

(No Model.)

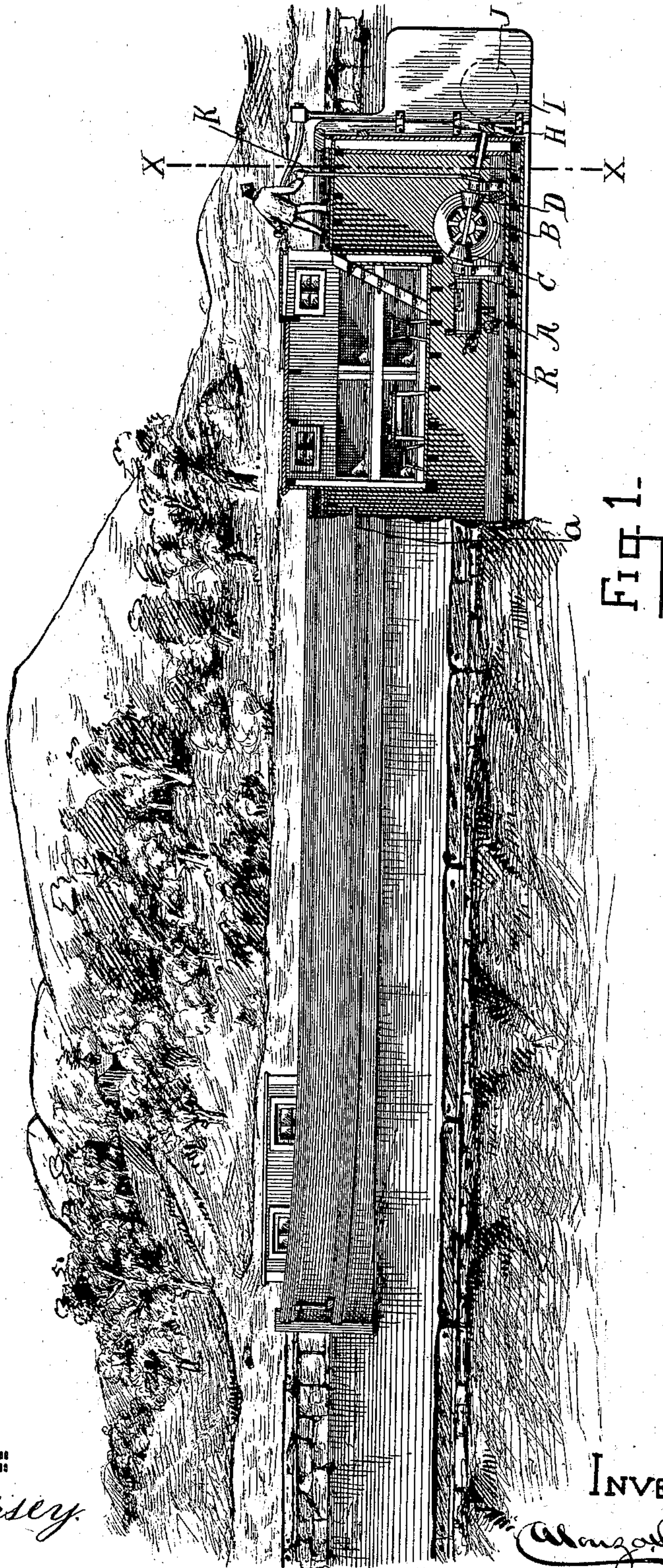
2 Sheets—Sheet 1.

A. C. MATHER.

APPLICATION OF POWER TO CANAL BOATS.

No. 556,016.

Patented Mar. 10, 1896.



WITNESSES:

Fred W. Hersey.

