CHARLES H. JENNER.

Improvement in Propelling Canal-Boats.

No. 127,401. Patented May 28, 1872.

Fig. 1.

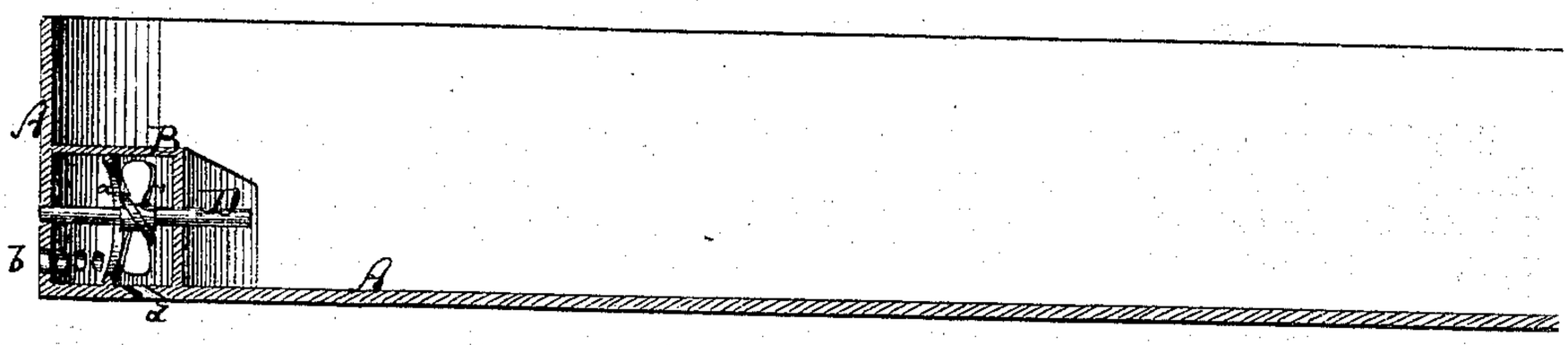


Fig. 2.

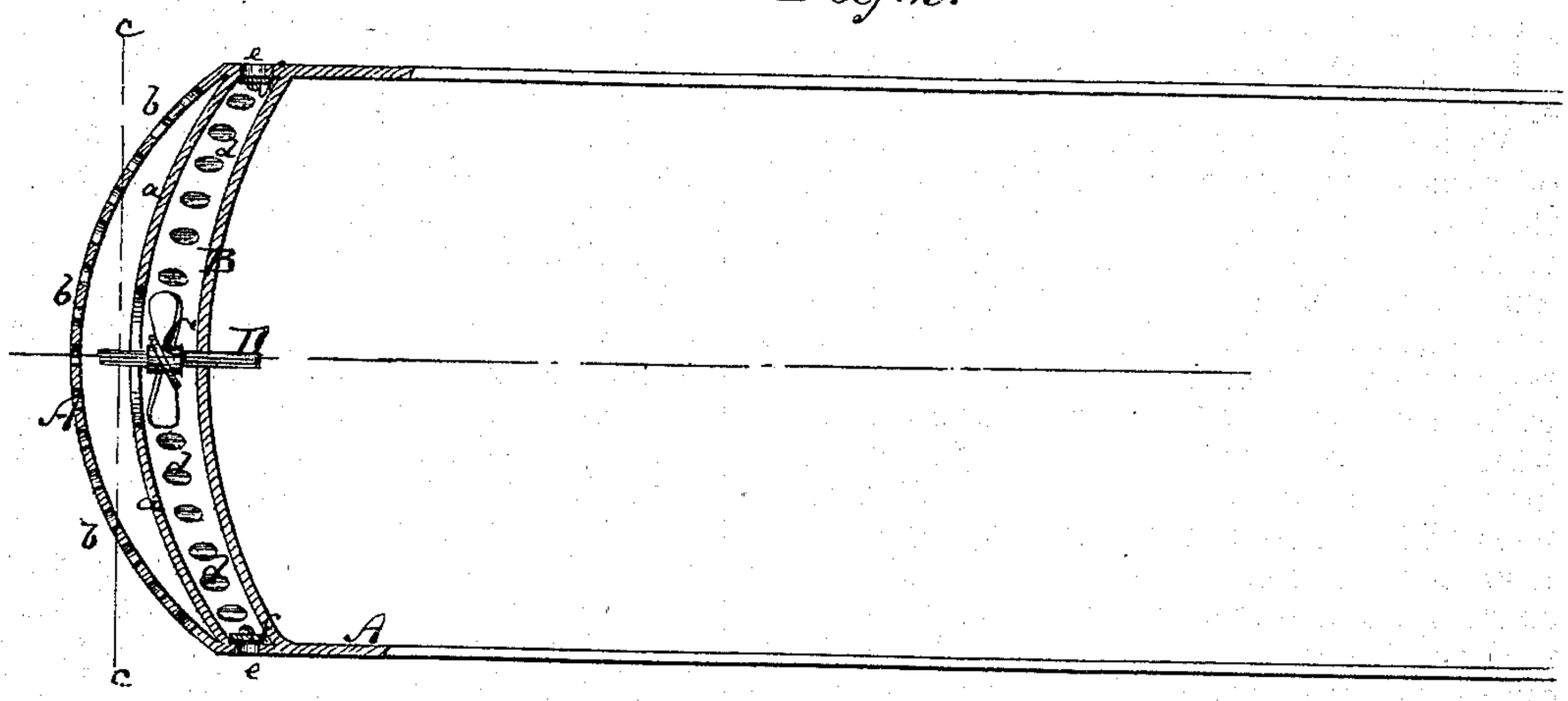
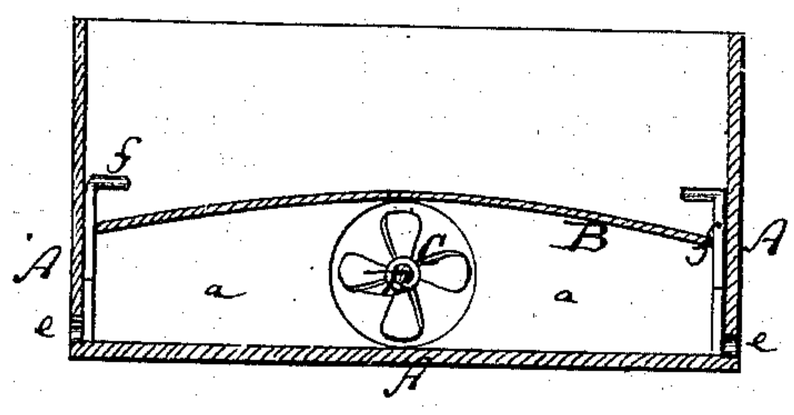


