

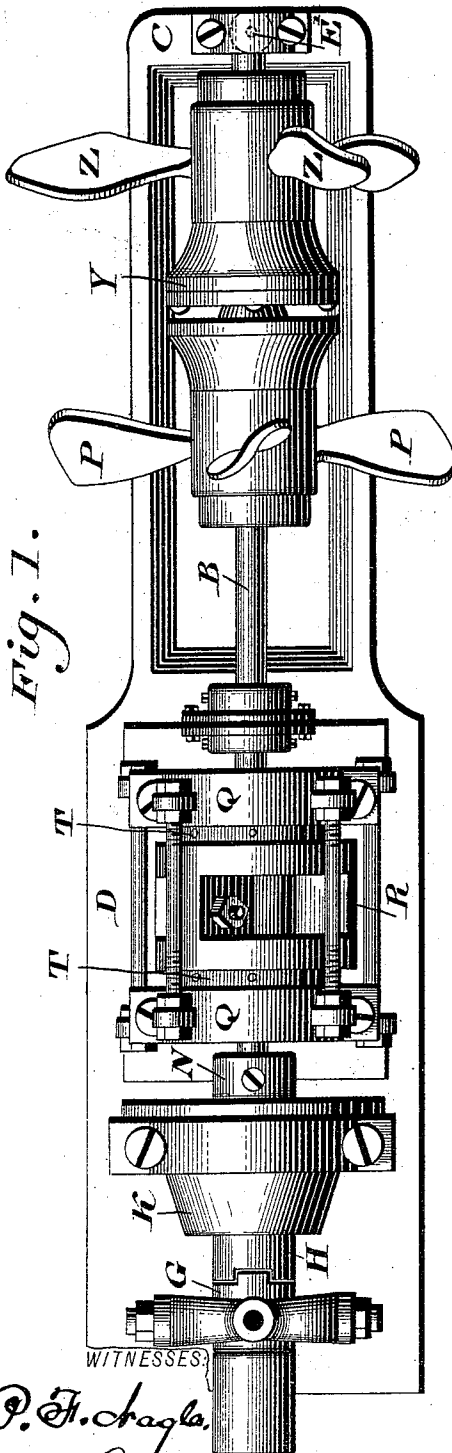
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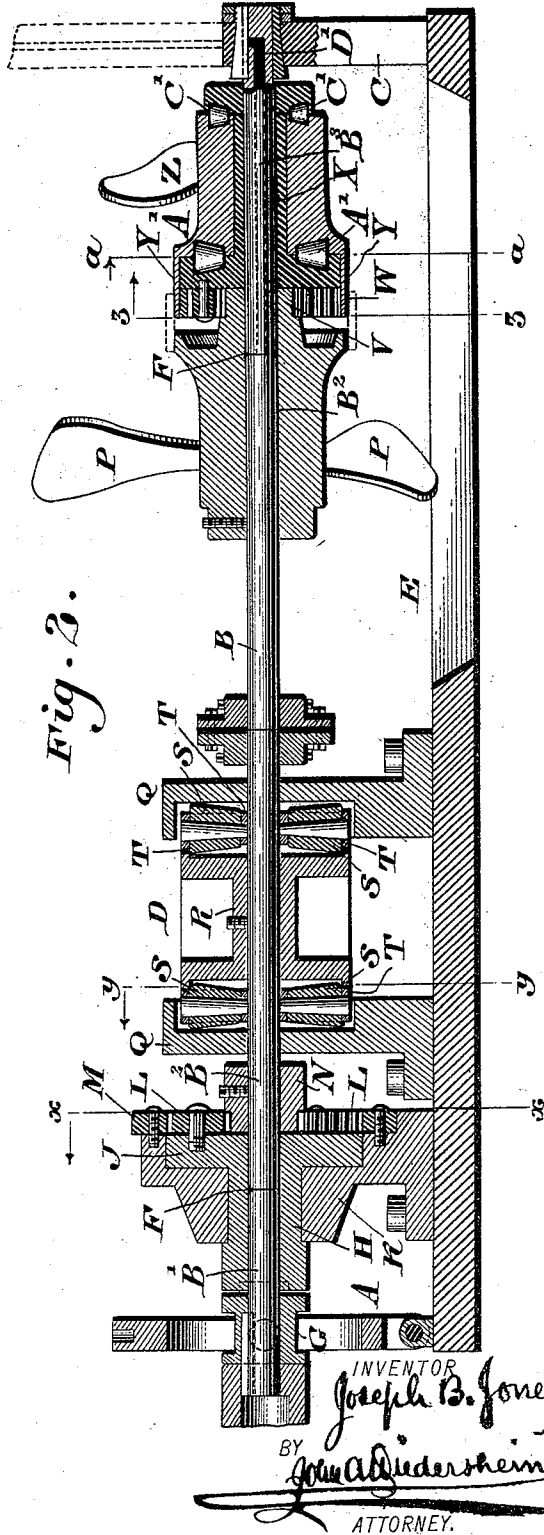
J. B. JONES.
PROPELLER.

