

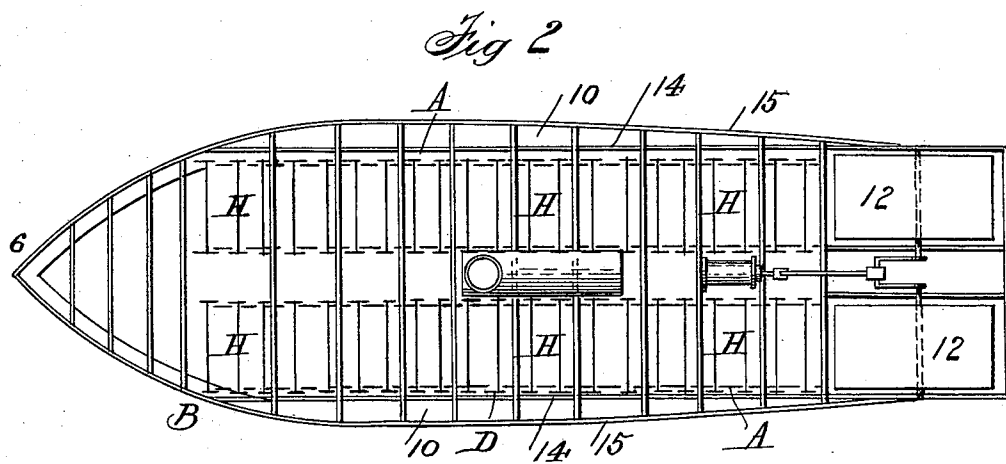
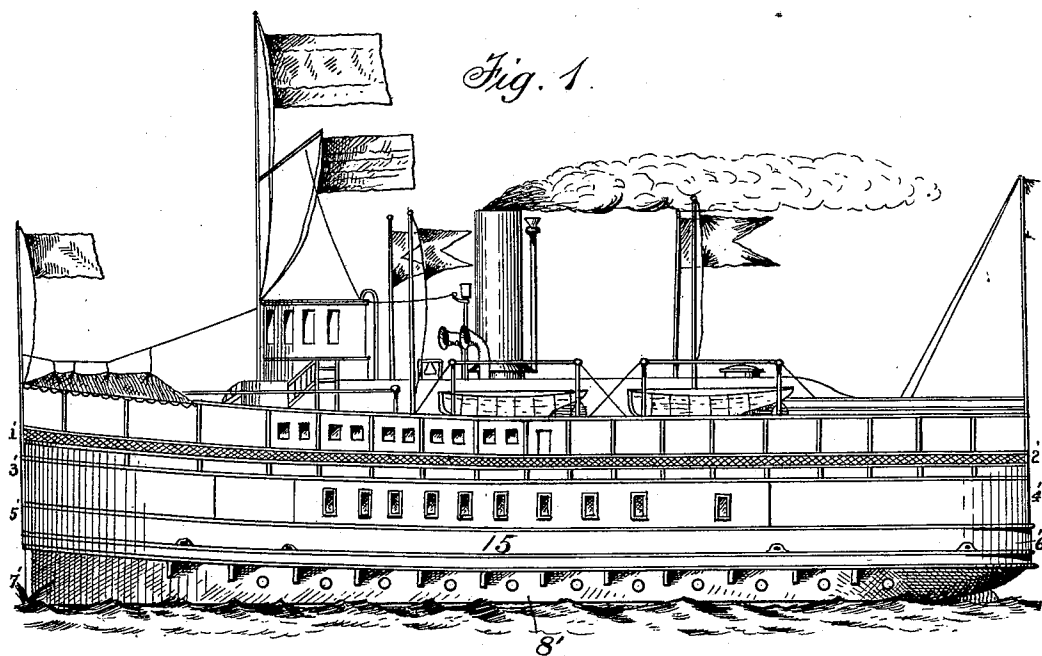
(No Model.)

3 Sheets—Sheet 1.

G. H. POND.
BUOYANT PROPELLER.

No. 586,914.

Patented July 20, 1897.



Witnesses:
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H. M. Pond.

