WILLIAM BROWN AND WALTER BROWN.

DREDGER.

APPLICATION FILED NOV. 6, 1920.

1,408,498.

Patented Mar. 7, 1922.

2 SHEETS—SHEET 1.

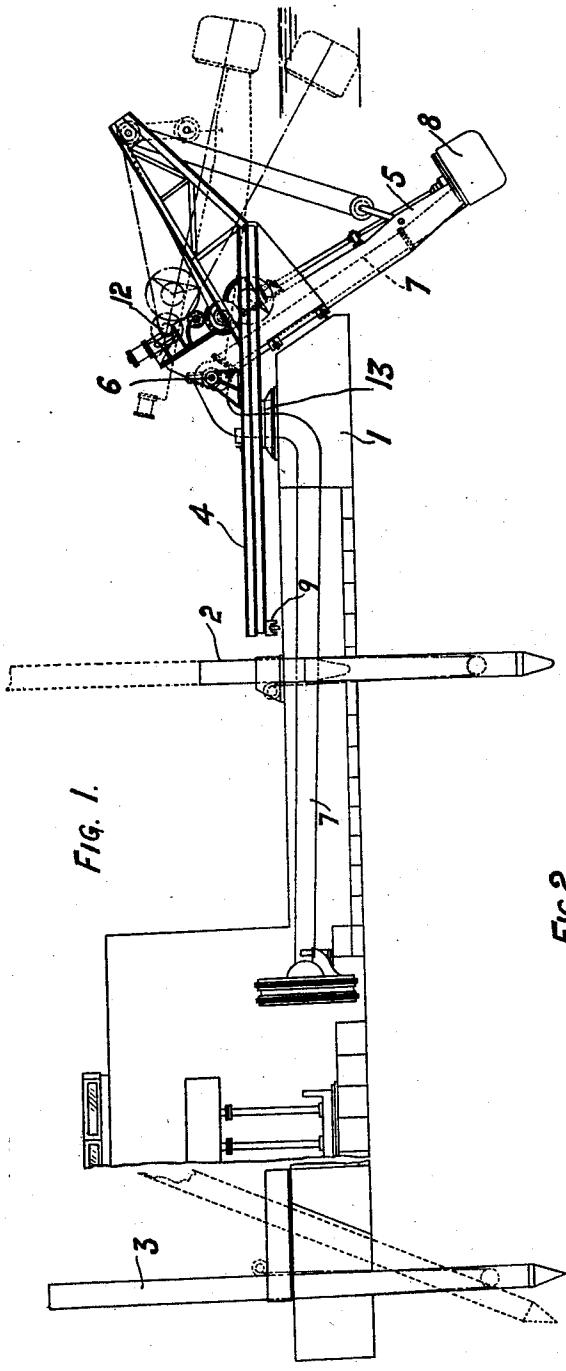


FIG. 1.

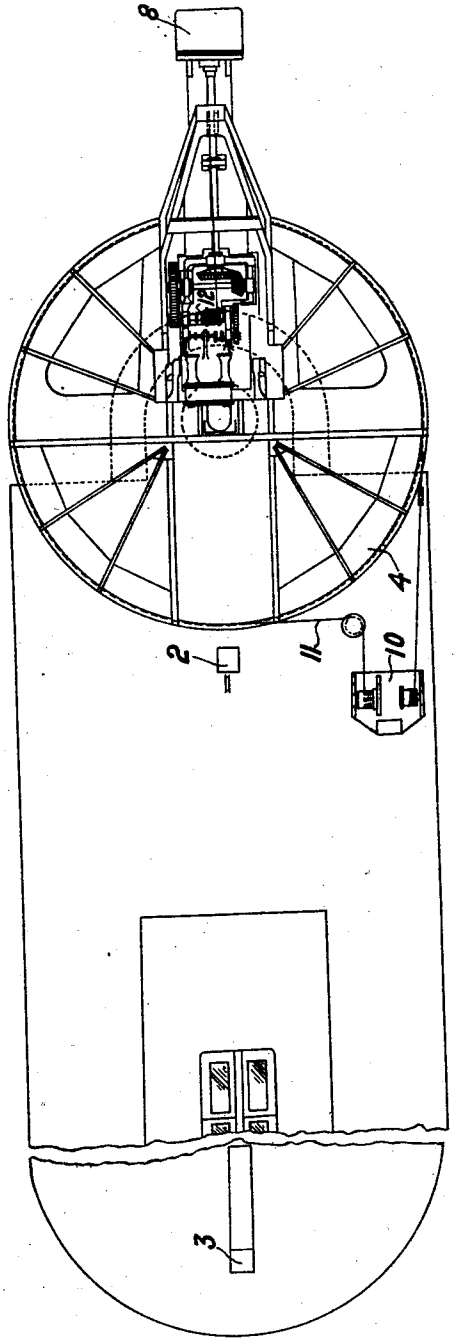


FIG. 2.

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2 SHEETS—SHEET 2.

FIG. 3.

