

909,263.

Patented Jan. 12, 1909.

Fig. 1.

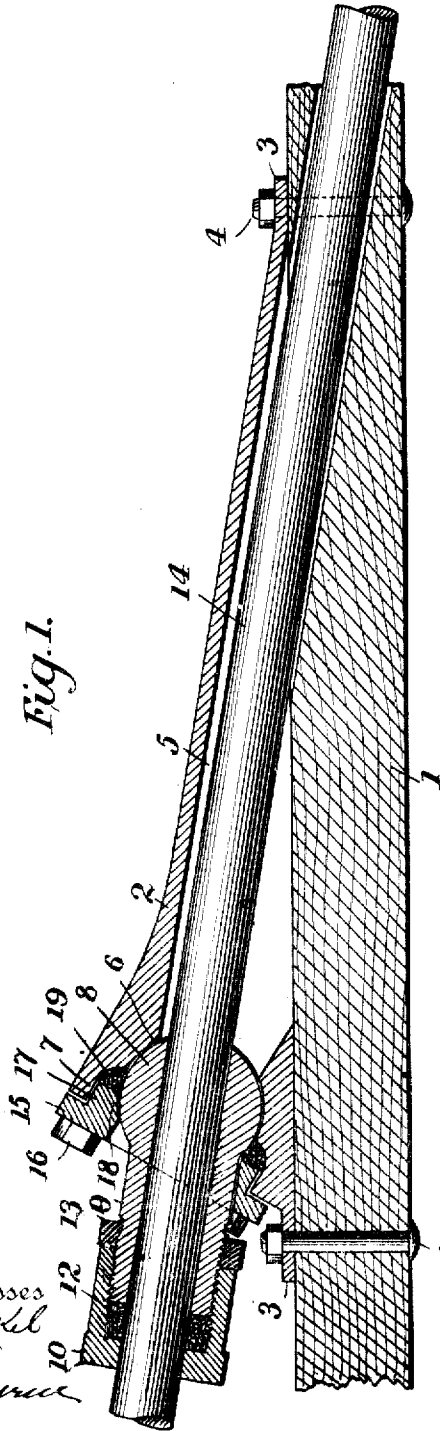


Fig. 3.

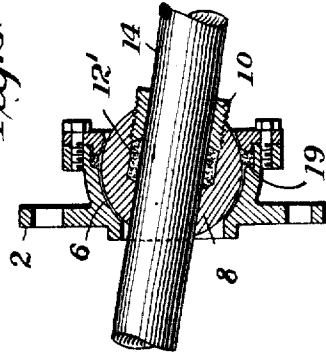
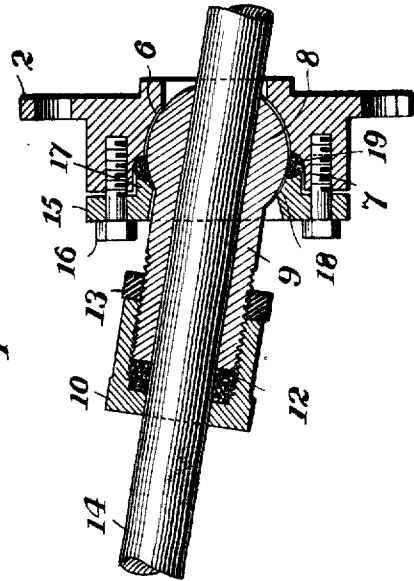


Fig. 2.



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# UNITED STATES PATENT OFFICE.

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## STUFFING-BOX.

No. 909,263.

Specification of Letters Patent.

Patented Jan. 12, 1909.

Application filed May 14, 1906. Serial No. 432,895.

*To all whom it may concern:*

Be it known that I, JULIUS W. WALTERS, a citizen of the United States, residing at Glens Falls, in the county of Warren and State of New York, have invented new and useful Improvements in Stuffing-Boxes, of which the following is a specification.

My present invention relates to certain new and useful improvements in stuffing boxes especially designed for use in connection with marine propeller shafts, and the prime object of the invention is to provide a stuffing box that may be quickly and easily adjusted into accurate and frictionless alinement with the propeller shaft.

It is common in the art to provide a housing consisting of a flange from which extends a sleeve and through which the propeller shaft passes, a suitable gland or packing being provided between the sleeve and shaft to prevent the leakage of water past the rotating shaft. Stuffing boxes of this type require a great deal of accurate adjustment upon the shaft log to which they are attached, in order to bring them into accurate and frictionless alinement with the propeller shaft. This accurate adjustment and alinement of the stuffing-box with the shaft is seldom obtained, consequently, in new boats, the stuffing-box will bind upon the shaft more or less and not only cause undue wearing of the parts, but materially increase the work of the motor and consequently reduce the speed of the vessel.

The prime object of the present invention is, therefore, to overcome the above recited objections incident to the old forms of stuffing-boxes, and this I accomplish by providing a novel and simple construction of stuffing-box wherein is employed a housing having a spherical seat in which is adjustably mounted a sphere preferably provided with an integral outstanding sleeve through which the propeller shaft passes, a suitable packing being provided between the sleeve and shaft, and a further packing being interposed between the sphere and its seat.

In order to enable others skilled in the art to make and use my said invention I will now proceed to describe the same in detail, reference being had to the accompanying drawing, wherein,

Figure 1 is a longitudinal sectional view of one embodiment of the invention; Fig. 2 is a similar view of a further embodiment; and

Fig. 3 is a similar view of a still further embodiment of the invention.

