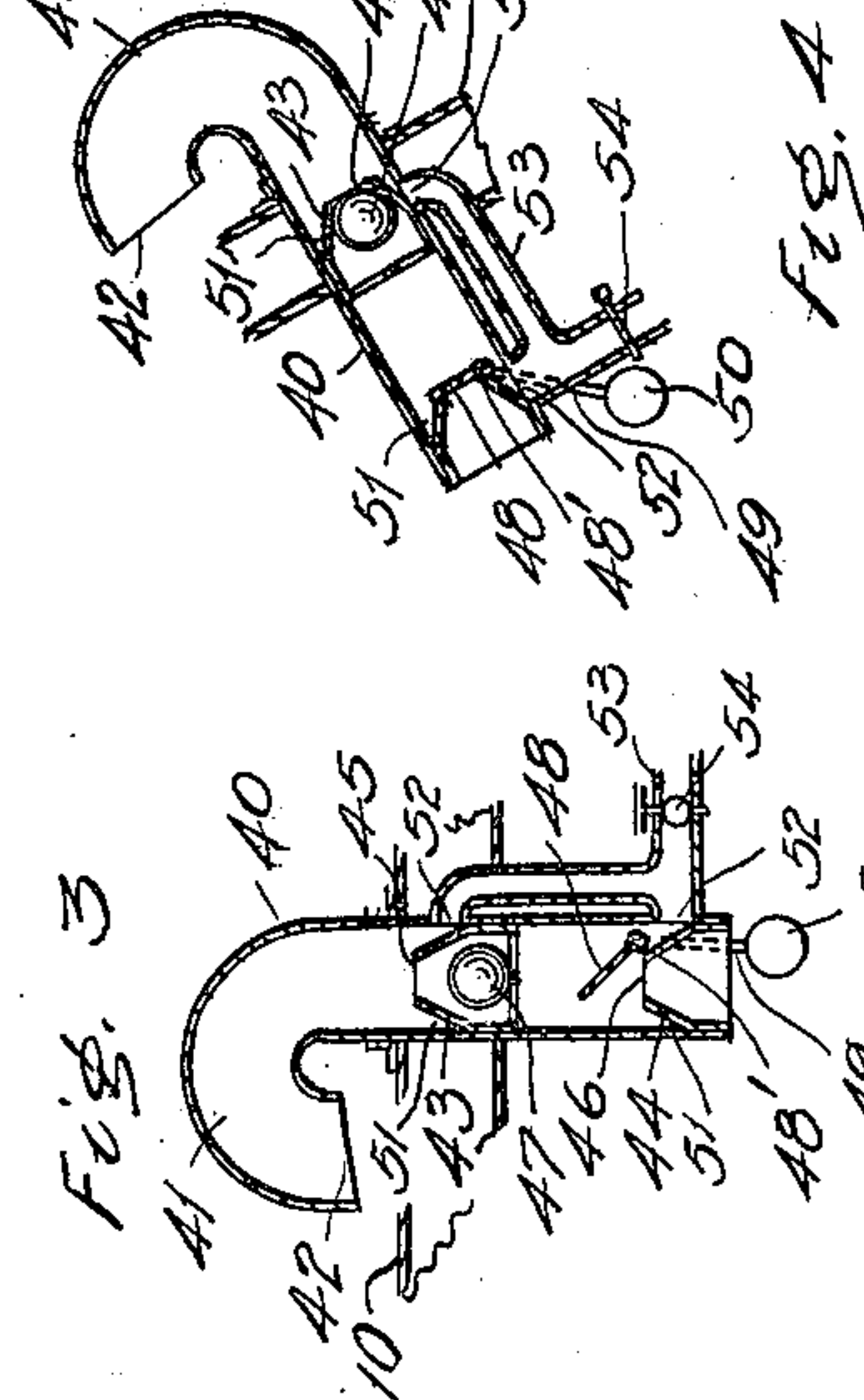