W. Hislop.

INVENTOR:

A. C. Mather



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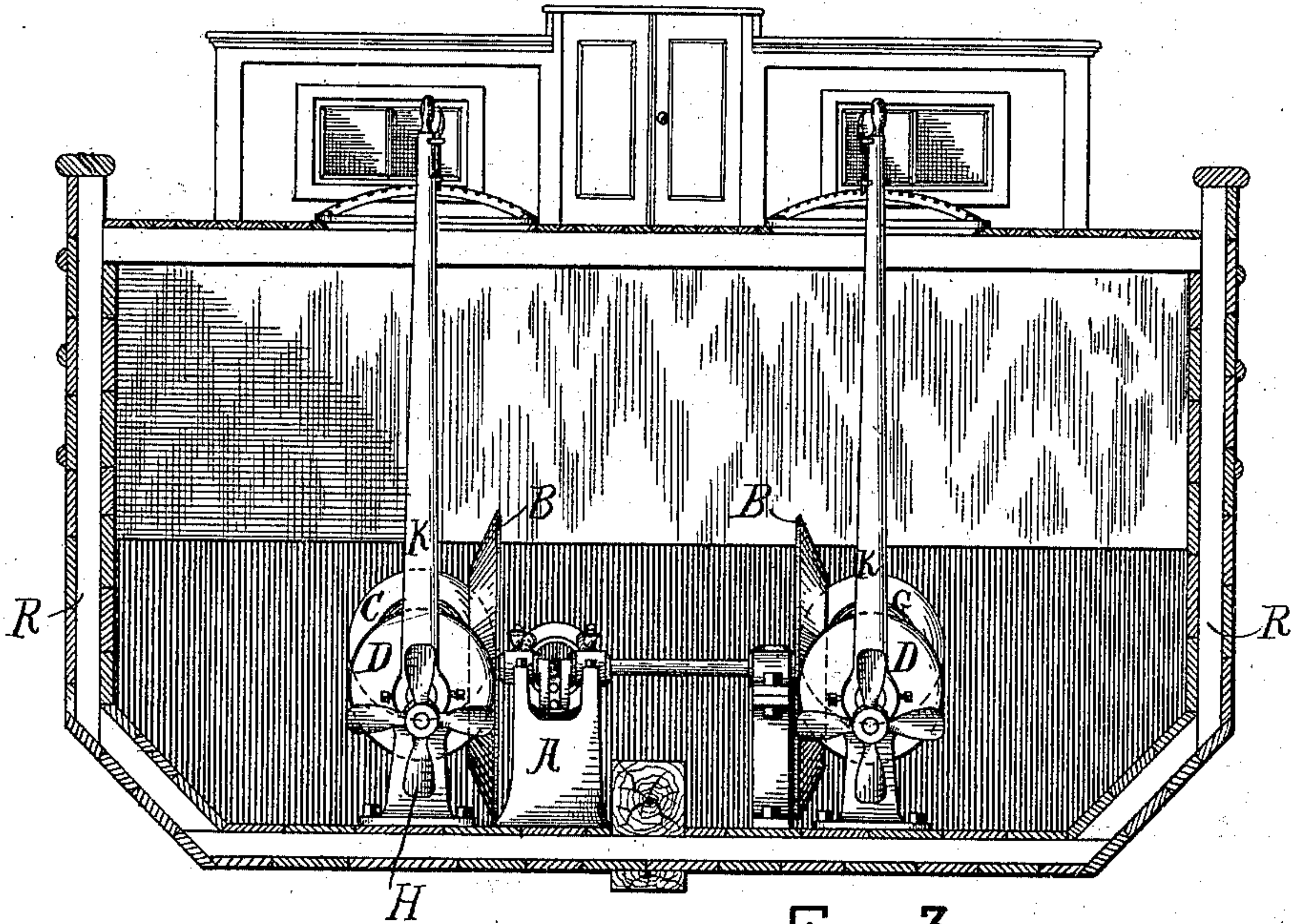
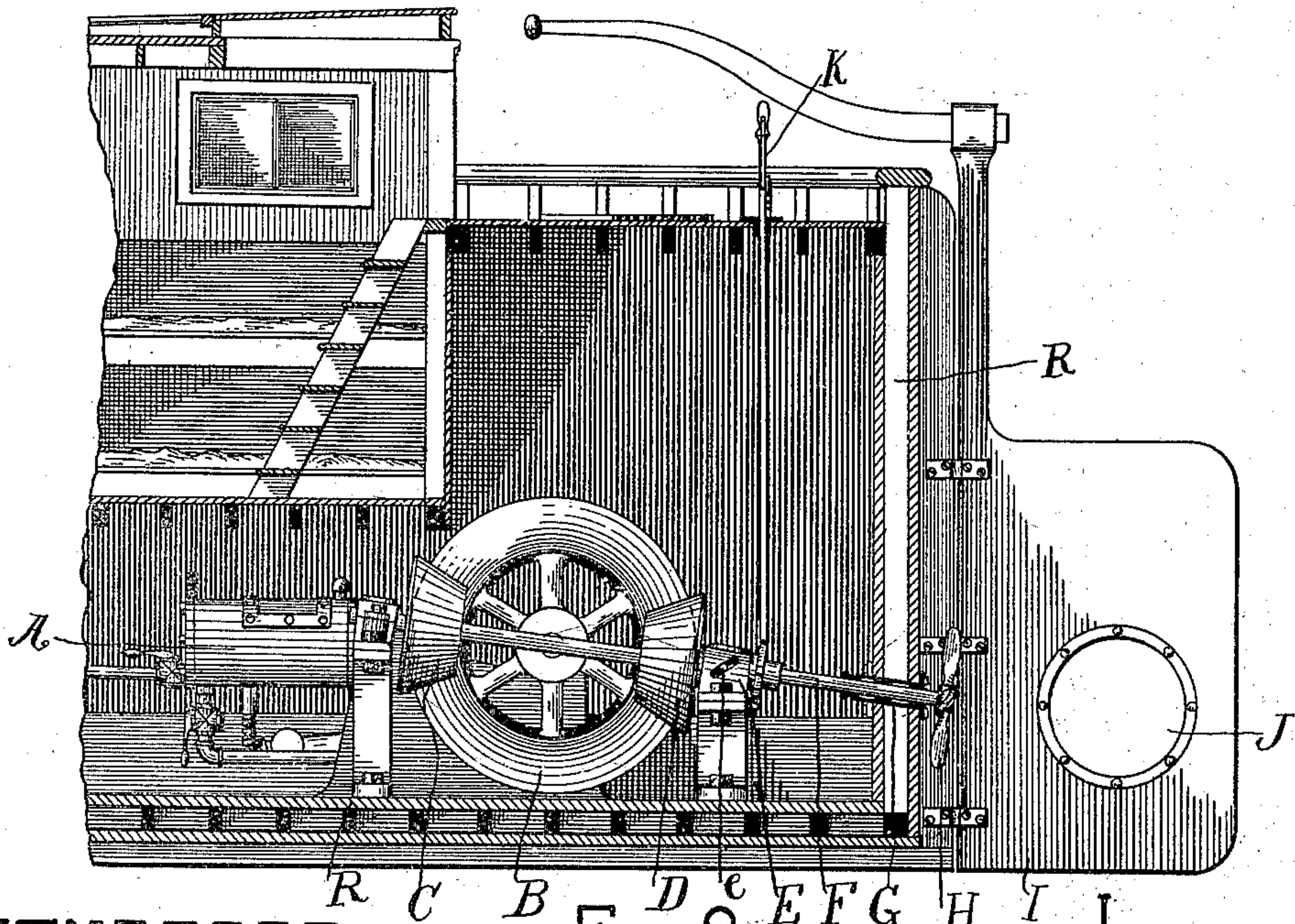


