

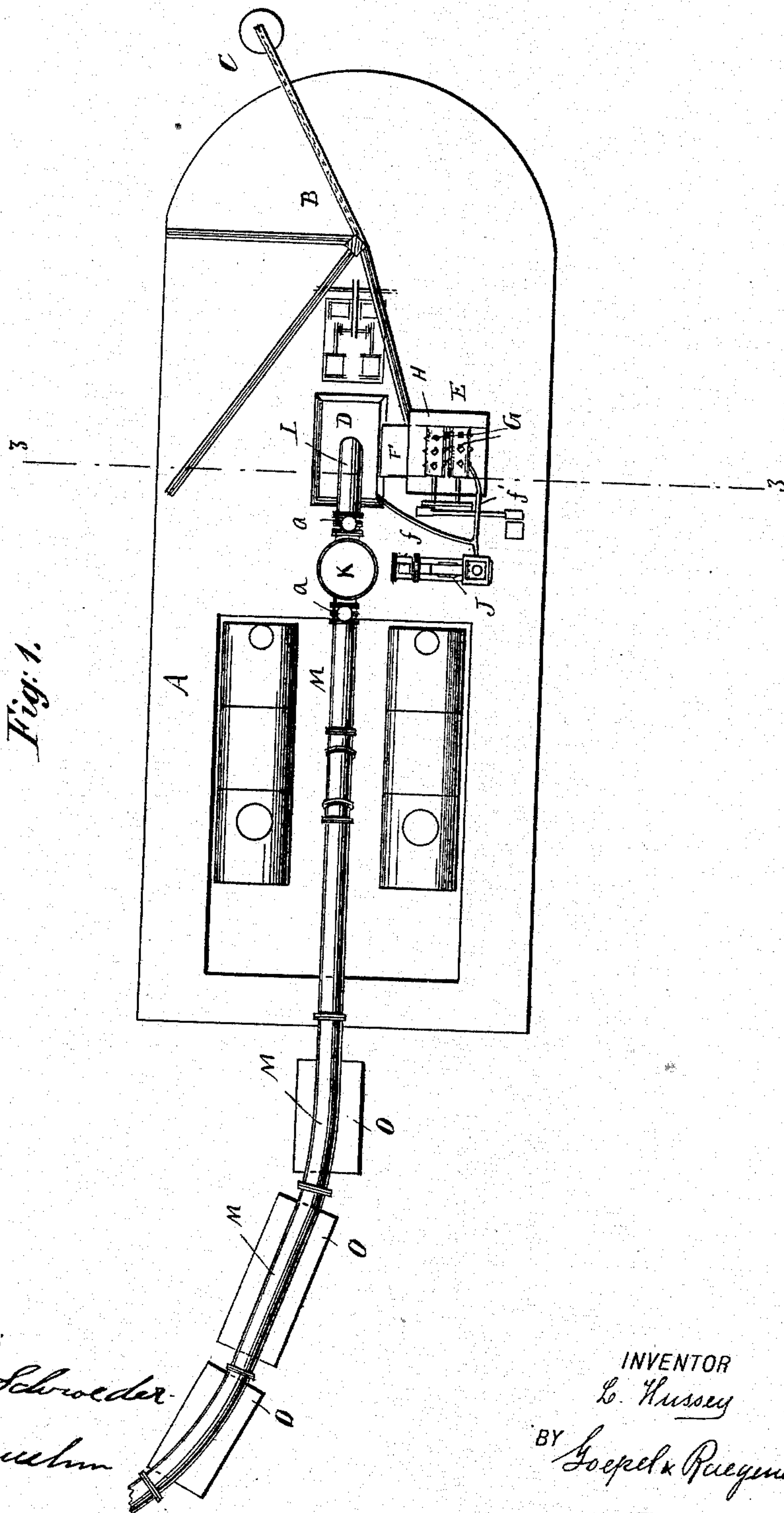
(No Model.)

3 Sheets—Sheet 1.

L. HUSSEY.  
STEAM VACUUM DREDGE.

No. 526,529.

Patented Sept. 25, 1894.



WITNESSES:

*Charles Schroeder*  
*William Duerksen*

INVENTOR

*L. Hussey*

BY *Goepel & Paegener*

ATTORNEYS.