Fig. 3.



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127,401

UNITED STATES PATENT OFFICE.

CHARLES H. JENNER, OF BROCKPORT, NEW YORK.

IMPROVEMENT IN PROPELLING CANAL-BOATS.

Specification forming part of Letters Patent No. 127,401, dated May 28, 1872.

Specification describing a new and useful Improvement in Propelling Canal-Boats, invented by CHARLES H. JENNER, of Brockport, in the county of Monroe and State of New York.

Figure 1 represents a longitudinal vertical section of my invention. Fig. 2 is a horizontal section of the same. Fig. 3 is a vertical transverse section of the same taken on the plane of the line *c c*, Fig. 2.

Similar letters of reference indicate corresponding parts.

My invention is an improvement in the class of canal-boats having propellers located in the bow; and it consists in the arrangement of the propeller within a box or inclosed space, and in providing the bow of the boat with openings in its front for entrance of the water, and with openings in its under side for exit of the same, the propeller chamber through which the water intermediately passes being kept full of water when the boat is submerged to a depth less than the height of the chamber, as well as when it is submerged so that the chamber is entirely below the water-line, the object in view being mainly to obtain the full power of the propeller at all times, or with all variations of burden or lading.

A in the drawing represents the fore part of a canal-boat of suitable form and size. Directly at the bow is formed a box, B, extending transversely from side to side, and perforated in front, there being thus a horizontal row of holes, *b b*, at the bow of the boat close above the bottom. A propeller, C, mounted upon a shaft, D, is arranged within the box B, back of a transverse partition, *a*, in said box, as shown, there being a large hole of the size of the propeller directly in front of the same, through the partition *a*. Back of the partition the bottom of the box B has a series of holes, *d d*, which I prefer to incline backward, as shown in Fig. 1. The propeller when revolved by suitable power draws the water in through the holes *b*, and discharges it through the holes *d*, thus avoiding all lateral swell and buoying the boat by the discharge.

The holes *b b* are designed to have an area equal in the aggregate to the area of the opening in partition *a* in front of the propeller, and, of course, the number or size of these holes will require to be increased according as the number of propellers employed, shall be one or more; and, in any case, the openings in partition *a* will correspond to the number and location of the propellers. It is not designed, however, that the aggregate area of the holes *d* in bottom of box B shall quite equal the area of the opening or openings in partition *a*, so that when the boat is not submerged sufficiently to bring the box B below the water-line, it will yet be kept full of water by the action of the propeller. Thus the propeller itself will always be submerged and act under pressure, and its full power utilized in causing the water to discharge with a comparatively high velocity.

The box B has or may have apertures *e e* at the ends, with gates *f* for closing the same, so that by the discharge of water through one or the other or both the ends of the box at the bow of the boat, the same may be steered. By this plan I can apply one, two, or more wheels without weakening the structure or diminishing the buoyancy of the boat. I prefer making the aggregate area of the outlet-holes *d d* less than the area of displacement of the wheels, first, that I may hold the water to the work or discharge side of the wheel until it shall receive all the power of the wheel at so high a rate of speed as is necessary in all other places; also that I may discharge the water through the openings *d d* with greater velocity than is due to the discharge of the wheel, thereby producing a greater force; also, that the escaping or discharging water from *d d* will impinge upon the surrounding water and carry the same aft, by which operation a very much larger quantity of water is taken from the bow of the boat than is due to the displacement of the wheel.

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

The arrangement, in the bow of the boat, of the transverse box B, containing one or more propellers, located opposite the equal-sized opening or openings in partition *a*, and provided with the discharge-apertures *d*, whose aggregate area is less than that of the said opening or openings, as shown and described.

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