No. 529,916.

Patented Nov. 27, 1894.



WITNESSES:
P. H. Chagla.
L. Douville.



INVENTOR
Joseph B. Jones.
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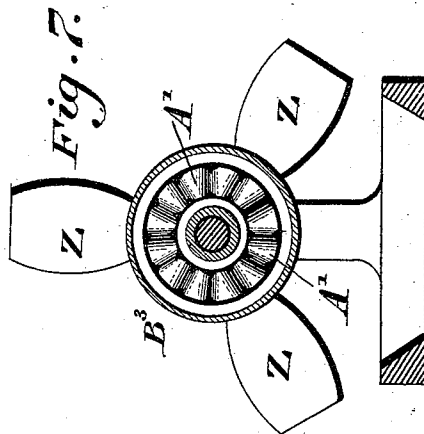
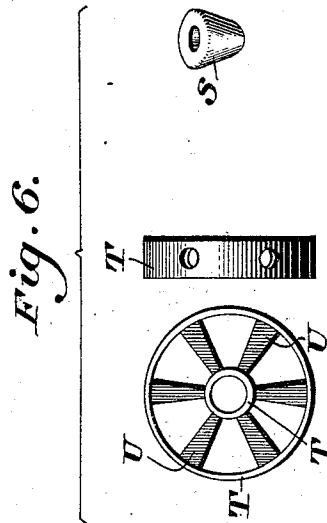
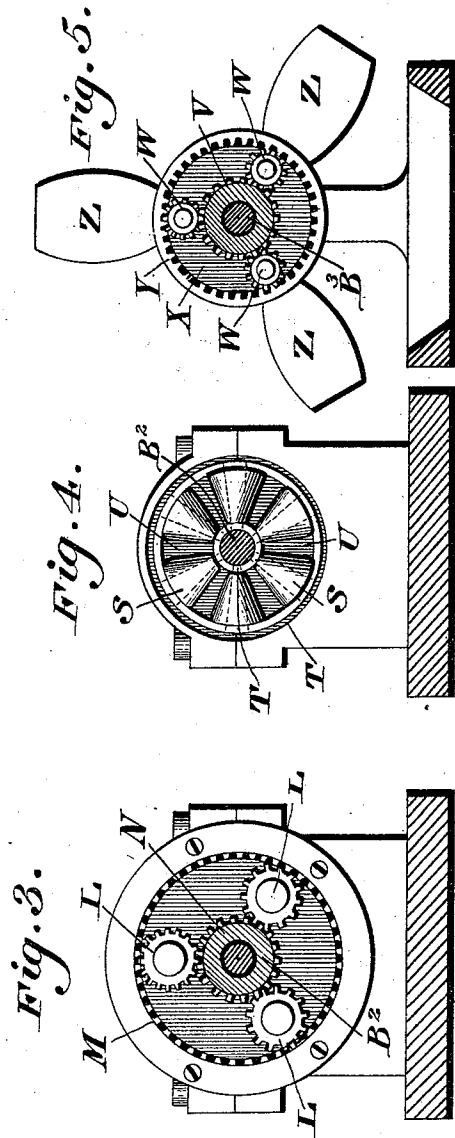
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2 Sheets—Sheet 2.

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WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH B. JONES, OF PHILADELPHIA, PENNSYLVANIA.

PROPELLER.

SPECIFICATION forming part of Letters Patent No. 529,916, dated November 27, 1894.

Application filed April 17, 1894. Serial No. 507,852. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH B. JONES, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Propellers, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a propeller, in which the same receives a greater number of rotations from the shaft, than the shaft itself, whereby the propeller rotates with great rapidity, without causing the shaft to rotate with equal rapidity.

It also consists of an additional propeller which is rotated in reverse direction to the other propeller, and at a different rate of speed.

It also consists of a thrust-bearing of novel construction.

It also consists of a novel support for one end of the propeller shaft, the same being movable, and so adapted that access to the adjacent portions of the propeller mechanism is permitted for purposes of dismemberment, repairs, restoration, &c.

