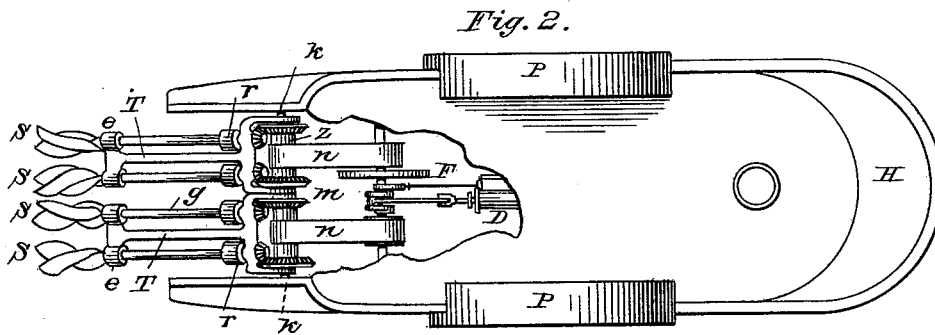
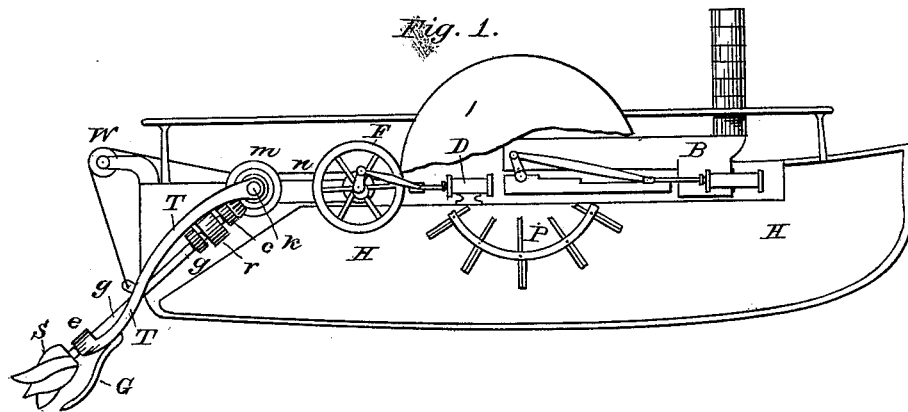


G. UHL.  
Dredging-Machine.

No. 221,432.

Patented Nov. 11, 1879.



*Attest:*  
R. F. Barnes,  
Jos. S. Owner.

*Inventor:*  
George Uhl  
Per I. N. Kall & Co  
attys.

# UNITED STATES PATENT OFFICE.

GEORGE UHL, OF SACRAMENTO, CALIFORNIA.

## IMPROVEMENT IN DREDGING-MACHINES.

Specification forming part of Letters Patent No. **221,432**, dated November 11, 1879; application filed June 28, 1878.

*To all whom it may concern:*

Be it known that I, GEORGE UHL, of the city of Sacramento, State of California, have invented a new and useful Improvement in Dredging-Machines, of which the following is a specification.

The invention relates to that class of dredging-machines used for the purpose of working out the channels of rivers and in removing sedimentary formations from the bed of running streams.

The invention consists in providing the frames which support the wipers with protecting-braces, which sink into the mud and allow the wipers to penetrate the same until some hard substance is met, when they rise and carry the wipers safely over it.

In the accompanying drawings, Figure 1 is a side sectional elevation, showing the vessel with its paddle-wheels and the machinery embodying my invention. Fig. 2 is a plan of Fig. 1, showing the hull of the vessel H, the boiler B, engine D, and paddles P, the purpose of said boiler, engine, and paddles being to propel the hull or vessel.

In the rear part of the vessel, and in combination with the same, is shown the mechanism constituting my invention.

In Fig. 1 are shown the paddles or wipers S, which are revolved in opposite directions to each other through the medium of the shafts *g*, bevel-gear *m*, belt *n*, and engine D. F is the fly-wheel belonging to the engine.

The wipers S are hung or secured to the shafts *g*, which are secured in the frame T, said frame being hung on the axle or shaft K of the gearing *m*, so that the frame T, with the wipers S and shafts *g*, can be lowered or raised to any angle without interfering with the mesh of the cogs between wheels *m* and the pinions on the ends of shafts *g*, so that in operation the wipers S can be raised or lowered to suit the depth of the river to be dredged. The wipers S can be lowered or raised by the fall-purchase *w* to the depth required.

In construction the shafts *g* are to be hung in the frames T, that oscillate on shaft K, so that one or more of the wipers S and shafts *g* can be placed in a frame, and each frame be controlled by the fall-purchase *w*, so that the dif-

ferent wipers S can be gaged to suit the contour of the river-bottom.

The shafts *g* are provided with suitable bearings *e* and *c*; and in case a too rapid destruction of metal should occur for want of being able to oil the bearings under water, I provide the shafts *g* with roller-bearings *r*, which are formed by having several rollers around each shaft *g* and within the case *r*, according to the common plan of forming such bearings, so that they may be substituted in place of the bearings *e* and *c* when the case requires it.

The bevel-wheels *m* are driven in this case through the belt *n*, one wheel being placed on each end of the drum Z, so that one belt will run two wheels and their corresponding shafts *g* and wipers S; or the said wheels *m* can be run by means of a gearing running from the engine D.

The wipers S are formed with spiral flutes, so that in their rotation the lower points of the flutes will enter the sediment first and draw it upward from its bed. As the motion of the wipers S are in different directions the flutes in the wipers are arranged right and left to correspond with the motion.

To the frames T are attached braces or protecting-arms G, which pass through the mud and sediment before the wipers; and when a rock or other hard substance is met, which would injure the wipers were they to come in contact with it, the braces raise the wipers and they pass over without injury.

I claim—

1. In a dredger having the wipers S S, arranged in pairs in supporting-frames T, and actuated in unison by means of the bevel-wheels *m*, the braces G, in combination therewith, attached to the under portion of the frames T, substantially as shown, and for the purpose set forth.

2. The brace-bars G, in combination with the frames T, for the protection of the wipers, substantially as shown and described.

GEORGE UHL.

Witnesses:

THOS. C. HAMMOND,  
NOBLE FISHER.