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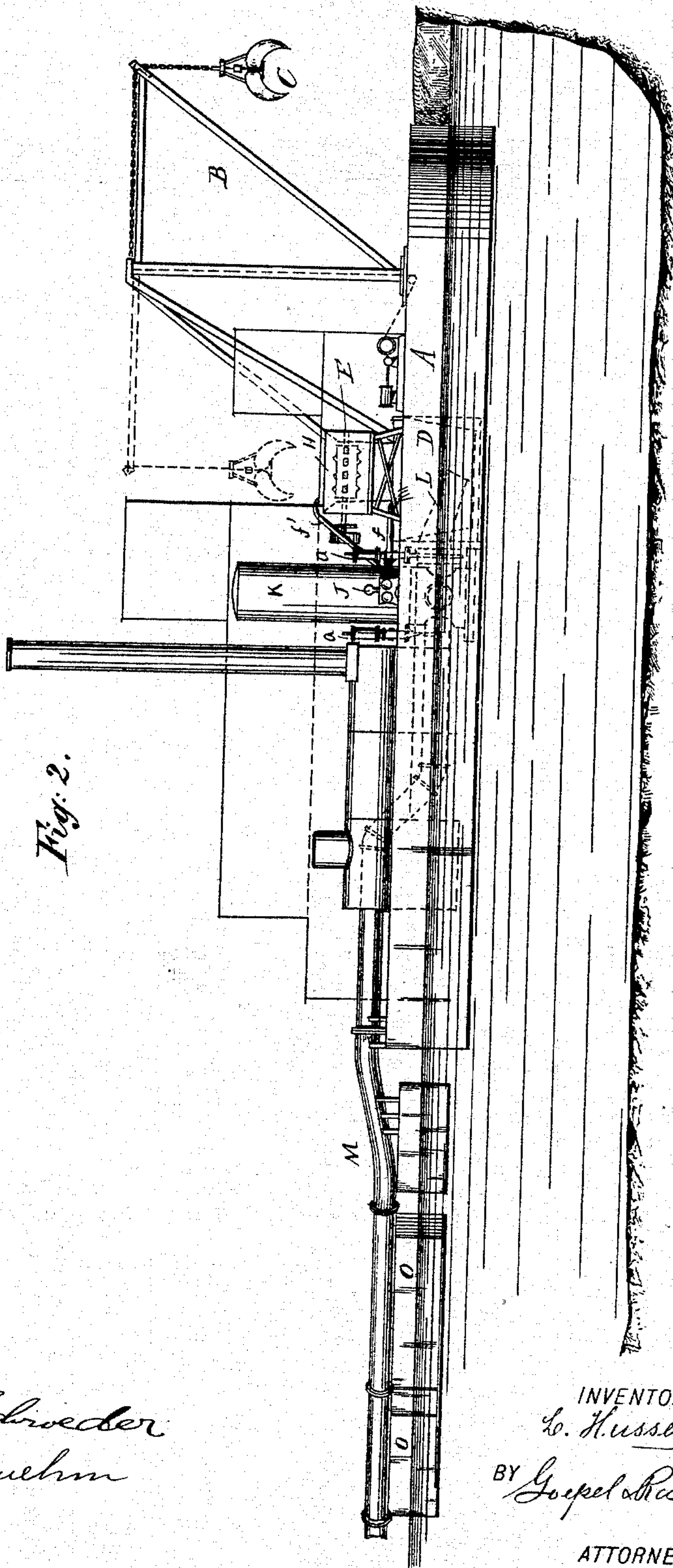


Fig. 2.

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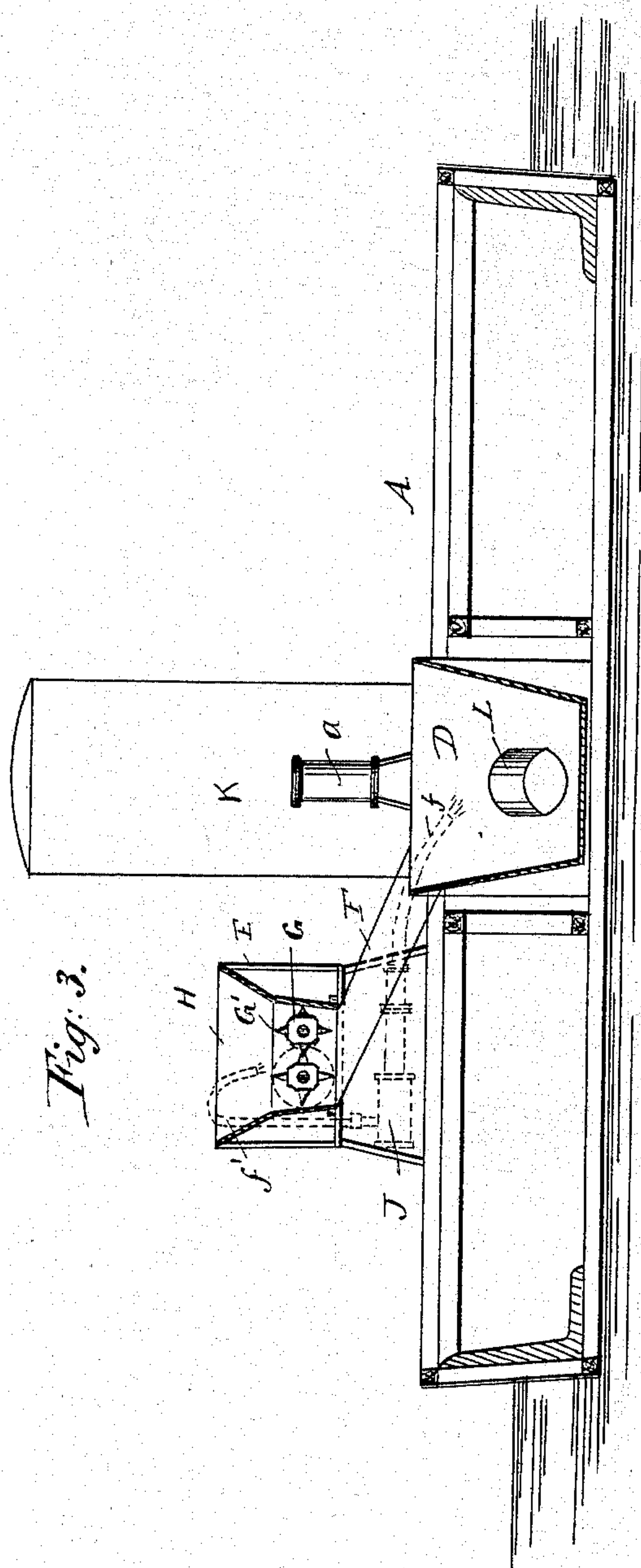
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WITNESSES:

*Charles Schroeder*

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# UNITED STATES PATENT OFFICE.

LEVI HUSSEY, OF NEW YORK, N. Y., ASSIGNOR TO THE MINING AND DREDGING POWER COMPANY, OF WEST VIRGINIA.

## STEAM VACUUM-DREDGE.

SPECIFICATION forming part of Letters Patent No. 526,529, dated September 25, 1894.

Application filed September 2, 1892. Renewed March 30, 1894. Serial No. 505,779. (No model.)

*To all whom it may concern:*

Be it known that I, LEVI HUSSEY, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Steam Vacuum-Dredges, of which the following is a specification.

This invention has reference to an improved steam dredge in which the suction pipe is arranged in a tank located in the barge, into which tank the excavated material is dumped in a comminuted state mixed with water so as to be readily taken up by the suction pipe of the pump and propelled to a place of deposit.

In the accompanying drawings, Figure 1 represents a plan of my improved steam dredge, showing the same arranged on a barge. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical transverse section, on the line 3 3, Fig. 1, on an enlarged scale.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a barge or vessel which is moored in a suitable manner to the place where the dredging operation is to be performed.

The derrick B is arranged at one end of the barge, and supports the grappling fork or bucket C by which the material is taken up from the bottom, and then transferred to a tank D that is arranged on the center of the barge, or if the material is not small enough but consists of larger lumps and pieces to a comminuting apparatus E that is arranged at the side of the tank on the deck of the barge and connected by an inclined chute F with the tank D. The comminuting apparatus consists of rollers G having pointed teeth G' the rollers being arranged near enough together so that the material conveyed to the same is broken up and comminuted sufficiently so as to be taken up by the suction pipe of the pump without danger of choking the same.

Above the toothed rollers by which the material is broken up or comminuted is arranged a hopper H into which the grappling fork discharges its contents. The comminuting apparatus is operated by a suitable steam engine supplied with steam from boilers at the opposite end of the barge. The grappling

fork is also operated by a suitable hoisting engine in the usual manner in barges of this kind. Both the tank D and the rollers of the comminuting apparatus are supplied with water by means of pipes *f f'* through which water is supplied by a pump J. This water serves to lubricate and partly dissolve the material supplied by the grappling fork and the rollers break it up and mix it with the water and thus prevent clogging of the suction pipe.

At one side of the tank D is arranged a vacuum pump K the suction pipe L of which terminates near the bottom of the tank D. The vacuum pump is provided with gate valves which are operated by steam cylinders. The comminuted and liquefied material is taken up by the suction pipe L and conducted through the discharge pipe M, which is composed of a number of jointed pieces that are supported in floats O and extended to the point of deposit for the excavated material.

My improved steam dredge can be used to great advantage in increasing the depth of lakes, reservoirs, slips, or for deepening a channel of a river or other water course, cutting canals and the like, as the material is readily transferred from the point of excavation, to the barge and from the barge to the place of deposit, whereby a quick, effective and comparatively inexpensive dredging operation is obtained, and is of special service where hard earth is to be delivered a long distance through pipes.

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

The combination of an open comminuting tank, an open mixing tank in communication with said comminuting tank, a comminuting mechanism in said comminuting tank, means for supplying water to both of said tanks, an excavator, and a suction pipe leading from the mixing tank, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

LEVI HUSSEY.

Witnesses:

OSCAR F. GUNZ,  
CHARLES SCHROEDER.