

J. W. DOLCH & G. E. HAYDN.
PROPELLING CANAL BOAT.

No. 175,436.

Patented March 28, 1876.

Fig. 1.

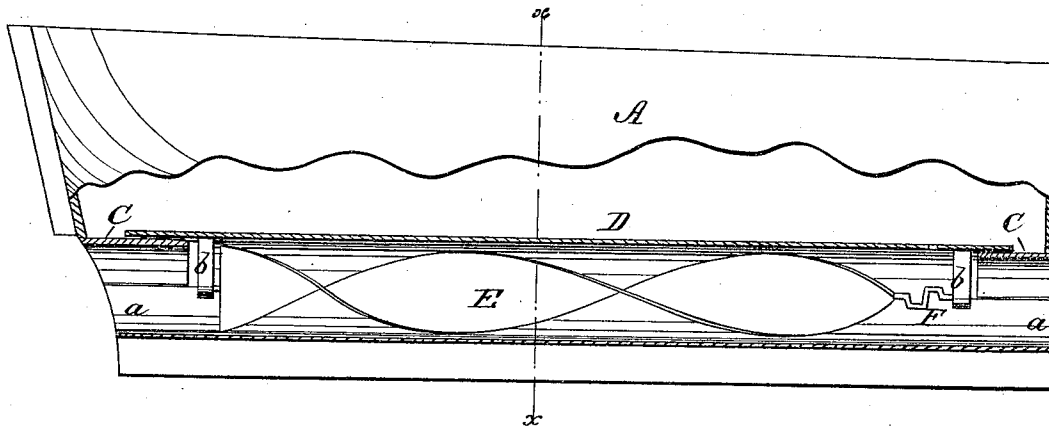
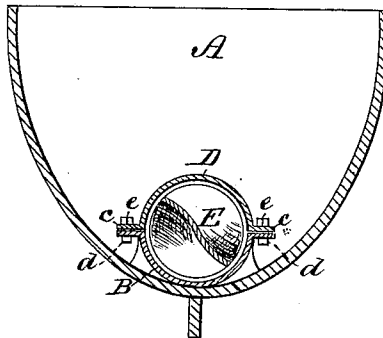


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN W. DOLCH AND GEORGE E. HAYDN, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN PROPELLING CANAL-BOATS.

Specification forming part of Letters Patent No. **175,436**, dated March 28, 1876; application filed February 24, 1876.

To all whom it may concern :

Be it known that we JOHN W. DOLCH and GEORGE E. HAYDN, of Baltimore city, State of Maryland, have invented a new and Improved Propeller for Boats; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation, partly in section; Fig. 2, a transverse section.

Our invention relates to certain improvements in propellers especially adapted to use on canal-boats propelled by steam, and designed to prevent the washing away of the banks. It belongs to that class of propellers in which a long spiral propeller is arranged to revolve in a cylindrical channel in the bottom of the boat, which channel opens into the water at both ends, and through which the water is discharged by the revolutions of the propeller to urge the boat forward.

Our invention consists in making the cylindrical channel with a detachable upper half, which is fastened by means of bolts to the said lower half, the upper detachable portion being provided with hangers, in which the ends of the propeller-shaft are journaled, so that the propeller is removable with the upper section of the channel.

In the drawing, A represents a canal-boat, having holes *a a* in the bow and stern as low down and near the keel as possible, so as to enable the propeller to get a good draft upon the water. B is the stationary half of the cylinder forming the bottom of the channel, which is made fast to the bottom of the boat, and connects at its ends with holes *a a*. C C are end hoods projecting from the upper edges of the holes *a a*, and forming connections for the ends of the upper detachable half-cylinder D. Said half-cylinder is provided with hangers *b b*, in which the journals of the spiral propeller E revolve. Said hangers are made very strong, and as thin as possible, consistent with strength, so as to afford but little resistance to the passage of the water through the channel. The half-cylinder D overlaps the

end hoods C, and is provided with side flanges *c*, which rest upon corresponding flanges *d* upon the lower stationary portion of the channel. The two parts of the channel are fastened together by bolts *e*, which pass through flanges *c* and *d*, the joints between the said flanges and also between the hoods and the ends of the upper detachable portion, being previously packed and well luted to make a perfectly water-tight joint. F is a double crank at one end of the propeller-axis, by means of which the propeller is rotated. With this double crank is connected a pitman, which pitman passes through a slot in the upper portion of the channel, and connects with the operating parts of the engine, a sliding box being arranged upon the slot to prevent the passage of water therethrough.

We are aware of the fact that it is not new to arrange a propeller longitudinally in an open channel in the bottom of a boat, and we therefore confine our invention to our particular mode of constructing the channel and arranging the propeller, whereby the propeller may be more readily removed for inspection or repairs, or for the disengagement of obstructions. This arrangement, it will be seen, will permit with the use of proper valves or gates in openings *a a*, of the removal of obstructions even when the boat is in the water without having to be hauled up on the dry docks, thus saving much time, labor, and expense.

Having thus described our invention, what we claim as new is—

The combination with the hoods C C, and the lower flanged half-cylinder B, of the detachable flanged half-cylinder D, carrying hangers *b b*, and spiral propeller E, and adapted to be fastened to the lower half-cylinder by bolts, so as to form an open channel for the propeller, as described.

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Witnesses:

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