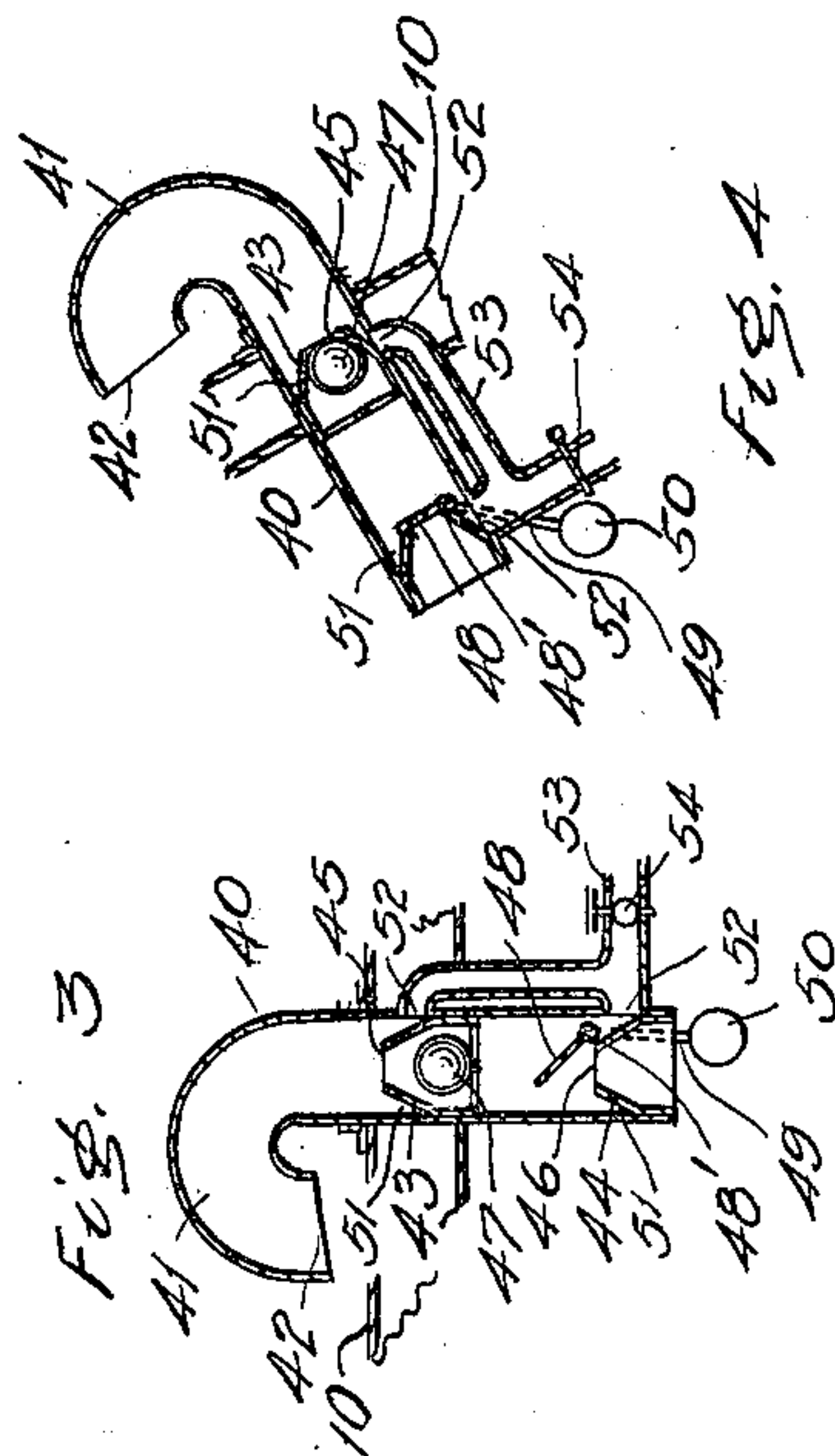
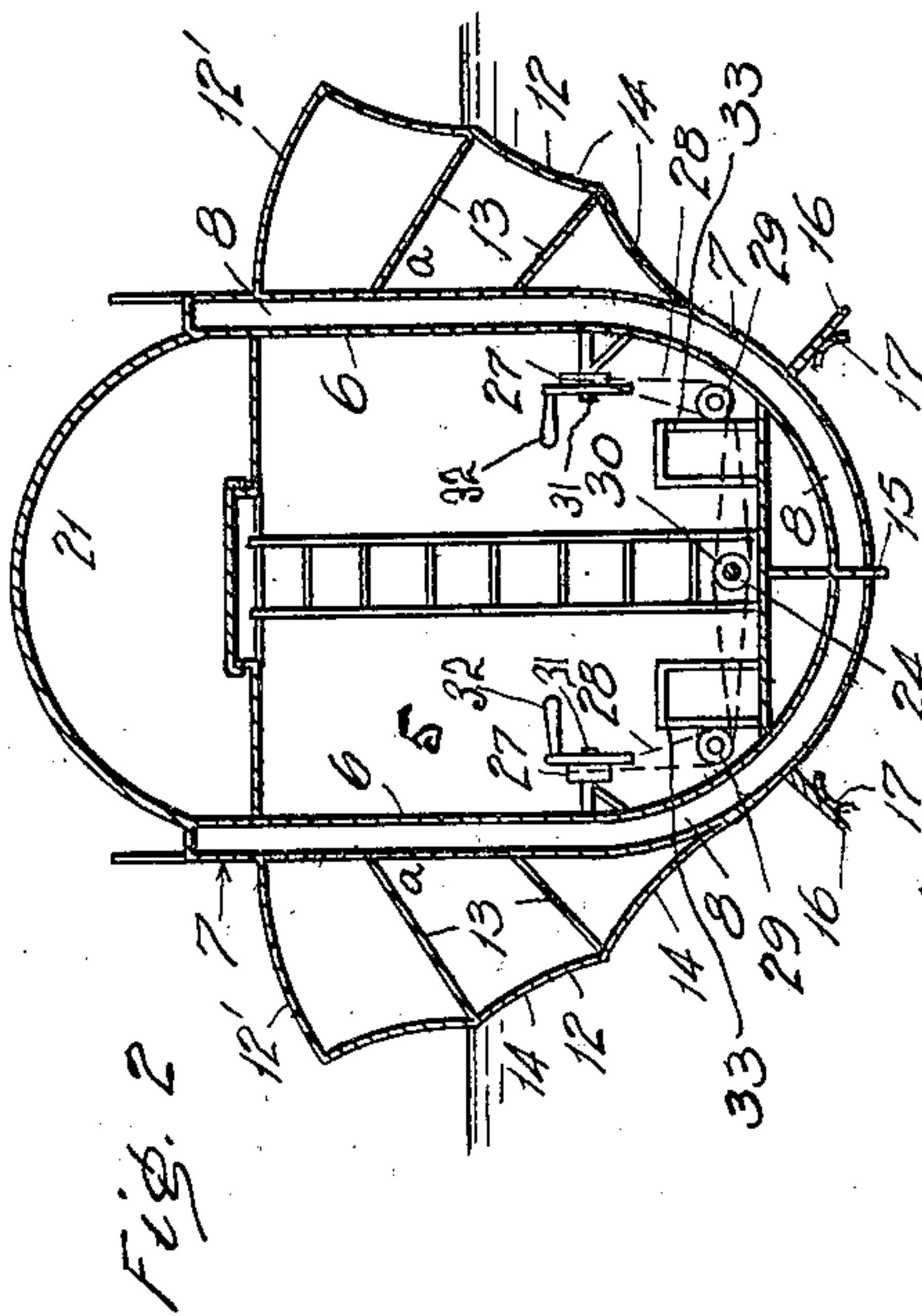
