

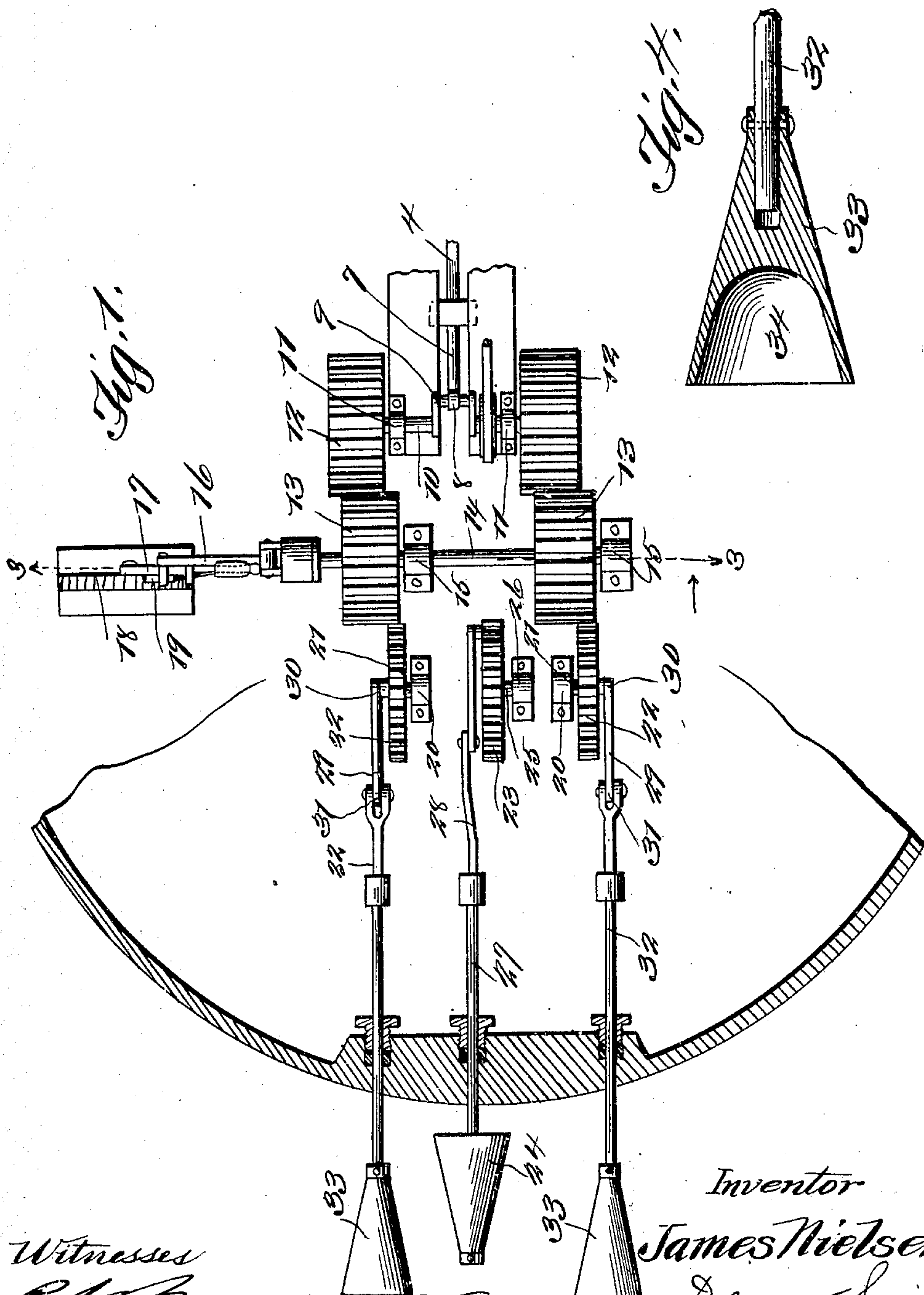
No. 870,639.

PATENTED NOV. 12, 1907.

J. NIELSEN.
PROPELLER.

APPLICATION FILED JUNE 27, 1907.

