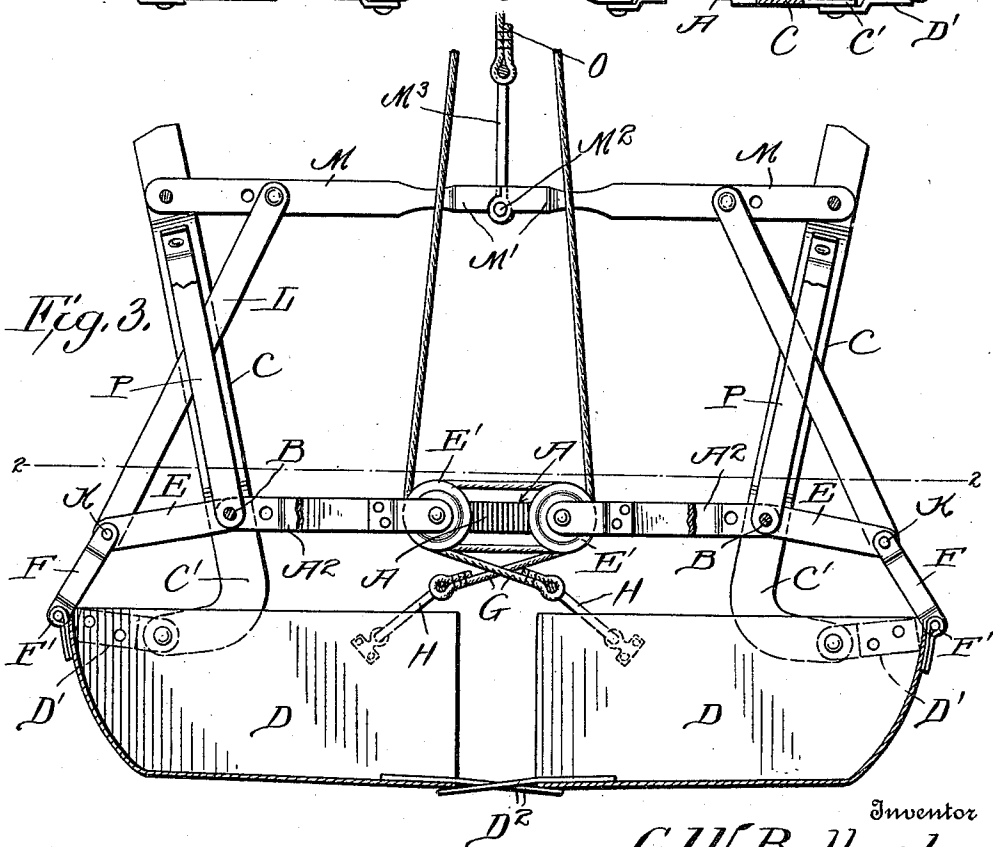
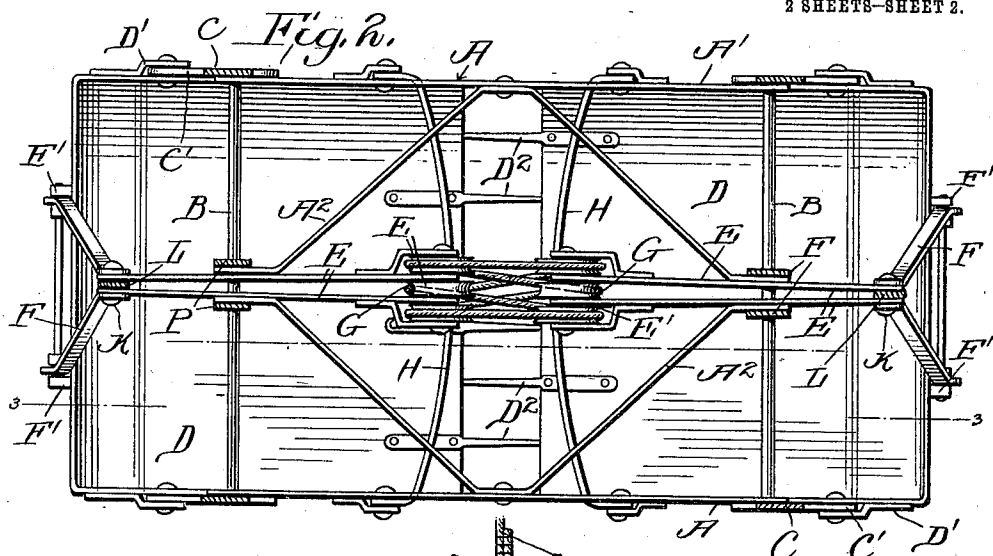
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Paul Albright

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By *Chas. E. Brock*
Attorney

UNITED STATES PATENT OFFICE.

COKE W. BALLARD, OF UNIVERSITY PLACE, NEBRASKA.

DREDGE.

1,004,723.

Specification of Letters Patent.

Patented Oct. 3, 1911.

Application filed September 23, 1910. Serial No. 534,255.