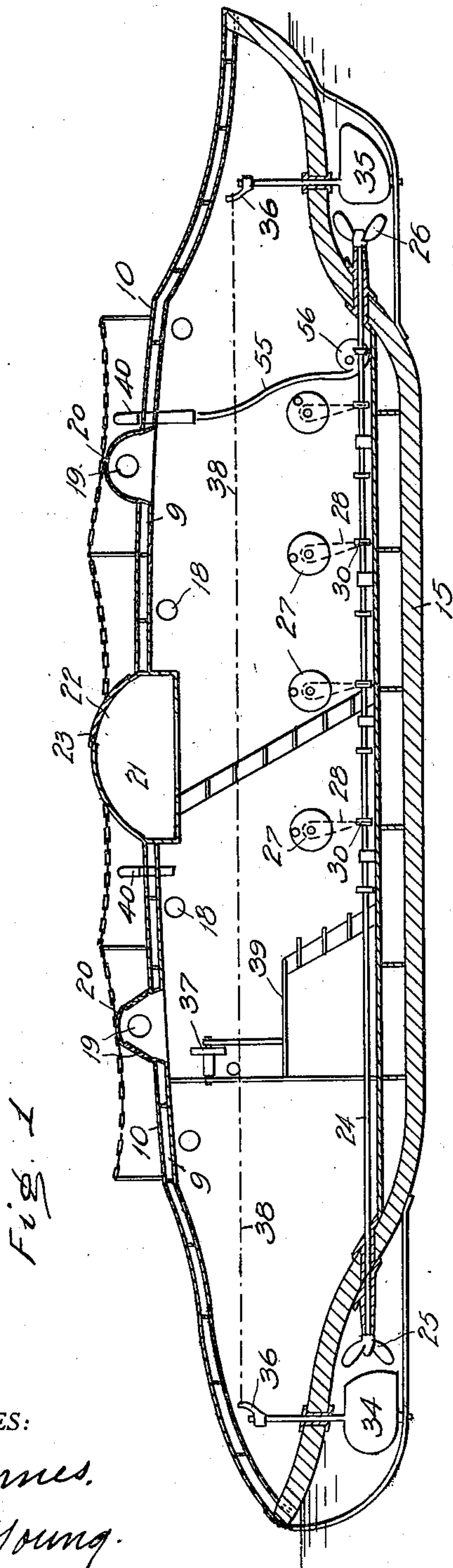


