

C. G. Meinhardt
Vibrating Propeller.

N^o 80,421.

Patented Jul 28, 1868.

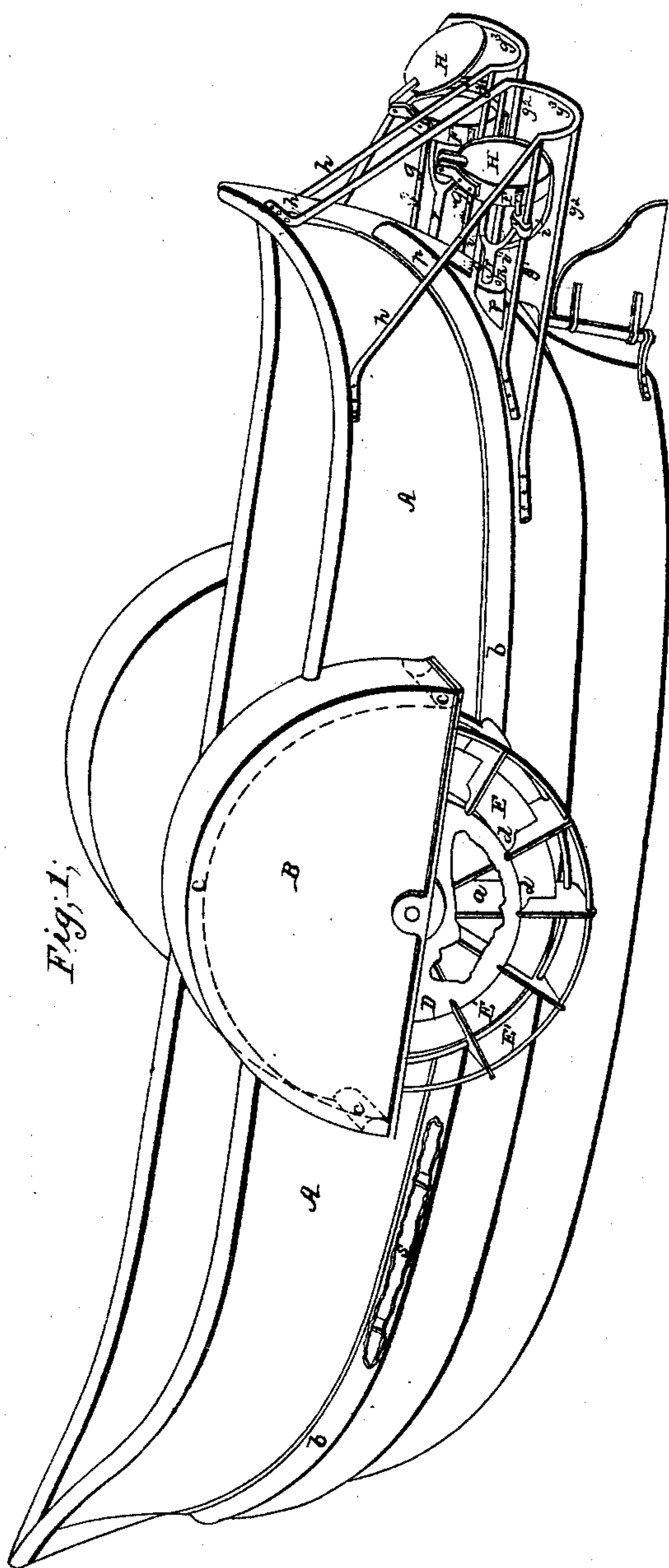


Fig. 1,

Fig. 2,

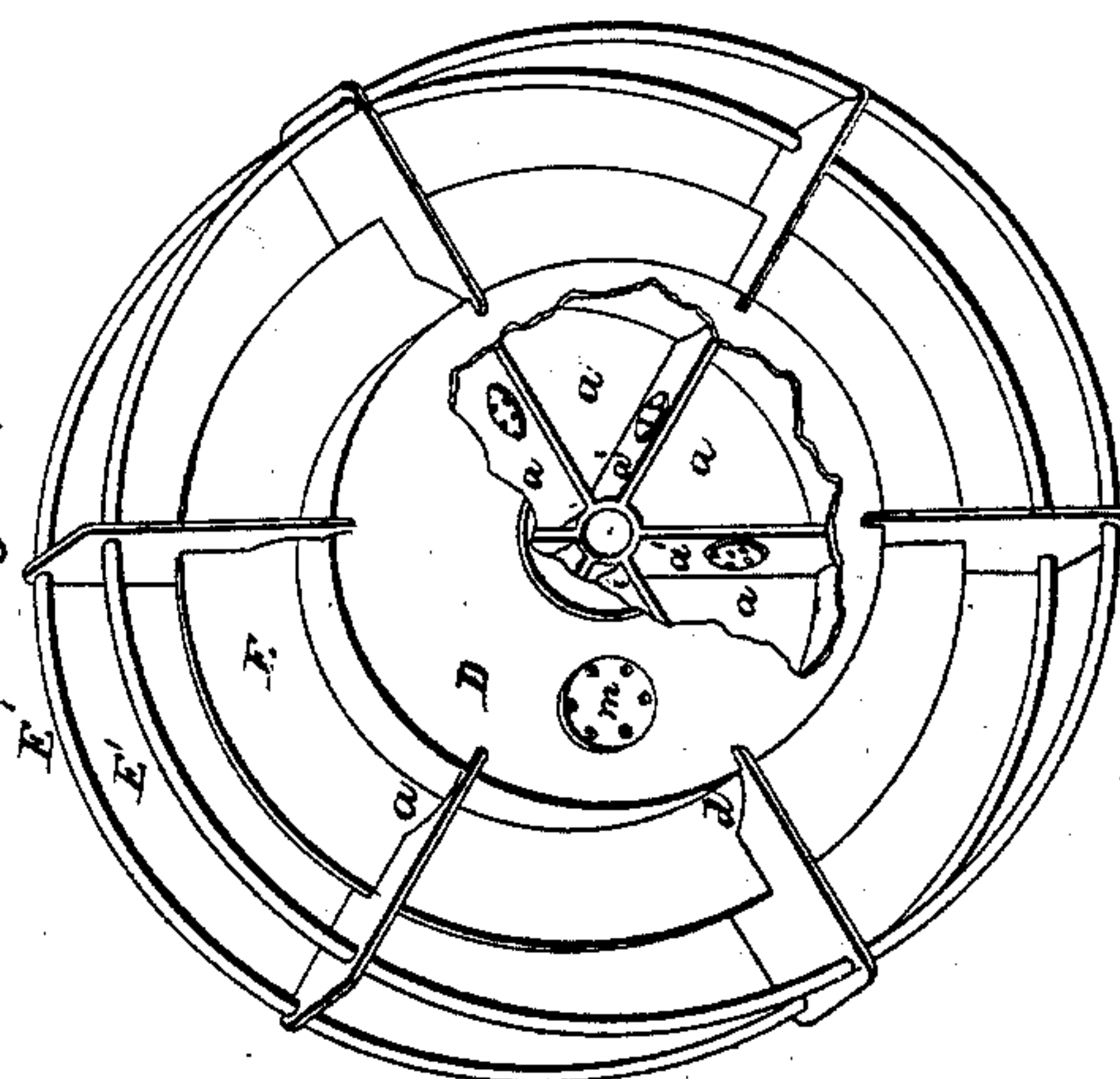


