

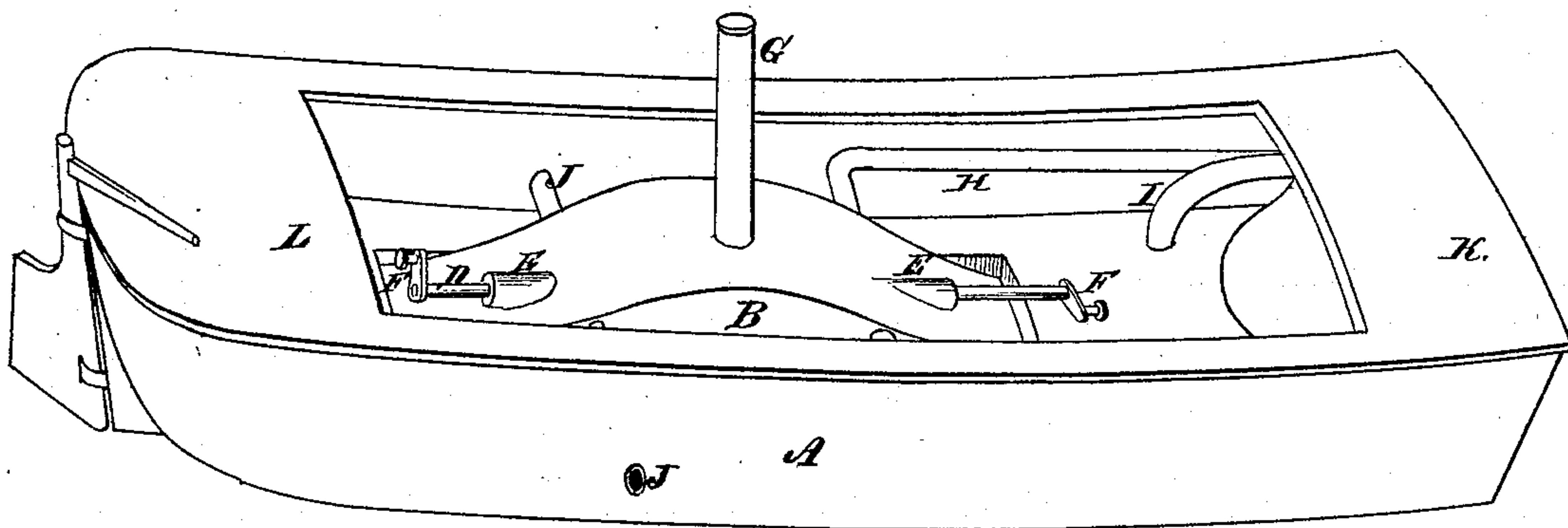
N. H. MURRAY.

Improvement in Canal-Boats.

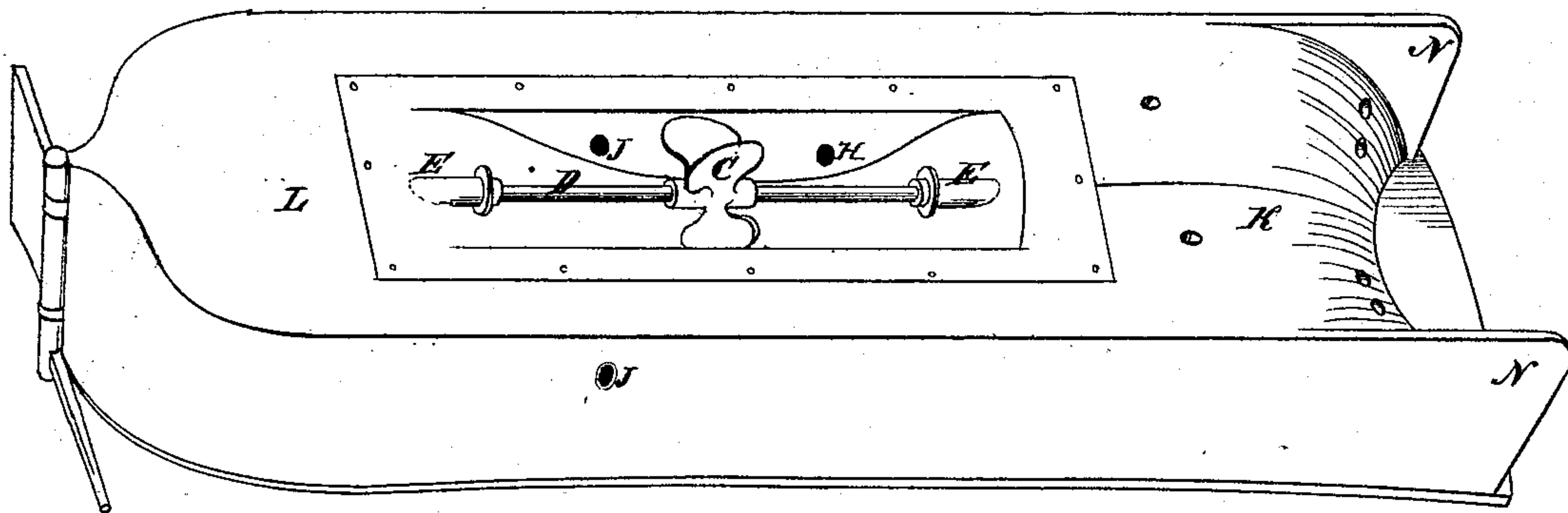
No. 127,424.