Inventor:
Goldsbury H. Pond

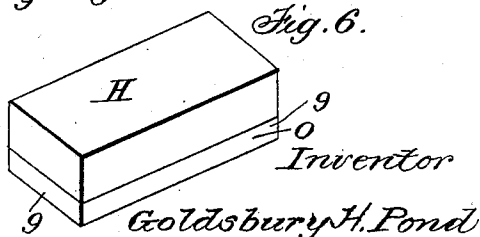
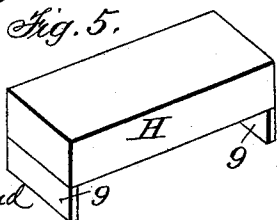
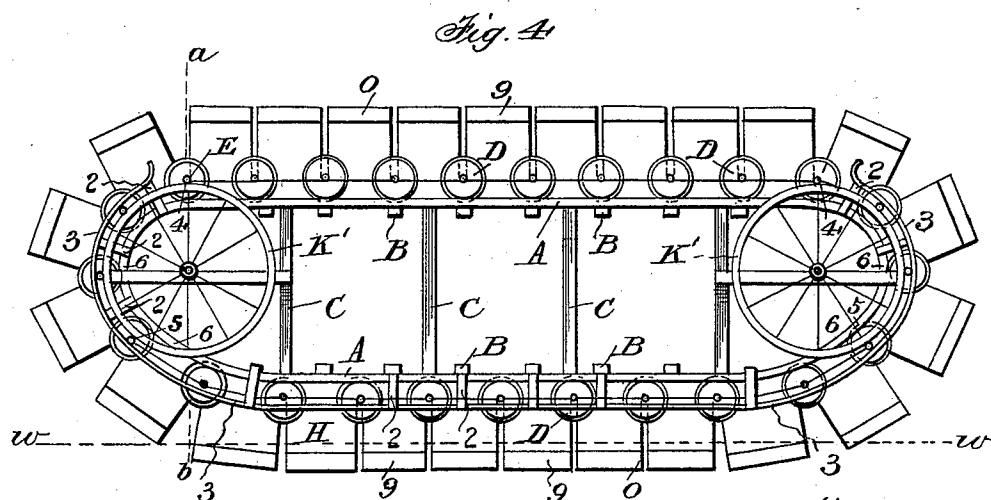
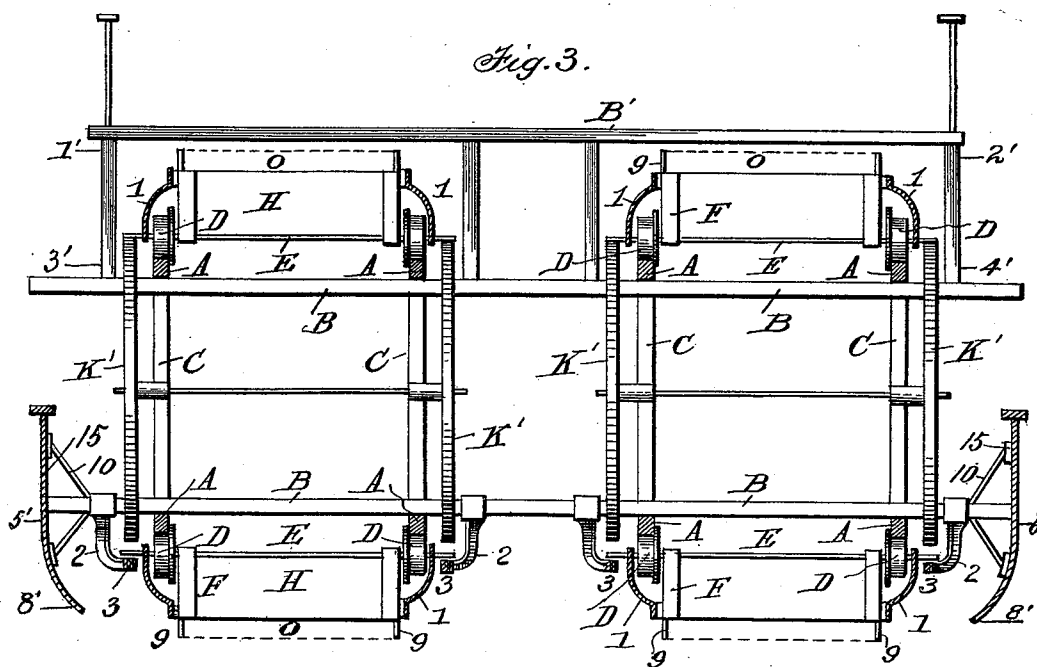
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Fig. 7.