Fig. 3,

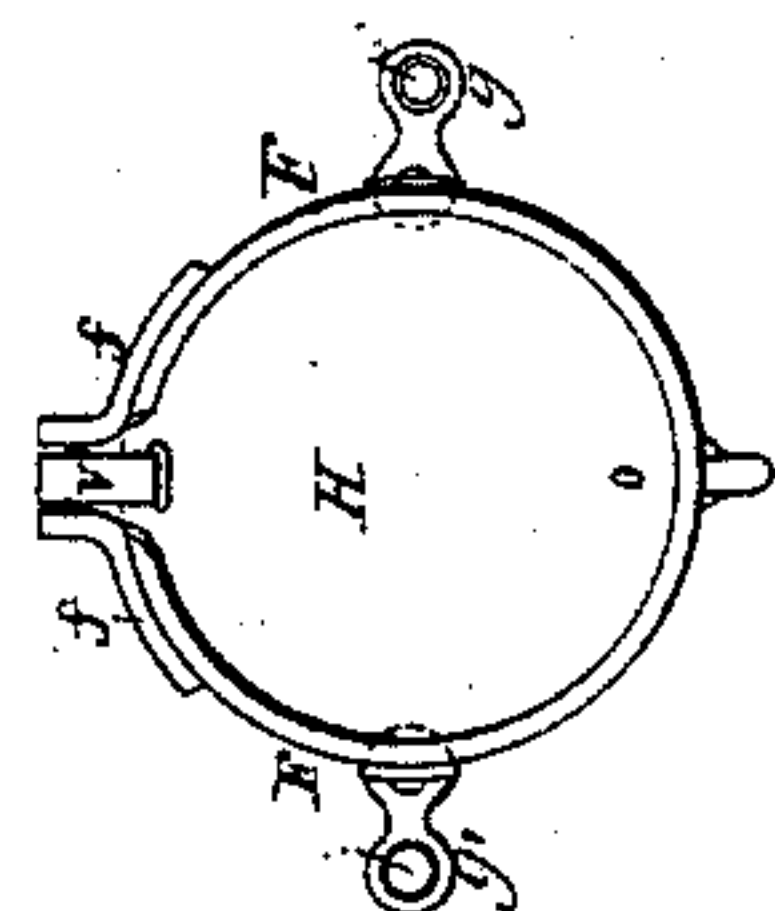
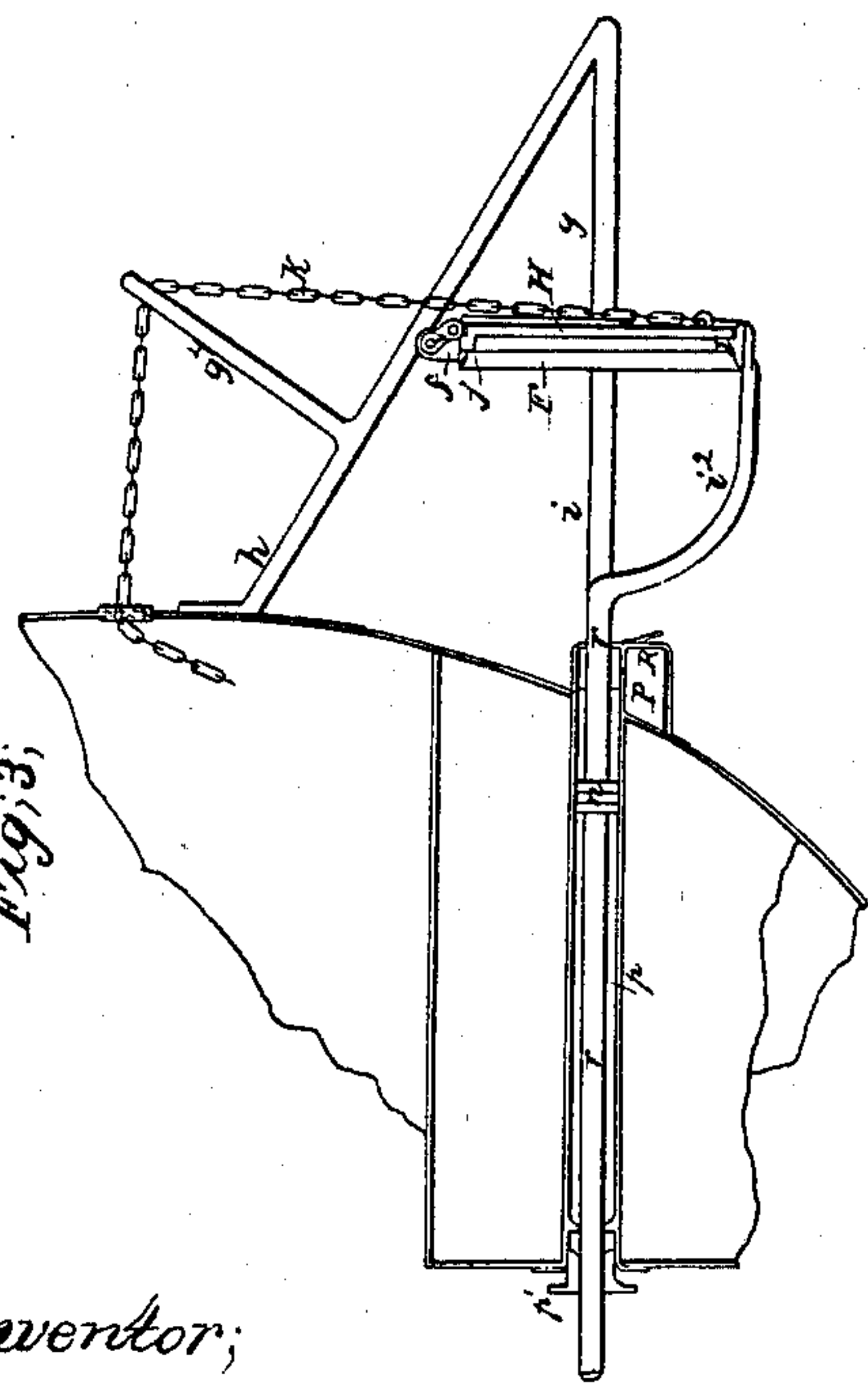