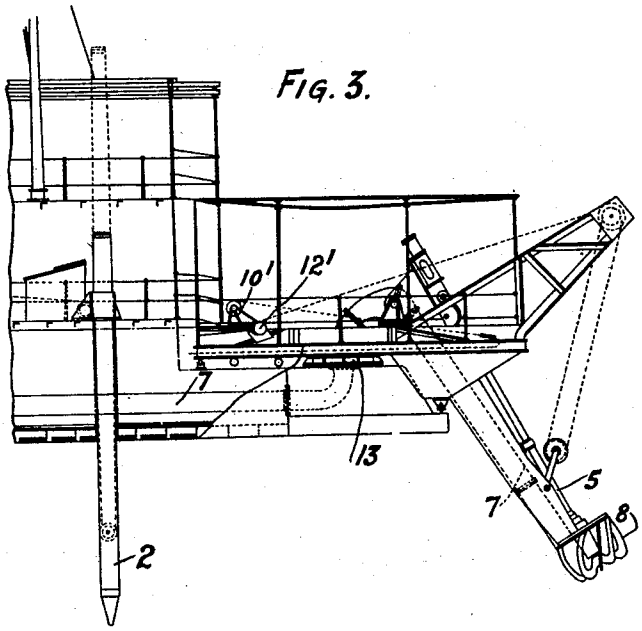
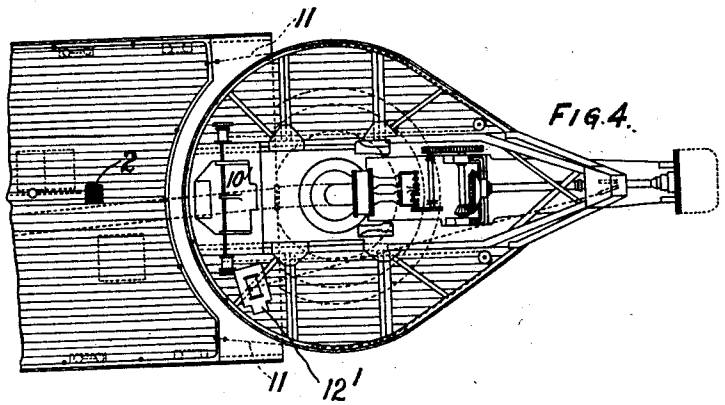


FIG. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM BROWN AND WALTER BROWN, OF RENFREW, SCOTLAND, ASSIGNORS TO WM. SIMONS AND COMPANY, LIMITED, OF RENFREW, RENFREWSHIRE, SCOTLAND.

DREDGER.

1,408,498. Specification of Letters Patent. Patented Mar. 7, 1922.

Application filed November 6, 1920. Serial No. 422,245.

To all whom it may concern:

Be it known that we, WILLIAM BROWN and WALTER BROWN, both subjects of the King of the United Kingdom of Great Britain and Ireland, and residing at Renfrew, Renfrewshire, Scotland, have invented a certain new and useful Improvement in Dredgers, of which the following is a specification.

This invention relates to improvements in suction dredgers for use more particularly in localities where the employment of side moorings is impracticable.

Instead of being held by side moorings, the dredging vessel is held in position by means of spuds or piles fitted through the hull and the dredging gear is mounted on a turntable or other member capable of partial rotation around a vertical axis through a substantial angle to give the necessary range of travel to the free end of the suction pipe.

In order now to answer practical requirements and to permit the proper cutting of canal banks or other works, according to the invention provision is made for supporting the suction pipe and the cutter at the lower end of the pipe in such wise that the depth of cut may be conveniently regulated by simply changing the inclination of the pipe without the necessity for resorting to telescopic or other objectionable forms of fittings, the width of cut being varied by alteration of the range of travel.

In the accompanying drawings Fig. 1 is a vertical section and Fig. 2 a plan of a dredger with equipment according to the invention. Figs. 3 and 4 are, respectively, a fragmentary vertical section and a fragmentary plan showing a modification.

As shown in Figs. 1 and 2, the dredging vessel 1 is held in position by means of spuds or piles 2, 3 fitted through the hull of the vessel and the dredging gear is mounted on a turntable 4 or other member capable of partial rotation around a vertical axis through a substantial angle.

5 denotes a rigid suction frame sustained by the turntable 4 and extending through the turntable, said frame being capable of movement around a horizontal axis 6, there being fitted to said rigid frame 5 a suction pipe 7 to the free end of which is applied a rotary cutter 8.

The turntable 4 is fitted with wheels 9 running on a circular track and receives its partial rotary movement from a motor-driven winch 10 acting through a rope 11 wrapped around the turntable 4.

12 denotes a winch for raising and lowering the suction frame on the axis 6 according to the depth of cut desired.

It will be understood that in actual operation the suction pipe 7 sweeps out a conical path and that alteration of the conicity effects a corresponding change in the depth of cut, so that the surface cut by the dredger assumes an inclination corresponding approximately to the natural inclination of the soil.

In the modification shown in Figs. 3 and 4 the winch 12′ for raising and lowering the suction frame and the winch 10′ for rotating the turntable are mounted on the turntable.

In both forms there is provided concentric with the turntable a bearing member 13 through which is led the suction connection.

We claim:—

In a dredger, in combination, a circularly movable turntable, a rigid suction frame extending through said turntable and pivotally supported by said turntable for movement around a horizontal axis, and a suction pipe carried by said frame.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM BROWN.
WALTER BROWN.

Witnesses:
KATE FOTHERINGHAM,
ISABEL ROLLO.