Patented June 4, 1872.

*Fig. 1.*



*Fig. 2.*



Witnesses.

A. C. Bradley  
D. P. Cowl

Inventor:

Nathaniel H. Murray  
by  
Geo. W. Rathwell  
Atty.



# UNITED STATES PATENT OFFICE.

NATHANIEL H. MURRAY, OF LOUISVILLE, KENTUCKY.

## IMPROVEMENT IN CANAL-BOATS.

Specification forming part of Letters Patent No. 127,424, dated June 4, 1872.

I, NATHANIEL H. MURRAY, of the city of Louisville, county of Jefferson, and State of Kentucky, have invented a certain new and useful Improvement in Canal-Boats or other similar crafts, of which the following is a specification:

My invention relates to that class of boats which are propelled by means of a wheel placed in a recess in the bottom of the boat; and it consists in the combination and arrangement with said recess or propeller-chamber of pipes for supplying water thereto; and also in pipes placed at the bow to assist in conducting the water from the swell at the bow, all as herein-after set forth. The recess in which the propeller is made to work may be made either of wood or iron, (one or more of which may be used at the same time,) and sufficiently wide to suit the size of the propeller, but from the bottom of the boat up to the center of the shaft it is made nearly wall-sided, or with but slight bearings on the inside, but from the shaft to the top it may be made circular or in any suitable form; but when closed a pipe is inserted in order to ventilate it. The forward and after ends of the recess are not made square similar to a box, but sloped up gradually to the top, so as to form an easy rake at the ends, with suitable bearings for the propeller-shaft in each; but, if necessary, the after end, below the shaft, may extend back nearly to the stern, in the form of a recess or trough, tapered from the top down to nothing at the end, or may be continued out full size in order to permit the water to leave the propeller with less obstruction. There are also large pipes of suitable size inserted in the sides of the boat near the bottom. These pipes serve to supply the recess with water; and instead of being set square in the sides of the boat, as shown, they may be placed obliquely, with the external ends forward. There are also two other large pipes inserted in the bow, near the top of the water at each side, and extending back inside of the boat, connecting with the recess forward of the propeller, for the purpose of conducting the water from the bow to prevent the swell at that point, and also for keeping up a circulation through the recess in the hull, in order to draw off as much as possible the swell at the bow when under way. There are also two other large pipes, one end of which

is inserted in the bow near the sides, while the other is turned down so as to connect with the bottom of the boat some distance from the bow, in order to still further assist in conducting the water from the swell at the bow. The propeller used in my invention may be made in any of the known forms, and placed on a suitable iron shaft made long enough to extend through the ends of the recess, with the necessary packing-boxes to render it watertight, and room enough for cranks on the ends by which to apply the power, which may be either steam or any other suitable kind of power. Although the drawing shows the propeller-shaft extending through both ends of the recess, parallel with the boat, it is not always intended to be used in that manner, but may extend only through one end, with or without suitable bearings in the recess to support the end of the shaft, which shaft may be placed at any desired angle with the boat, and the power applied to it in that position. The object of my invention is to provide an economical and effective means of propelling canal-boats or other crafts without causing a bow or stern wave to wash the banks of the canal, all of which I claim to have accomplished by means of my propeller as above described, in connection with the pipes in the bow, as described, and also by means of the peculiar shape of the bow, as described in the drawing, which bow is so formed as that the sides of the boat are made to extend some distance in front of the central part, thereby forming a separate cut-water on each, by means of which the swell at the bow is forced immediately in front, where it is disposed of down under the boat by means of the pressure.

Having thus fully described the nature and object of my invention, a more thorough understanding of it may be had by reference to the drawing.

Figure 1 is a view of the boat, showing the recess and propeller-shaft, and also the interior arrangement of the conducting-pipes therein. Fig. 2 is a view of the bottom of the boat, showing the recess and propeller therein, and also the peculiar shape of the bow of the boat.

In the drawing, A is the boat. B is the recess in the bottom. C is the propeller. D is the shaft. E E are the bearings and packing-chambers, which may be packed with any elas-



tic material. F F are the cranks by which the power is applied. G is a vent-pipe. H are pipes at each side of the bow, running back and connecting with the recess forward of the propeller. I are also pipes, one end of which is inserted in the bow while the other turns down and connects with the bottom of the boat. J J are also pipes in the side of the boat, connecting with the sides of the recess inside. K is the bow of the boat. L is the stern; but it may be used either way, changing the rudder. N N are the cut-waters or side extensions, in order to prevent the bow-wave from passing outside to wash the banks.

Having thus fully described the drawing,

what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the chamber B G, constructed and arranged as described, I claim the pipes H H and J J, communicating with said chamber and opening at the bow and sides of the boat, as and for the purpose set forth.

2. In combination with the bow K N, made as described, I claim the pipes I I opening at the bow and bottom of the boat, as and for the purpose specified.

NATHANIEL H. MURRAY.

Witnesses:

E. F. HUYCK,  
R. MASON.