Fig. 4,



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CHRISTIAN GOTTHOLD MEINHARDT, OF ALTOONA, ASSIGNOR TO HIMSELF
AND BENJAMIN F. BELL, OF ANTISTOWN, PENNSYLVANIA.

Letters Patent No. 80,421, dated July 28, 1868.

IMPROVEMENT IN PROPELLERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHRISTIAN GOTTHOLD MEINHARDT, of Altoona, in the county of Blair, and State of Pennsylvania, have invented a new and useful Life-Preserving Steamer, and Mode of Propelling the Same; and I do hereby declare the following to be a full and exact description of the same, sufficient to enable others skilled in the art to which my invention appertains to fully understand and construct the same, reference being had to the accompanying drawings, which make part of this invention, and in which—

Figure 1 is a perspective view of my improved life-preserving steamer.

Figure 2 is a perspective view of the paddle-wheel, part of its side being cut away to show the air-chambers in the same.

Figure 3 is a sectional side view of part of the stern of the steamer and the propelling-apparatus, and

Figure 4 is a detached sectional view of a piece of the side of the steamer, showing the air-chamber around the same, and

Figure 5 is a detached view of the gate or valve, hereinafter more fully described.

Like letters indicate like parts in the several drawings.

The nature of my invention consists in constructing the paddle-wheels of a steamer of air-chambers, and providing the vessel with an air-tube or chamber, running from bow to stern on both sides.

Also, in propelling steamboats with a power acting horizontally on the water, from the stern of the vessel.

A, in the drawings, may represent a steamer, provided with paddle-boxes, B, in which the paddles have their bearings. These wheels consist of the circular casing D, which is divided into six chambers, *a*, by six of the paddles, *a'*. Each paddle *a'*, inside the chamber *a*, is provided with man-hole, so that access can be had to all chambers, the case D having a man-hole, *m*. The number of paddles and chambers is, of course, not limited to six, as any number desired may be used.

Around the centre of the circumference of the casing D runs a brace, E, through the centre of the paddles, which latter are still more firmly held by two braces, E' E'. A space is cut out from the paddles *a'*, near the circumference of the casing D, as shown at *d*, to allow the water carried up by the paddles *a* to run off, and prevent its being carried over.