Referring to the drawing Fig. 1, the reference numeral 1 designates the keel of a boat to which is attached a housing 2 consisting of a metal casting provided with a flange 3, having apertures through which bolts 4, or any other suitable form of fastening means may pass, whereby the casting can be secured to the boat. The casting is provided with an enlarged diagonally arranged through passage 5, and at its forward end with a spherical seat 6, and an adjacent annular chamber 7. Seated upon the spherical seat 6 is a hollow ball or sphere 8 preferably provided with an integral off-standing sleeve 9, which sleeve is shown as threaded throughout substantially its entire length. Mounted upon the end of the sleeve 9 is a packing gland or cap 10 and interposed between the end of the sleeve and the said cap is a suitable packing 12. A jam-nut 13 is threaded upon the sleeve 9 and serves to prevent displacement of the cap 10 due to rotation of the propeller shaft 14, which, as shown, extends through the cap, the sleeve and the housing. The packing 12 effectually prevents the passage of water up through the ball or sphere 8 and the sleeve into the boat.

A clamping ring or annulus 15 is secured by means of bolts 16 to the forward end of the housing 2 and has an annular projection 17 extending within the chamber 7, the inner wall 18 of the annulus being faced, as shown, to make a fairly close joint between it and the sphere or ball 8. A suitable packing 19 is interposed between the projection 17 and the outer face of the ball or sphere 8 and serves to make a water-tight joint between these parts.

It will be obvious from the foregoing that by loosening the bolts 16 which hold the annulus 15, the ball or sphere may be readily adjusted to various positions, which will permit the propeller shaft 14 that passes through the sphere, to find its proper alinement without danger of binding. Obviously no adjustment of the casting or housing is necessary to bring the same into proper alinement with the propeller shaft and this is an important feature of the present invention. When the ball and its integral off-standing sleeve has been brought into accurate alinement with the propeller shaft these parts are then firmly clamped into position

and held against further movement by means of the annulus 15 and its bolts 16.

In the embodiment of the invention illustrated in Fig. 2, the construction of all parts of the device, except the housing or casting, is the same as the form illustrated in Fig. 1. The housing or casting illustrated in Fig. 2, is designed to take the place of the present old style stuffing-box usually attached to the shaft log. The housing consists of a metal block 20, having an attaching flange 21, provided with openings 22, for the fastening bolts. The housing is provided with a spherical seat 23, for the ball 8, the latter having the outstanding integral sleeve 9, carrying the cap or gland 10, packing 12, and jam-nut 13, as in the form of device illustrated in Fig. 1. The ball is clamped to its seat by the ring or annulus 15, through which latter the fastening bolts 16 pass and there is the packing 19, interposed between the ball, the housing and the annulus as in the form first described.

In the forms of the invention illustrated in Figs. 1 and 2, I have shown the ball 8, as provided with an integral out-standing sleeve 9, but I do not wish to be limited to such construction as it will be obvious that I may dispense with the sleeve and arrange the packing 12', for the propeller shaft in an annular cavity formed in the ball 8, as clearly shown in Fig. 3. In this arrangement the packing may be held in place by means of a threaded bushing or thimble 10, screwed into the ball and against the packing.

I do not wish to be understood as limiting myself to the precise details of construction herein shown and described, except as I may be limited by the terms of the appended claims, for I am aware that minor changes may be made without departing from the spirit of the invention.

What I claim is:

1. A stuffing-box for propeller shafts of boats, comprising a housing having a spherical seat and an intersecting through passage, a hollow sphere seated on said seat and provided with an integral out-standing sleeve, through which sphere and sleeve the propeller shaft passes, a gland at the end of said sleeve, a packing interposed between the sleeve and gland, a packing interposed between the sphere and housing, and means for compressing the last-named packing.

2. A stuffing-box for propeller shafts, comprising a housing adapted to be attached to a boat, a sleeve having a ball and socket connection with said housing and through which the propeller shaft is adapted to pass, a gland

screwed upon the end of the sleeve, a packing interposed between the gland and sleeve, a jam-nut on the sleeve, adapted to engage the gland, a clamping ring secured to the housing and surrounding the ball, and a packing interposed between the said ring, the housing and the ball.

3. A stuffing-box for propeller shafts, comprising a housing adapted to be attached to a boat, a sleeve having a ball formed integral therewith and seated in a concave seat formed in the housing, a packing gland carried by the sleeve, means for clamping the ball to its seat, and a packing interposed between the ball and housing.

4. A stuffing-box for propeller shafts on boats, comprising a housing having a spherical seat, an intersecting through passage, a ball seated on said seat, said ball also provided with an intersecting passage, through which the propeller shaft passes, a means to prevent leakage around said ball by interposing packing between the ball and housing, and means for compressing this packing.

5. A stuffing-box for propeller shafts comprising a housing having an integral flange to be attached to a boat, a ball and socket contained in said housing through which the propeller shaft passes, a packing for the shaft carried by said ball, and means for clamping said packing to prevent leakage past the shaft.

6. A stuffing box for propeller shafts comprising a flanged housing to be attached to a boat, a ball socketed within said housing through which the propeller shaft passes, provided with packing around the ball and packing around the shaft, the housing so arranged that said ball and shaft are subject to angular changes of alinement within the housing to suit various shaft angles.

7. A stuffing box for propeller shafts comprising a flanged housing to be attached to a boat, a ball socketed within said housing having the propeller shaft passing through said ball, packing around said ball and shaft to prevent leakage, the housing so arranged that said ball and shaft are subjected to angular changes within the housing to suit different shaft angles, thus providing means automatically for obtaining true shaft alinement at any angle required.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JULIUS WM. WALTERS.

Witnesses:

FRANK A. CONLIN,  
ROBT. B. LANSING.