2 SHEETS—SHEET 1.



Witnesses

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R. G. Whitcomb

Inventor

James Nielsen

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By

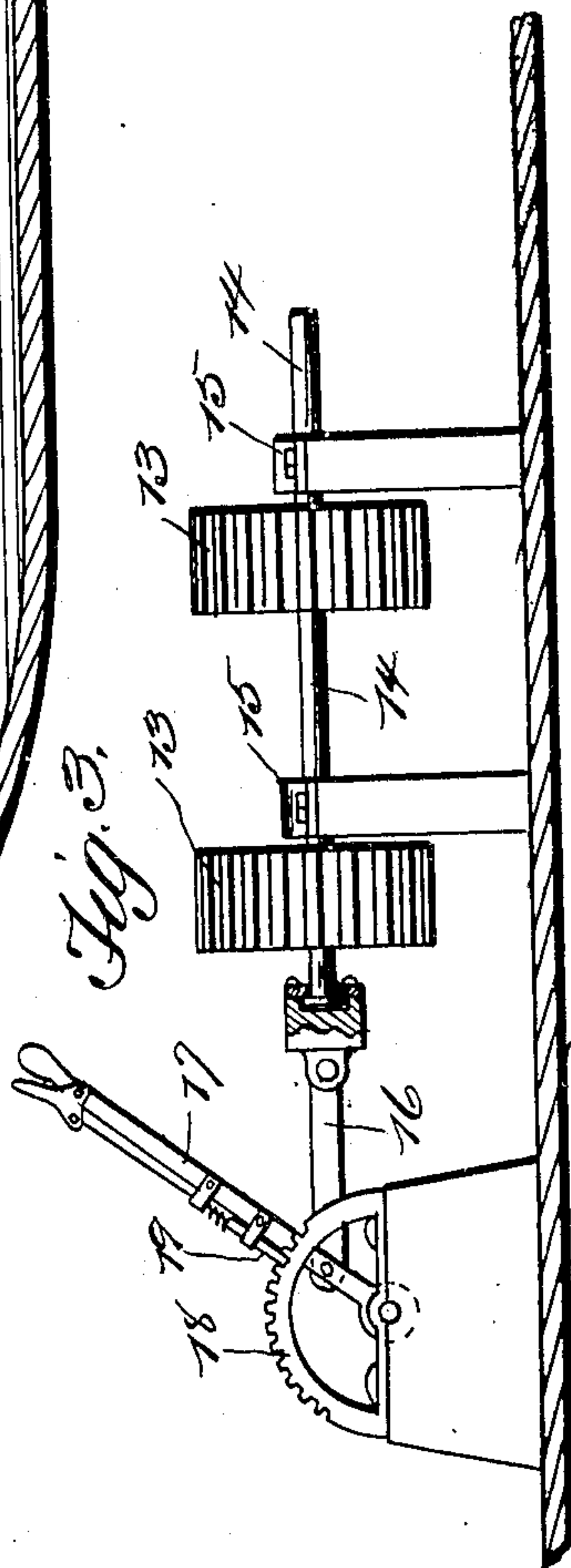
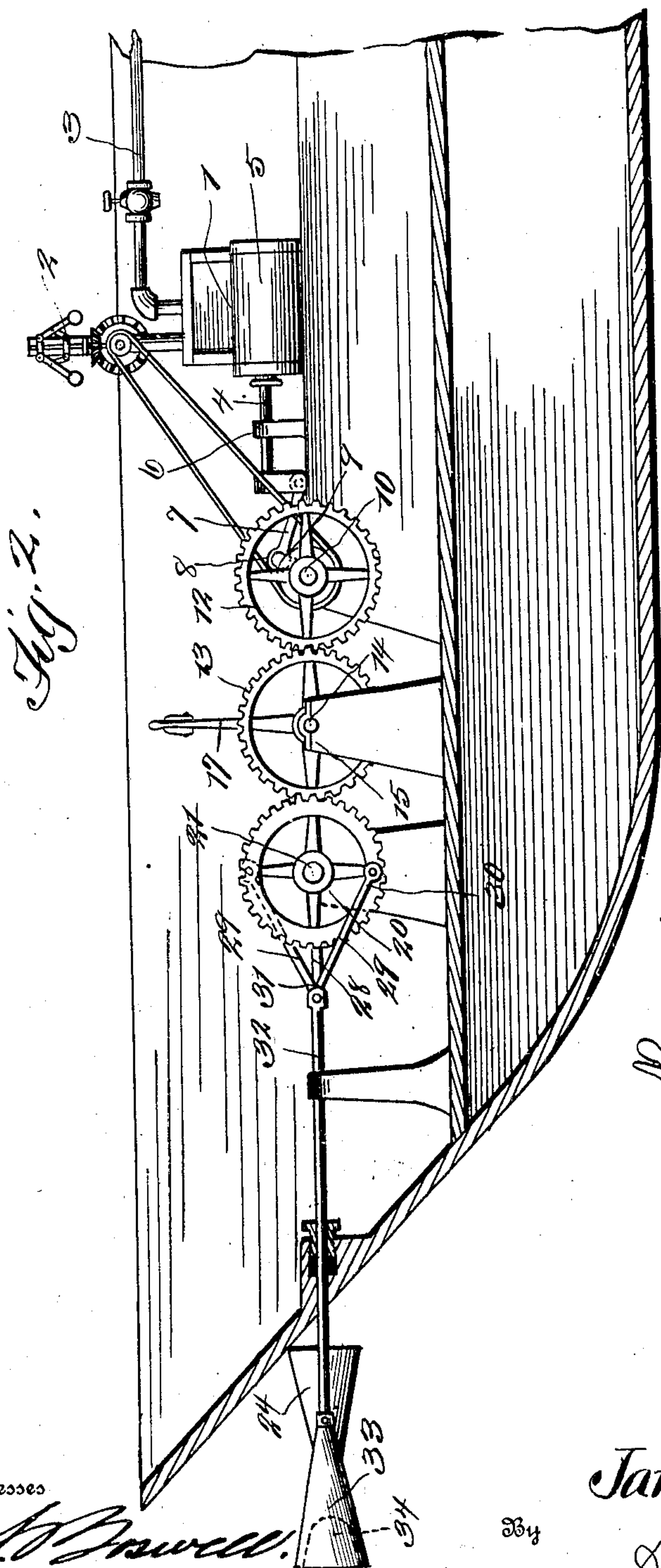
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UNITED STATES PATENT OFFICE.

