

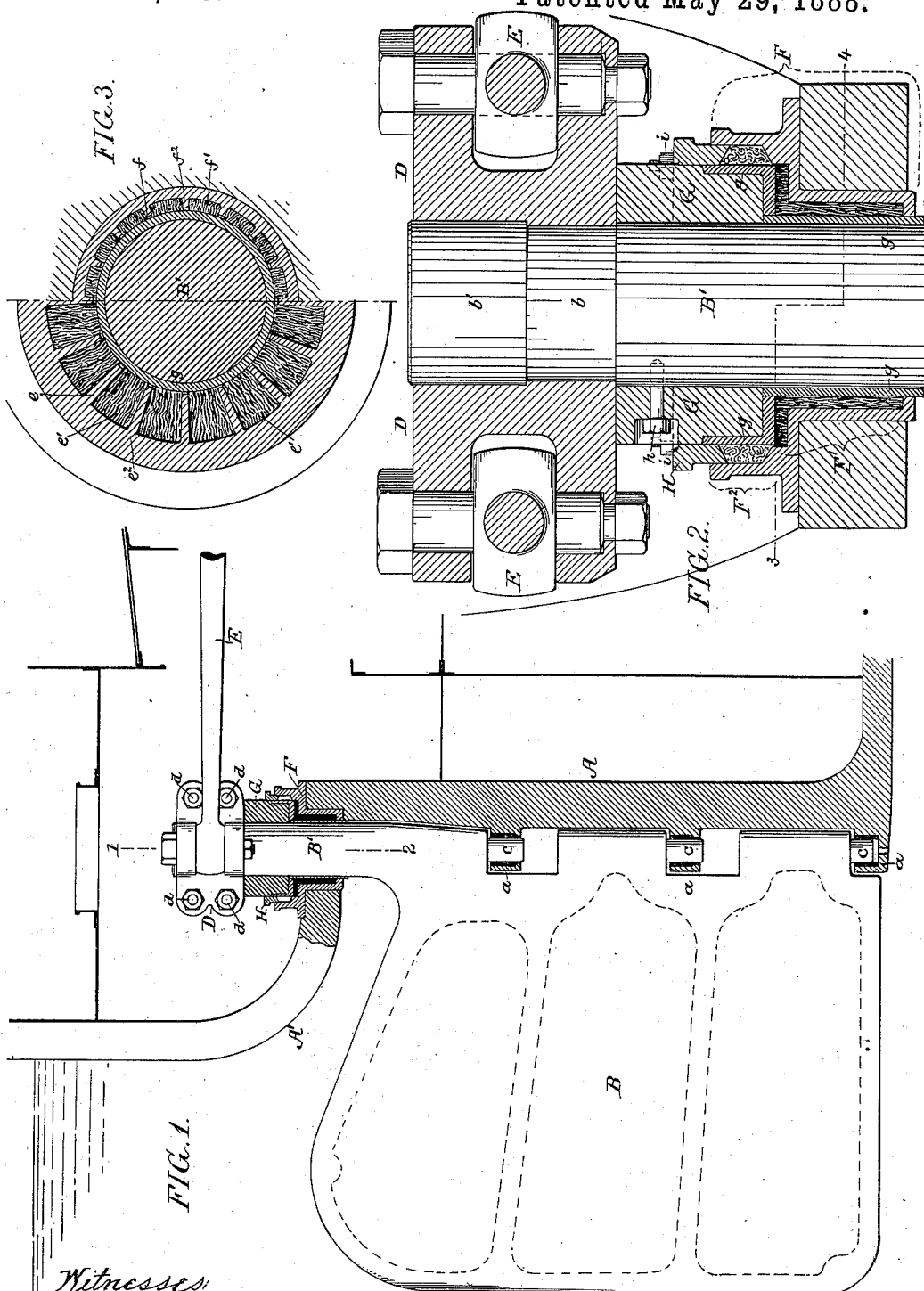
(No Model.)

J. H. KONITZKY.

COMBINED BEARING AND STUFFING BOX FOR RUDDERS.

No. 383,646.

Patented May 29, 1888.



Witnesses:
John E. Parker,
John T. Lewis.

Inventor:
J. Henry Konitzky
by his attorneys
Howson & Howson

UNITED STATES PATENT OFFICE.

J. H. KONITZKY, OF PHILADELPHIA, PENNSYLVANIA.

COMBINED BEARING AND STUFFING-BOX FOR RUDDERS.

SPECIFICATION forming part of Letters Patent No. 383,646, dated May 29, 1888.

Application filed March 27, 1888. Serial No. 262,685. (No model.)

To all whom it may concern:

Be it known that I, J. HENRY KONITZKY, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented a
5 Combined Bearing and Stuffing-Box for Rudder-Stocks, of which the following is a specification.

The object of my invention is to so construct the stuffing-box and anti-friction bearing of the rudder as to render the same more compact
10 than usual. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section, partly in elevation, of the stern portion of a vessel with the rudder in position, and illustrating my invention. Fig. 2 is a transverse section on the line 1 2, Fig. 1, drawn to an enlarged scale; and Fig. 3 is a sectional plan on the line 3 4,
15 Fig. 2.