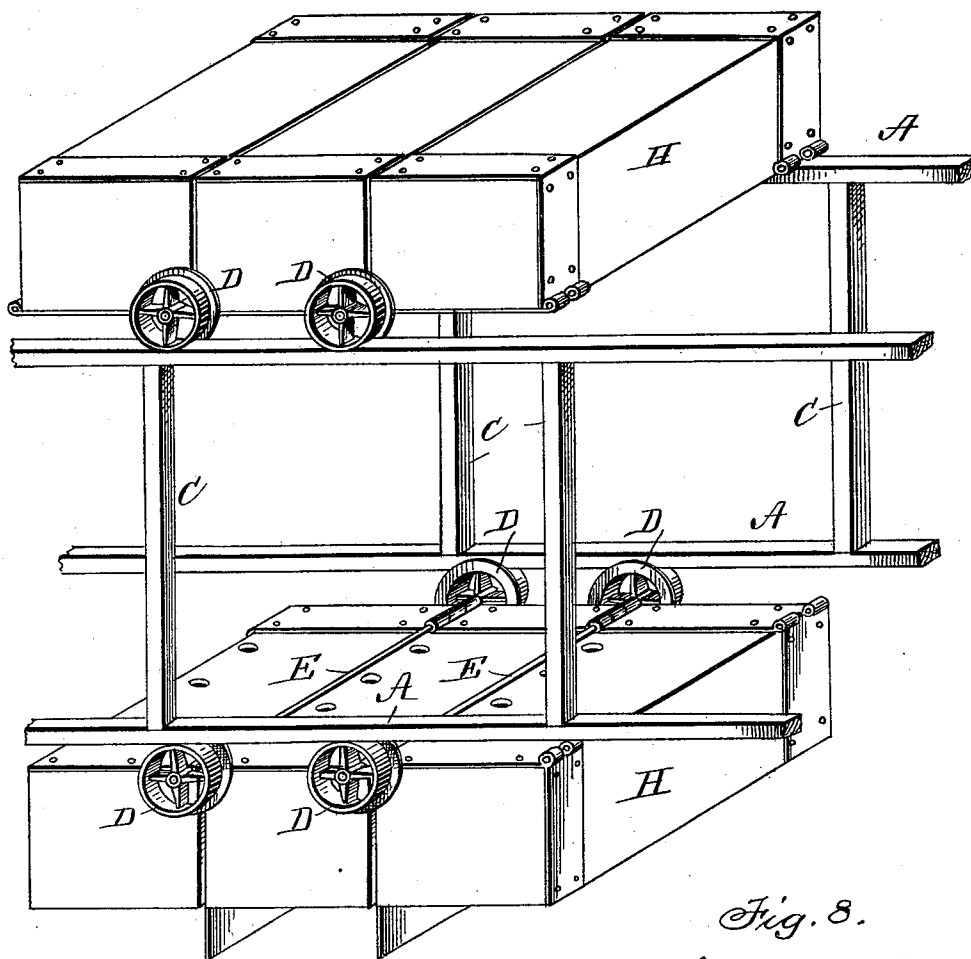
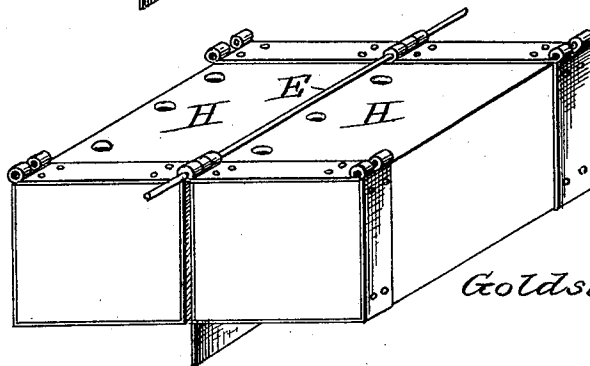


Fig. 8.



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UNITED STATES PATENT OFFICE.

GOLDSBURY HARDEN POND, OF ASHBURNHAM, MASSACHUSETTS.

BUOYANT PROPELLER.

SPECIFICATION forming part of Letters Patent No. 586,914, dated July 20, 1897.

Application filed May 25, 1896. Serial No. 593,093. (No model.)

To all whom it may concern:

Be it known that I, GOLDSBURY HARDEN POND, a citizen of the United States, and a resident of Ashburnham, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Buoyant Propellers, of which the following is a full, clear, and exact specification.

The present invention, as well as the inventions set forth in two concurrent applications, numbered in serial 593,094 and 593,095, respectively, is designed as an improvement upon the invention disclosed in Letters Patent granted to me November 25, 1890, No. 441,327.

The present invention consists, essentially, in a frame provided with a number of decks or floors provided with state and other rooms, life-boats, and other appurtenances and also provided with an engine and with paddle-wheels or propeller-screws at the stern, the whole forming a boat-like structure. Secured to said frame at each side are two endless railway-tracks arranged in pairs. Each of these tracks consists of an upper and a lower horizontal rail provided at the ends with double or compound curved rails. These rails are securely bolted to the frame, so that as the latter is moved or propelled by the engine and paddle-wheels they will consequently move with it. Passing around said rails is a series of pontoons hinged together, each pontoon being provided with shafts, which work over guide-wheels at each end of said rails, and said shafts are provided with flanged wheels, which engage with said rails. The said series of pontoons form, as it were, an endless chain, the lower run of which rests in the water and is held stationary therein by the resistance of the water. This lower run or series of the pontoons supports the said frame carrying the engine, state-rooms, and other appurtenances. When the engine is started, the paddle-wheel will move the frame forward, the lower rails of the endless tracks moving upon the flanged wheels of the lower run or series of the pontoons. As the frame continues its movement the upper run of the pontoons will be carried forward over the upper rails, and the pontoons will be laid down successively in the water in front of the

frame and the pontoons at the stern taken up out of the water after the frame has moved off the same and when moving around the ends and upon the upper rails.