J. E. ALLEN.
LIFE BOAT.
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960,479.

Patented June 7, 1910.



WITNESSES:

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JOHN E. ALLEN, OF VANCOUVER, BRITISH COLUMBIA, CANADA.

LIFE-BOAT.

960,479.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN E. ALLEN, a subject of the King of England, residing at Vancouver, in the Province of British Columbia, Canada, have invented certain new and useful Improvements in Life-Boats, of which the following is a specification.

The principal object of this invention is the provision of marine craft having chiefly in view the saving of human lives from sinking vessels or wrecks.

It has for a further object the provision of accommodations for numbers of people at a time and to the consideration of their comfort while being transported to a place of safety.

A still further object is the provision of improved mechanism arranged to be manipulated by a screw for propelling and steering the craft.

The invention consists in the novel construction and adaptation of devices, as will be hereinafter described with reference to the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section of a life-boat embodying my invention. Fig. 2 is a midship cross sectional view of the same. Figs. 3 and 4 are detail sectional views illustrating the boat ventilating devices in two assumed positions.

The reference numeral 5 designates the hull proper of the boat inclosed by inner and outer shells 6 and 7, respectively, and spaced apart to afford water-tight compartments 8 at the sides and bottom, and compartments 9 above and below the part which constitutes the deck. Wing members are provided exteriorly of the shell 7 and to the sides of the hull proper and are each formed of an outer casing comprised of side plates 12 and deck plates 12' with partitions 13. Said partitions are severally disposed to incline inwardly at the top and the casing plates 12 are, intermediate the adjacent partitions, curved inwardly, as at 14 in Fig. 2, and are likewise curved between the lowermost partition upon each side and the juncture therewith of the plates 12 with the shell 7 below.

Extending transversely between the shells 6 and 7 are frame elements which subdivide the aforesaid compartments 8. In like manner transverse divisional frames or plates serve with the partitions 13 in affording a plurality of relatively small compartments

within said wings. For longitudinal stiffening of the hull a centrally disposed keel 15 and bilge keels are provided. The latter comprising plates 16 arranged to be normal with respect to the hull surfaces at which they are secured and upon the inboard sides of the bilge keels are rigidly secured longitudinally extending concavo-convex plates 17, as represented in Fig. 2.

In the hull and above the height of the wing members thereof are side-lights 18 and additional side-lights 19 are provided in turrets 20 projecting above the deck.

21 represents a turret having a hatch 22 for which is provided a removable cover 23 adapted to make an air and water-tight closure for the opening.