JAMES NIELSEN, OF LAKE FOREST, ILLINOIS.

PROPELLER.

No. 870,639.

Specification of Letters Patent.

Patented Nov. 12, 1907.

Application filed June 27, 1907. Serial No. 381,033.

To all whom it may concern:

Be it known that I, JAMES NIELSEN, a citizen of the United States, residing at Lake Forest, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Propellers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention pertains to a new and useful propeller, adapted for large and small boats; and an object thereof is to provide a device of this character which is simple and efficient in the construction and operation, and inexpensive to manufacture.

In its broadest scope, the invention provides means whereby a boat, equipped with a device of this character, may be stopped without stopping the engine; this is accomplished by providing the stern of a boat with a plurality of reciprocating propellers, of the form shown in the drawings; the outer propellers being provided for the purpose of driving the boat forward, while the center propeller is employed for stopping the boat, without stopping the motion of the engine.

This invention comprises further objects and combinations of elements which will be hereinafter more fully described, shown in the accompanying drawings, and the novel features thereof will be pointed out by the appended claims.

To obtain a full and correct understanding of the details of construction, combinations of features, elements and advantages, reference is to be had to the herein-after set forth description and the accompanying drawings in connection therewith, wherein

Figure 1 is a top plan view of the device embodying the features of the invention. Fig. 2 is a sectional view through the stern of a boat showing the improved device applied thereto. Fig. 3 is a sectional view on line 3—3 of Fig. 1. Fig. 4 is a detail view of one of the outer propellers.