The invention has for its object to improve upon the invention set forth in my Letters Patent aforesaid, whereby it shall possess superior advantages with respect to efficiency in use.

In the accompanying drawings, Figure 1 is a side elevation of a propeller or structure constructed in accordance with my invention. Fig. 2 is a plan view of the lower portion thereof. Fig. 3 is a transverse section on the line *a b*, Fig. 4, on an enlarged scale. Fig. 4 is a longitudinal section. Fig. 5 is a perspective view of one of the buoyant pontoons, the paddle being removed. Fig. 6 is a similar view, the paddle being in place. Figs. 7 and 8 are detail views of the pontoons.

In the said drawings the reference-letter B designates a number of transverse deck-beams suitably connected together, to which are secured the endless rails A. These rails consist of the upper and lower horizontal sections or portions, connected together by end portions curved in a peculiar manner, as hereinafter described. Vertical posts or uprights C support and brace said rails. The structure thus described is inclosed and provided with state and other rooms to give it the boat-like appearance and construction shown in Fig. 1. Located within this structure, between the inner rails of each pair, is a steam or other engine by which the paddle-wheels 12 at the stern are operated to propel the structure.

The letter H designates a series of pontoons hinged together, as shown in Fig. 8, and the pintles E of the hinges serve as axles for the flanged wheels D to turn upon. These pintles or shafts project beyond the ends of the pontoons and pass through curved brackets I, secured to the ends of the pontoons, and serve as additional supports therefor. These shafts also pass over guide-wheels K when the rails move forward with the frame, which wheels are loosely journaled on shafts at the end portions of the rails. It will be noted that the end connecting portions of said rails are made on a double or compound curve—that is to say, while the upper portions are

concentric with said guide-wheels the lower portions are eccentric thereto, giving the latter a longer curve, whereby the pontoons will strike and leave the water at such an angle 5 that they and the paddles thereof will be feathered, as it were. Located beneath said rails are horizontal safety-rails 3, supported by curved brackets 2 and having their ends turned or curved upwardly, like the runners 10 of a sled, concentric with the curved portions of the endless rails.

The letter O designates the paddles of the pontoons, and the numeral 9 keels at the ends thereof. These keels are for the purpose of 15 preventing lateral drifting of the pontoons.

The numeral 15 designates a boat-like frame inclosing the lower portion of the structure and extending down to about the water-line, and serves to intercept waves which 20 would otherwise break against the pontoons.

The operation is as follows: As the structure is propelled by the engine and paddle-wheels the endless rails will travel over or upon the flanged wheels, which will success- 25 sively depress the pontoons at the front and elevate them at the rear, the lower series of the pontoons being held stationary in the water by the resistance thereof, while the upper run or series move forward with the frame. 30 The object of the rails 3 is in case any of the pontoons should become detached or broken they will be caught thereby and be prevented from falling down.

Having thus fully described my invention, 35 what I claim is—

1. In a buoyant propeller of the character described the combination with the endless rails, comprising the horizontal portions, and the connecting portions made on a compound 40 curve, of the endless series of pontoons hinged together and resting on the rails, and the driving-wheels carried by said rails, substantially as described.

2. In a buoyant propeller of the character 45 described the combination with the endless

rails, the endless series of pontoons hinged together, and the wheels carried thereby, of the paddle-wheels connected with said rails and means for operating the same, substantially as specified. 50

3. In a buoyant propeller of the character described the combination with the endless rails and the rotatable guide-wheels thereon, of the endless series of pontoons hinged together, the transverse shafts secured thereto, 55 projecting beyond the ends of the same, and adapted to engage with said wheels, and the flanged wheels journaled on said shafts, substantially as described.

4. In a buoyant propeller of the character 60 described the combination of the endless rails comprising the horizontal portions and the double-curved connecting portions, the horizontal guard-rails below said rails having their ends turned up concentric with said con- 65 necting portions, the endless series of pontoons hinged together and resting upon said rails, the transverse shafts extending beyond the ends of said pontoons, and the flanged wheels, substantially as described. 70

5. In a buoyant propeller of the character described the combination with the endless rails, the endless series of pontoons hinged together, and the supporting flanged wheels, of the boat-like frame inclosing said pontoons, 75 substantially as specified.

6. A pontoon for a buoyant propeller of the character described, provided with a single transverse paddle and a horizontal keel at each end, substantially as specified. 80

7. In a buoyant propeller of the character described the combination with the frame, of the endless tracks secured thereto, consisting of the upper and lower horizontal portions and the compound or double-curved ends sub- 85 stantially as described.

GOLDSBURY HARDEN POND.

Witnesses:

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