The semicircular top of the paddle-boxes B is made to be an air-tight chamber, *c*, which gives additional buoyancy to the vessel.

b is a semicircular air-chamber, running around the vessel on both sides, from stem to stern, and secured to the same, or built into it in any suitable manner. This air-chamber is divided into separate chambers, S, of about six feet length each, so, if one or two of these chambers are injured, the remainder will remain air-tight. These air-chambers must, of course, be of sufficient size to hold a volume of air which will support the vessel, if in danger of sinking.

Three braces, *g g' g''*, running out from the stern, at each side of the stern-post, are connected by a semicircular bar, *g''*, and are upwardly braced by bars *h*. These braces *g g' g''* serve as guides to the bars *i i' i''*; to which they are connected by slides, as shown. These bars *i i' i''* are on a rod or piston, *r*, and support the propellers. These latter consist of a ring, *j*, to which are secured two flat segments, F, connected at the top by braces *f*, forming a bearing for the double hinge, V, of the gate or valve H, in such a manner that the latter lie firmly against the ring *j*, on either side, but without being able to pass through the ring.

In fig. 3, a cross-brace, *g'*, is shown, which may be used as a guide for a chain, *k*, attached to the lower end of the gate or valve H, and leads inboard the vessel, and serves to turn the valve H against the inner side of the ring *j*, when the steamer is to be reversed.

The pistons *r* pass through tubes *p*, in the stern of the vessel, and protruding a little out from it, and may be connected directly to the pistons of the cylinders of a steam-engine.

Inside of the tubes *p*, the rods *r* are provided with a packing, *n*, which acts as a piston of a pump. Below

that part of the tubes p which protrude from the vessel are formed small compartments, P , connecting with the tubes p by means of a hole or opening, and provided at their rear ends with another opening, covered by a valve, R , from the outside.

The operation of my invention is as follows:

In case of shipwreck, when the vessel has sprung a leak, the air-chambers in the paddle-box, wheel, and around the vessel will prevent the same from sinking, and from filling entirely with water, and the means by which this buoyancy is attained are not taking up any room in the vessel, but are placed all on the outside of the same. In a storm, the paddles cannot be forced under water, and in this manner will prevent the rolling of steamers, which is so injurious to any vessel. Should the vessel entirely break up, the paddle-boxes and wheels will form large and efficient life-preservers, and even if one or two of the compartments or air-chambers are injured, the buoyancy of the rest will be sufficient to sustain the whole.

The engines operate the rods r alternately, that is to say, when one rod is drawn in, the other is forced out. As they are forced out, the valve H is forced against the ring j , and offers resistance to the water, by means of which it becomes the propelling-power. On being retracted, the valve H swings backwardly, acted upon by the water, and allows the rod r , with its appendages, to be drawn back without any resistance, the water passing freely through the open ring. The propelling-power is made a continuous one, on account of the rods acting alternately, and their movements being made so fast that no rocking-motion is created.

A certain quantity of water must necessarily enter the tubes p , with every stroke of the rods r , as the hole in the end of the tubes, through which the rods pass, cannot be made tight, but must allow the rods to play freely. I get rid of this water, and make use of the same as an additional motive-power, by the piston n , which acts as a pump, forcing the water out through the valve R , in the chamber P . A cap, p' , fitting over the rod r , and forming a tight cover for the tube p , allows access to the piston n at any time when repair is deemed necessary.

It will be easily understood that the vessel can be reversed in a moment by overturning the valve or gate H , by means of the chain k , or any other means, as levers, &c.

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

1. The propellers, consisting of the ring j , rim F , valve H , bars $i^1 i^2$, on the piston-rod r , guide-braces $g^1 g^2$, substantially as and for the purposes set forth.
2. Reversing the steamboat, by means of overturning the valve H , in the manner and substantially as described.

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Witnesses:

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