Making renewed reference to the accompanying drawings, wherein similar reference characters indicate corresponding parts in the several illustrations, by figures, 1 designates a suitable stationary engine having a suitable governor 2, and a steam inlet 3, as clearly shown; 4 designates a piston rod which is reciprocated by the steam in the cylinder 5, as will be readily understood. This piston rod reciprocates in a bearing 6, and to the end of this piston rod a pitman 7 is pivotally connected, the end 8 of which is pivotally connected to the crank 9 of the shaft 10, which is journaled in suitable bearings 11, as is clearly shown in Fig. 1. To the ends of the shaft 10 are fixed the gears 12, with which the gears 13 are continually in mesh, as will be clearly understood. The gears 13 are mounted to move with the shaft 14, which is journaled in suitable bearings 15, as clearly shown; this shaft is moved laterally of the boat by means of a pitman 16, which is pivotally connected to a lever 17, pivoted to cooperate with a

suitable quadrant 18, by means of the spring actuated pawl 19, as will be clearly depicted from the drawings.

Journaled in suitable bearings 20 are the shafts 21, upon which are journaled the gears 22, which are in mesh with the gears 13, that is, when the boat is being driven forward, but when it is desired to stop the boat, the motion of the gears 13 is transmitted to the gear 23, which will cause the center propeller 24 to be reciprocated, thus causing the same to impinge against the water; the gear 23 is fixedly mounted upon the shaft 25, which is journaled in suitable bearings 26. The center propeller is provided with a rod 27, and is reciprocated by means of a pitman rod connection 28 with the gear 23, as clearly shown.

29 designates pitman rods, the ends 30 of which are pivotally connected to the gears 22, while the other ends 31 are pivotally connected to the rods 32, of the outer propellers 33, as clearly shown; by this construction the outer propellers are reciprocated.

The outer propellers are constructed in the form of a cone, and are provided with interior cup-shaped portions 34, which act against the water so as to drive the boat forward. The center propeller is similarly constructed, that is, in the form of a cone, but the apex of which points rearwardly of the boat, while the apex of the outer propellers point toward the stern, as will be clearly manifest.

By referring to the accompanying drawings, it is clearly manifest that the gear wheels 13 are so constructed as to cause one of them to engage the gear 23, thereby causing the center propeller to be reciprocated, while one of said gears 13 is still in engagement with one of the gears 12, that is to say, when it is desired to stop the boat, without stopping the motion of the engine, or reversing the same, as will be clearly observed.

It is to be understood that various changes and modifications may be employed in the construction and embodiment thereof, combinations of features, and elements, without in any way departing from the spirit and scope of the invention covered by the claims thereof, it being understood that whatever variations or modifications are employed must fall within the scope of the appended claims.

From the foregoing, the essential features, elements and the operation of the device, together with the simplicity thereof, will be clearly apparent.

Having thus fully described the invention, what is claimed as new and useful, by the protection of Letters Patent, is:—

1. In a device as specified, an engine having a reciprocating piston rod, a crank shaft having gears at its ends, said rod having a pitman rod connection with the crank shaft, a pair of outside propellers, gears having pitman rod connections therewith, a centrally disposed propeller, a centrally disposed gear having a pitman connection therewith, and movable means adapted to engage the cen-

trally disposed gear at certain times for stopping the boat without stopping said engine or reversing the same.

5 2. In a device as specified, a boat equipped with a pair of propellers for driving the same forward, gears having pitman rod connections therewith, a centrally disposed propeller so formed as to impinge against the water, a centrally disposed gear having a pitman rod connection therewith, axially movable gears for imparting motion at certain times to the centrally disposed propeller, a lever
10 having a rod connection with said movable gears for moving the same, an engine, gears having a crank shaft to be operated thereby, said last-named gears being continually in engagement with the movable gears.

15 3. In a device as specified, a boat having an engine provided with a reciprocating piston rod, a crank shaft hav-

ing gears at its ends, said rod having a pitman rod connection with the crank shaft, a pair of outside propellers, gears having pitman rod connections therewith, a centrally disposed propeller, a centrally disposed gear having a pitman connection therewith, axially movable gears for
20 imparting motion at certain times to the centrally disposed propeller, for stopping the boat without stopping said engine or reversing the same and means for moving the said movable gears.

In testimony whereof I hereunto affix my signature in
25 presence of two witnesses.

JAMES NIELSEN.

Witnesses:

GEO. G. GARRE,

C. L. HARDER, Jr.