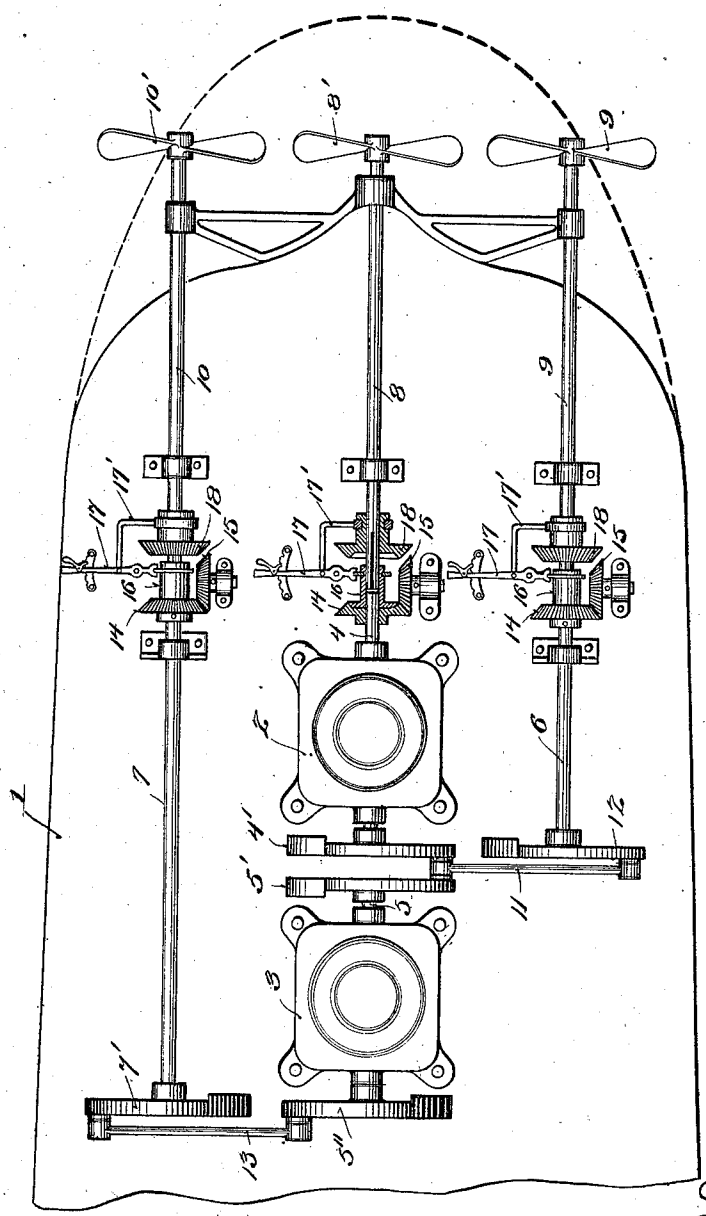
J. BENYO.

MARINE PROPULSION.

APPLICATION FILED JAN. 10, 1911.

1,013,982.

Patented Jan. 9, 1912.



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UNITED STATES PATENT OFFICE.

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MARINE PROPULSION.

1,013,982. Specification of Letters Patent. Patented Jan. 9, 1912.

Application filed January 10, 1911. Serial No. 601,859.

To all whom it may concern:

Be it known that I, JOHN BENYO, a subject of the King of Hungary, and resident of Cudahy, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Marine Propulsion; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in what is herein particularly set forth with reference to the accompanying drawing and pointed out in the claims of this specification, its object being to improve what is set forth in my Patent No. 918,948 of April 20, 1909, as means for the propulsion of marine vessels.

The drawing is a diagram illustrating my improved triple propelling mechanism applied to a marine vessel.

Referring by numerals to the drawings, 1 indicates the hull of a marine vessel 2, 3, tandem engines in said hull, 4, 5, the engine shafts, 6, 7, counter-shafts, 8, 9, 10 propeller-shafts and 8′, 9′, 10′, the propellers.

Wrist plates 4′, 5′, of the engine-shafts 4, 5, are connected by a pitman 11 with a similar plate 12 of the counter-shaft 6, and a wrist plate 5″ of the engine-shaft 5 is connected by a pitman 13 with a similar plate 7′ of the countershaft 7, suitable bearings being provided for the several shafts.

Fast on the engine-shaft 4 and each of the counter-shafts 6, 7, is a miter-gear wheel 14 in mesh with an idler 15, and an adjustable friction-sleeve 16 opposes one side of said gear-wheel. One of the friction sleeves is loose on the engine-shaft 4 and splined on the propeller-shaft 8, that is alined with said engine-shaft, and the remaining friction-sleeves similarly couple the counter-shafts 6, 7, to the propeller-shafts 9, 10, that are alined with said counter-shafts. Each friction-sleeve is adjustably controlled by a lever 17 having spanner-fit upon a collar of said sleeve, and means are provided for latching the lever in adjusted position. A miter-gear wheel 18 is splined on each of the propeller-shafts and a cranked spanner-arm 17′ of each lever 17 engages an annular hub-groove of the adjacent gear-wheel 18, this wheel being brought into engagement with one of the aforesaid idlers by a continued movement of said lever necessary to a shift of the corresponding friction-sleeve 16 out of clutch-contact with the relative miter-gear wheel 14.

The friction-sleeves 16 being in clutch-contact with the gear-wheels 14, all of the propeller-shafts will run in the same direction as the engine-shafts this being the normal direction by which to effect a forward drive of the vessel by the propellers. Any one of propeller-shafts may be independently stopped by a shift of the corresponding friction-sleeve 16 out of clutch with the relative miter-gear wheel 14, and if it is desired to reverse the movement of said propeller-shaft, the miter-gear wheel 18 thereof is brought into mesh with the relative idler 15.

From the foregoing it will be readily understood that any one of the triple propellers, preferably the center one 8′, may be stopped and the remaining two driven in opposite directions to facilitate steering and turning of the vessel.

The means herein shown and described for putting the propellers in and out of gear with the engine-shafts to run in the same direction therewith or in the opposite direction may be varied indefinitely without departure from the scope of my invention as herein claimed.

I claim:

1. The combination in a marine vessel of tandem engines and their shafts, counter-shafts in wrist-plate and pitman connection with the engine shafts, a series of propeller shafts, mechanism for clutching each propeller-shaft with one of the shafts aforesaid alined therewith, and means for reversing the normal forward drive-motion of each propeller-shaft.

2. The combination in a marine vessel of engine and counter-shafts connected to run in the same direction, a miter-gear wheel fast on each of said engine and counter-shafts, an idler in mesh with each miter-wheel, a series of propeller-shafts each alined with one of the shafts aforesaid, a lever-controlled friction-sleeve splined on each propeller-shaft and adjustably engag-

ing the adjacent engine shaft or counter-shaft in opposition to the gear-wheel thereon, and a lever-controlled miter-gear wheel splined on each propeller-shaft to be brought in and out of mesh with one of the aforesaid idlers.

In testimony that I claim the foregoing I have hereunto set my hand at Cudahy in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

JOHN BENYO.

Witnesses:
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