Fig. 3.



WITNESSES:

*Fred W. Hersey.*  
*W. Bishop.*

Fig. 2.

INVENTOR:

*Alfred Mather*



# UNITED STATES PATENT OFFICE.

ALONZO C. MATHER, OF CHICAGO, ILLINOIS.

## APPLICATION OF POWER TO CANAL-BOATS.

SPECIFICATION forming part of Letters Patent No. 556,016, dated March 10, 1896.

Application filed January 6, 1893. Serial No. 457,519. (No model.)

*To all whom it may concern:*

Be it known that I, ALONZO C. MATHER, a resident of Chicago, county of Cook, in the State of Illinois, have invented certain new and useful Improvements in the Application of Power to Canal-Boats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make use of the same.

My invention relates to the application of a gas-engine to a canal-boat without materially altering its construction.

The advantages of gas-engines for the propulsion of canal-boats is very apparent, as they require no licensed engineer or skilled person to run them. They are exceedingly simple and compact, and when applied in the manner shown and described in my invention very efficient.

With this object in view my invention consists in certain features of construction and the combination and arrangement of parts, as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a side view of a canal-boat, partly in section, showing my invention in its place. Fig. 2 is an enlarged view of the same, and Fig. 3 is an end view in section shown on the line X X of Fig. 1.

In the drawings, A represents the gas-engine. B represents the fly-wheels of said engine, which are beveled to fit or engage with the friction bevel-wheels C and D, which are fastened to the shaft F, at the end of which the screw-propeller H is attached.

E is the rear bearing of the shaft F and has in it an inclined slot in which is the pin e, said pin being fitted into a collar in which the shaft F is free to rotate, but is prevented from longitudinal movement with relation thereto, and by the means of the lever K attached to said collar enables a forward and backward movement of said shaft F at right angles to the fly-wheel B.

G represents a stuffing-box of any approved pattern; H, the screw-propeller; I, the rudder; J, a hole in the rudder to enable the screw-propeller to go through when the rudder is thrown up close to the stern of the boat.

R represents the outside of the canal-boat.

In operating a canal-boat by means of this device the oil is stored in the bow of the boat and the gas obtained is conveyed to the engine by means of a pipe a, Fig. 1, passing on the outside of the boat as far as possible, thus preventing any explosion from accidental escape of gas. The engine may be of any approved type and is intended to be kept in motion at a uniform speed continually during the passage of the boat. Should a decrease in speed of the boat be necessary, it is done by means of the lever K and the bevel friction-pinion as follows: The two bevel-wheels C and D being fixed to the shaft F may be moved forward and backward by the lever K. When these wheels are in a central position, they do not touch the bevel fly-wheel of the engine, which is in motion at a uniform speed, and thus they are at rest. If it is desired to propel the boat ahead, the lever K is moved to the right and the pin e forces the bevel friction-wheel D against the fly-wheel, and this sets the screw-propeller in motion, and the wheels being of the friction class the harder the pressure the greater the speed, till the speed of the fly-wheel is reached. The same is true of the backward motion, which is obtained by throwing the lever to the left and engaging the wheel C. When the wheels are in full forward or backward position, the pressure of the screw-propeller in either direction will keep a constant pressure on it in that position, and the greater the pull of the screw the greater the friction against the fly-wheel.

In this invention two screws are used, one on each side the rudder and stern-post of the boat. The rudder I should have a hole in it, through which the screw and forced water may pass when the rudder is back against the stern of the boat, as in the construction of canal-boats, on account of going through locks, the sterns are built square and the rudder folds against them, and without this particular construction it would be impractical to apply a screw-propeller to the average canal-boat without going to a very large expense and altering her stern with proportionate decrease in her carrying capacity, and this construction will also be found desirable when electricity or steam-power is applied to canal-boats with square sterns.

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

5 A canal-boat having two screws, one each side of the rudder, said rudder having in it a hole through which either of the screws can pass when said rudder is folded up against

the stern of the boat, substantially as is described and set forth.

Witnesses: ALONZO C. MATHER.  
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