Figure 1 represents a top or plan view of a propeller embodying my invention. Fig. 2 represents a longitudinal vertical section thereof. Figs. 3, 4, 5, and 7 represent sections respectively on lines *x, x, y, y, z, z*, and *a, a*, Fig. 2. Fig. 6 represents views of parts of the anti-friction bearings of the thrust-bearing.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings: A designates shippers for a clutch mechanism mounted on one end of the propeller shaft B. C designates the stern post for supporting the corresponding end of said shaft, and D designates the thrust-bearing for said shaft, said parts A, C and D being mounted on the frame, floor or bed E, and said shaft being divided as at F, forming parts B', B² and B³. The shipper A is hinged to said bed and forms a bearing for the rotary sleeve G, which may be coupled with the sleeve H, by means of a tongue and groove, the said sleeve H being connected with the adjacent section B' of the

shaft B, by means of a feather or spline, so that the power of the engine or motor communicated to said sleeve G, may be communicated to the section B', and finally to the sleeve H. When the shipper is properly operated, the sleeves G and H are disconnected, and the sleeve H may be removed from the section B', preparatory to removal of the other parts for the purpose of dismemberment, repairs, restoration, &c.

J designates a disk or head which is formed or otherwise connected with the sleeve H, so as to be rotated by the latter, said head being mounted in the housing K, and carrying on its side the pinions L, which mesh with the internal-gear rim M, which is fixed to the housing K, and with the pinion N which is fixed to the section B² of the shaft B, whereby as the head J rotates, the pinions L are carried around by the same, and they are rotated by the rim M, and serve to rotate the pinion N and consequently the shaft-section B², it being evident that one rotation of the section B', imparts a greater number of rotations to the section B², in the present case, at least three in number, this increased rotation being imparted to the propeller P, whose hub is secured to the section B³ of the shaft B.

The thrust-block or bearing D consists of the side frames Q, and the rotating head R within the same, said head being secured to the section B³ of the shaft. On the sides of the head R, and within the frames Q are conical anti-friction rollers S, which are mounted on the concentric annuli T, the latter being joined by the radial arms U in the spaces between which said rollers S are located, it being noticed that the shaft-section B² passes through the frames Q, and the thrust-bearing as provided, is strong, firm and reliable in its nature.

The hub of the propeller P, at the end thereof, carries the pinion V, which meshes with the pinions W, the latter being mounted on the stationary boss X on the section B³ of the shaft B, said boss having on the periphery thereof, the internally-gear rim Y of the hub of the propeller Z, the latter being freely mounted on said boss, and rotating thereon, it being evident that as the propeller P ro-

tates, it communicates motion to the propeller Z in reverse direction, and at a different rate of speed.

Interposed between the ends of the boss X, and those of the hub of the propeller Z, are circular rows of anti-friction rollers A', C', the same causing said propeller to rotate with the greatest ease.

In the section B³ of the shaft is a bore or duct D', the same communicating with an inlet opening E' in the stern post, by which provision, oil may be directed to the division or joint F, between the sections B³, B² of the shaft, and so reach the joint between the propeller B and the boss X, whereby the section B³, the pinions W and the internal gear Y may be lubricated, the oil also entering the joint between the propeller Z and boss X, thus lubricating the same, as well as the rollers A', C'.

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

1. A sectional shaft, a rotatable sleeve connected with one section, and a propeller secured to another section thereof, pinions journaled on one side of said sleeve, a housing in which said sleeve is journaled, an internal gear rim connected with said housing, and a pinion on said propeller section, meshing with said sleeve pinions, said propeller section of the shaft being journaled in said sleeve, said parts being combined substantially as described.

2. A sectional shaft having on one of its sections the loose and fast member of a clutch mechanism, and on an adjacent section a propeller, said propeller section being journaled in the fast member of the said clutch mechanism, and intermediate gearing connecting said fast member and said propeller section, whereby greater speed is imparted to

said propeller than to said first mentioned section, said parts being combined substantially as described.

3. A sectional shaft having on one of its sections a power mechanism, and on an adjacent section a propeller, mechanism connecting said sections for imparting a greater speed to the propeller section than to the other section, and a thrust-bearing for said propeller section, substantially as described.

4. A sectional shaft, a propeller on one section which is rotatable, a boss on the other section which is stationary, a propeller on said boss, and intermediate gearing whereby one propeller operates the other in reverse directions, substantially as described.

5. A sectional shaft, a clutch mechanism on one of said sections, a propeller blade on an adjacent section, which is journaled at one end on the fast member of said clutch mechanism, a second propeller on a section adjacent to said second named section, mechanism substantially as described for operating said first propeller at a greater rate of speed than the first named section, and mechanism connecting said propeller sections for imparting motion to said second propeller in a reverse direction from that of the first named propeller, substantially as described.

6. A sectional shaft having two propellers, secured to different sections thereof, a pinion carried by the hub of one of said propellers, a stationary boss on the section having the other propeller, and a pinion on said boss engaging said first mentioned pinion, said latter propeller being mounted on said boss and having an internally geared rim, said parts being combined substantially as described.

JOSEPH B. JONES.

Witnesses:

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