To all whom it may concern:

Be it known that I, COKE W. BALLARD, a citizen of the United States, residing at University Place, in the county of Lancaster and State of Nebraska, have invented a new and useful Improvement in Dredges, of which the following is a specification.

This invention relates to certain new and useful improvements on dredges for which application was filed August 25, 1909, 514,576, the object being to improve the general construction of dredge, and to provide means for operating the scoops in such a manner that they will be drawn together with greater force.

Another object of my invention is to provide a scoop which is so mounted that the sections can be adjusted in respect to each other, whereby the same can be used with teeth or without the same, in order to allow the scoop to be used in different kinds of soil.

With these objects in view, the invention consists in the novel features of construction, combination and arrangement of parts fully described and pointed out in the claims.

In the drawing forming a part of this specification: Figure 1 is a perspective view of my improved scoop. Fig. 2 is a horizontal section taken on line 2—2 of Fig. 3. Fig. 3 is a vertical section taken on line 3—3 of Fig. 2. Fig. 4 is a detail side elevation showing the manner of connecting the hoist cable. Fig. 5 is a detail top plan view of the tripping levers.

In carrying out my improved invention, I employ a frame A comprising side bars A' connected together by braces A², said bars being provided with spaced openings A³ adjacent their ends, in one pair of which are mounted shafts B carrying pivoted arms C at their ends which are provided with angled lower ends C' on which are mounted scoops D, said scoops being provided with bearing members D' for mounting the same on the levers as clearly shown. The scoops D shown in the drawing are provided with teeth D² for loosening the dirt when the scoops are forced into the same, and when the shafts B are mounted in the openings as shown, the scoops will be prevented from coming into engagement with each other when closed, and by shifting the position of the shafts B and removing the teeth D², the edges of the scoops can be brought into close contact to

enable the scoop to be used for raising sand and the like.

Mounted on the shafts B between the ends of the braces A² are operating levers E which carry pulleys E' at their inner ends, and are connected to pivoted links F at their outer ends which are pivotally mounted in eyes F' secured to the scoops D as clearly shown so that when the levers are swung toward each other, the scoops will be thrown together as will be later described. For operating the levers, I provide cables G which pass around the pulleys E', and one end of each cable is connected to a bail H pivotally mounted on the sides of the scoop and the other end of each cable is secured to a hinge member I which carries a bail I' to which the hoisting cable J is connected so that when the cable I is operated the levers E will be drawn together, and at the same time the ends of the scoops will also be drawn together the levers serving the purpose of forcing the scoop and the cable of drawing the scoop, whereby the scoops will be drawn together in such a manner that a full load will be obtained.

The levers E are connected to the links F by pivot pins K on which are mounted links L which are adjustably connected to a pair of tripping levers M which are provided with bowed inner ends M' pivotally connected together by a pivot pin M², on which is mounted a bail M³ to which is connected a tripping cable O for the purpose later described. The outer ends of the tripping levers M are pivotally mounted between the upper ends of the levers C, and it will be seen that by this construction when the tripping cable O is released so as to allow the levers to assume a horizontal position when the scoops are in a closed position, the scoops will be firmly held by the hoisting cable in that position, and when it is desired to dump the scoop by releasing the hoisting cable and pulling up on the tripping cable, the scoops will be thrown apart so as to obtain a clear discharge. The levers C are connected to the shaft B by braces P which hold the same in such a manner that the strain is reduced and at the same time allow the levers to swing freely upon the shafts when the scoops are in operation.

What I claim is:—

1. In a device of the kind described, a normally horizontal frame, supporting arms

pivotally connected to said frame and extending below and outwardly from the ends of the frame, cooperating scoops detachably held upon said arms, and means carried by
5 the frame and pivotally connected to ends of the scoops for bringing the said scoops together, the said arms being adjustable with respect to each other.

2. In a device of the kind described, a
10 normally horizontal frame, scoop supporting arms pivotally carried by the sides of the frame and adjacent its ends, scoops detachably carried by the lower ends of said arms and adapted to hang downwardly below said
15 frame, levers pivoted intermediate their ends upon the ends of the frame and extending outwardly and upwardly with respect to the frame, links pivotally connected to the upper ends of said levers and to said scoops,
20 pulleys carried by the lower ends of the levers, an operating cable, a hinge carried by the lower end of said cable, and a pair of

cables running over said pulleys and connected respectively to members of said hinge, and to said scoops. 25

3. In a device of the kind described, a normally horizontal frame, arms pivotally carried by said frame, scoops carried by said arms, and normally held by said arms below and away from the ends of the frame, operating levers mounted upon the ends of the frame, links pivotally connecting said levers to ends of the scoops, pulleys carried by the lower ends of said levers, cables secured to the scoops and running over said pulleys, a
30 hoisting cable, a hinged member connecting ends of the first mentioned cables to said hoisting cable, and a tripping mechanism operatively connected to said levers, as and for the purpose set forth. 35

COKE W. BALLARD.

Witnesses:

E. B. SMITH,
CHAS. G. ANDERSON.

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