Extending longitudinally through the vessel is a shaft 24 carrying at its forward and after ends screw-propellers 25 and 26. Said shaft is driven from manually rotated pulleys 27 by endless belts 28 passing about fairleader pulleys 29 and pulleys 30 upon the propeller shaft. The pulleys 27 are mounted upon axles 31 and are severally provided with an operating crank 32. Suitably positioned bench seats 33 are desirably provided for the convenience of the persons employed in turning the cranks in effecting the boat-propulsion.

Rudders 34 and 35 are provided at the bow and stern ends of the boat and upon the respective posts are tiller yokes 36 which are operatively connected with a steering-wheel 37 by lines, such as 38. The steering-wheel is located above a platform 39 arranged so that the steersman may have a view through the side-lights 19 provided in the foremost of the turrets 20.

Ventilation for the interior of the boat is obtained through the agency of two or more tubes 40 extending through the deck and at a distance from each other. Each such tube (see Fig. 3,) above the deck is provided with a bend 41 so that the extremity 42 of the tube will be directed downwardly when the vessel is in an upright condition. Within each tube are two truncated conical plates 43 and 44 which are disposed at different elevations and are provided with centrally arranged openings 45 and 46. For the upper of these openings there is provided a flotative ball-valve 47 which upon being submerged in water is caused to close the opening thereabove. For the opening

46 there is provided a valve 48 which is mounted for oscillation upon a spindle 48' having an arm 49 for a depending weight 50 which is arranged to retain the valve 5 open until the vessel heels over to a considerable angle.

In Fig. 4 is represented a ventilator as it would appear when inclined and with the two aforesaid valves in operation to close 10 the respective openings.

The annular channels 51 about the plates 43 and 44 are connected through water escape openings 52 with a drain-pipe 53 for carrying off the water which may be en- 15 trained in the respective tube.

54 is a valve provided in the pipe 53 for controlling the flow of water through the latter.

To one of the ventilator tubes is connected 20 by a pipe 55 a blower 56 for inducing a flow of air through such tube to create a current of air within the vessel. Said blower may be driven through any suitable means as, for example, by having the rotary fan 25 thereof operatively connected with the propeller shaft.

The manner of propelling and steering the vessel, it is thought, will be understood from the foregoing description. The in- 30 vention may, however, be functionally considered as follows: The wing compartments afford buoyant moments to serve to maintain the vessel in an upright position with respect to the water surface and supple- 35 mental to the stability inherent to the hull proper and in consequence thereof there is no likelihood of the vessel upsetting. The rolling of the vessel is to a large extent overcome by the relatively high position 40 occupied by its center of gyration, or so-called metacentric height; and the rolling is further retarded through the employment of the projecting keel elements acting in conjunction with the concavities formed in 45 the wing casings 12, taken with the contributory effect due to the resistance of the plates

17 to being dragged transversely through the water.

The double shell formation of the sides of the hull proper act, in effect, as longi- 50 tudinal girders to make the vessel extremely rigid against longitudinal flexure. The inclination of the partitions 13 in the wings afford compartments which would be unlikely to fill through the admission of water 55 by any punctures had in the casing plates 12, as the inverted pockets, so to speak, which are produced in the angles *a*, Fig. 2, would respectively contain quantities of air down to the level of any puncture that may 60 occur in such plates.

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

1. In a marine vessel, the combination 65 with the hull proper, of wing members disposed longitudinally and exteriorly of said hull, and downwardly and outwardly inclined partitions within said wing members to respectively divide the same into a plu- 70 rality of compartments each of said compartments having the outer wall thereof concavo-convex in contour.

2. A marine vessel comprising a closed hull having water tight compartments at 75 the bottom, sides and top thereof, said hull further provided at its top with a plurality of turrets, one of said turrets being larger than the remaining turrets and provided with an entrance and further provided with 80 an outlet whereby access can be had to the interior of the hull, a keel for the hull and a pair of outwardly inclined bilge-keels, each having on its face a concavo-convex plate, and wings provided at each side of the hull, 85 said wings embodying water tight compartments, each having the outer wall thereof concavo-convex in contour.

JOHN E. ALLEN.

Witnesses:

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