It has been customary in constructing large vessels to form the stuffing-box directly on the counter, to prevent the ingress of water, and to provide a superstructure above the stuffing-
25 box, in which are the bushings or anti-friction bearings for the rudder-stock, the rudder being usually suspended from this structure. This construction is objectionable, because it occupies considerable space at the portion of
30 the vessel where it can be least afforded, and, furthermore, because the superstructure has to be very strong to bear the weight of the rudder. This is especially the case in war-vessels, where every portion of the steering-gear is beneath the protective deck located below
35 the water-line.

Referring to the drawings, A is the stern-post of the vessel, and A' the counter, B being the rudder, and B' the stock extending up
40 into the rudder-well of the vessel. The pintles *c* of the rudder are adapted to eyebolts *a*, projecting from the stern-post, as clearly shown in Fig. 1. The upper portion of the rudder-stock is reduced at *b*, forming a head, *b'*, and
45 D is a yoke, made in two sections and clamped to the head *b'* and reduced portion *b* of the rudder-stock B' by means of bolts *d*, so that when the yoke is supported, as described hereinafter, it will in turn support the rudder by means
50 of its engagement with the shoulder formed by the reduced portion *b*.

EE are two rods which connect the yoke D to a yoke on the quadrant of the steering mechanism, which is of the usual form.

F is the shell of the combined stuffing-box 55 and bearing, F' being the bearing portion, and F² the stuffing-box portion. This shell I preferably cast in one piece, as shown. The portion F' has two sections, *e* and *f*, the lower section, *f*, being packed with any suitable anti-
60 friction material—lignum-vitæ, for instance—and I also prefer to divide the section *f* into a series of compartments, *f'*, by means of short radial partitions *f''*, (see Fig. 3,) these compartments containing the anti-friction blocks, as
65 shown. The section *f* tends to steady the rudder in connection with the anti-friction material packed into the eyebolts *a*, in which the pintles rest, as shown in Fig. 1.

The section *e* of the portion F' of the shell 70 presents a large annular surface, which supports the entire weight of the rudder and fixtures. This I also form, by means of radial partitions *e'*, into a series of compartments, *e'*,
75 containing the anti-friction blocks, as shown in Fig. 3. The anti-friction blocks form a bearing for a sleeve, *g*, carried by a collar, G, which is secured to the rudder-stock by means of a screw-bolt, *h*. The cross-head D rests directly upon this collar G, and is supported
80 thereby, the weight of the rudder and its attachments being thus supported entirely by the large anti-frictional bearing-surface presented by the section *e* of the shell F.

H is the follower of the stuffing-box portion 85 F² of the shell, said follower being screwed down by suitable nuts and bolts, *i*, around its flange.

It will be noticed that the opening in the counter for the reception of the shell F is very
90 large; hence when the rudder is shipped or unshipped it has plenty of room to move into and out of place, owing to this large opening. When the rudder is shipped, for instance, in the first place, the stock is inserted into the
95 opening and the rudder-pintles dropped into the eyebolts. The shell F is then placed in position, and the collar G, with its sleeve, is placed in position, the follower H being then adjusted and the rudder jacked up sufficiently
100 and the cross-head or yoke D secured thereto, after which the screw-bolts *h* are inserted to

secure the collar G to the stock, to prevent said collar from turning independently of the stock.

5 It will be seen that the whole device is very compact and occupies comparatively little room in the stern of the vessel, and yet can be readily examined when necessary.

10 It will be understood that the anti-friction blocks in the portion F' of the shell last for a considerable length of time without renewal, and therefore need not be attended to as frequently as the packing material in the stuffing-box, which is consequently placed on top, where it is readily accessible.

15 I claim as my invention—

1. The combination of the rudder stock, the counter, and a shell therein comprising two portions, one forming a bearing for the rudder-stock and the other forming the stuffing-box, 20 substantially as set forth.

2. The combination of the rudder-stock, the counter, a shell having two portions, one forming both a steady-bearing and a supporting-bearing for the rudder-stock and the other 25 forming the stuffing-box to prevent ingress of water to the hold of the vessel, substantially as set forth.

3. A rudder-bearing for vessels, consisting of a shell having a horizontal bearing for a collar on the rudder-stock and a stuffing-box 30 above said horizontal bearing.

4. A rudder-bearing for vessels, consisting of a shell having a horizontal bearing for a collar on the rudder-stock, a vertical bearing for the stock below said horizontal bearing, 35 and a stuffing-box above the same, all substantially as specified.

5. The combination of the counter, the shell having a lower bearing portion and upper stuffing-box portion, the rudder-stock, the 40 cross-head secured thereto, and the bearing-collar interposed between said cross-head and the horizontal portion of the bearing in the shell, all substantially as specified.

In testimony whereof I have signed my name 45 to this specification in the presence of two subscribing witnesses.

J. H. KONITZKY.

Witnesses:

HARRY SMITH,
HENRY HOWSON.