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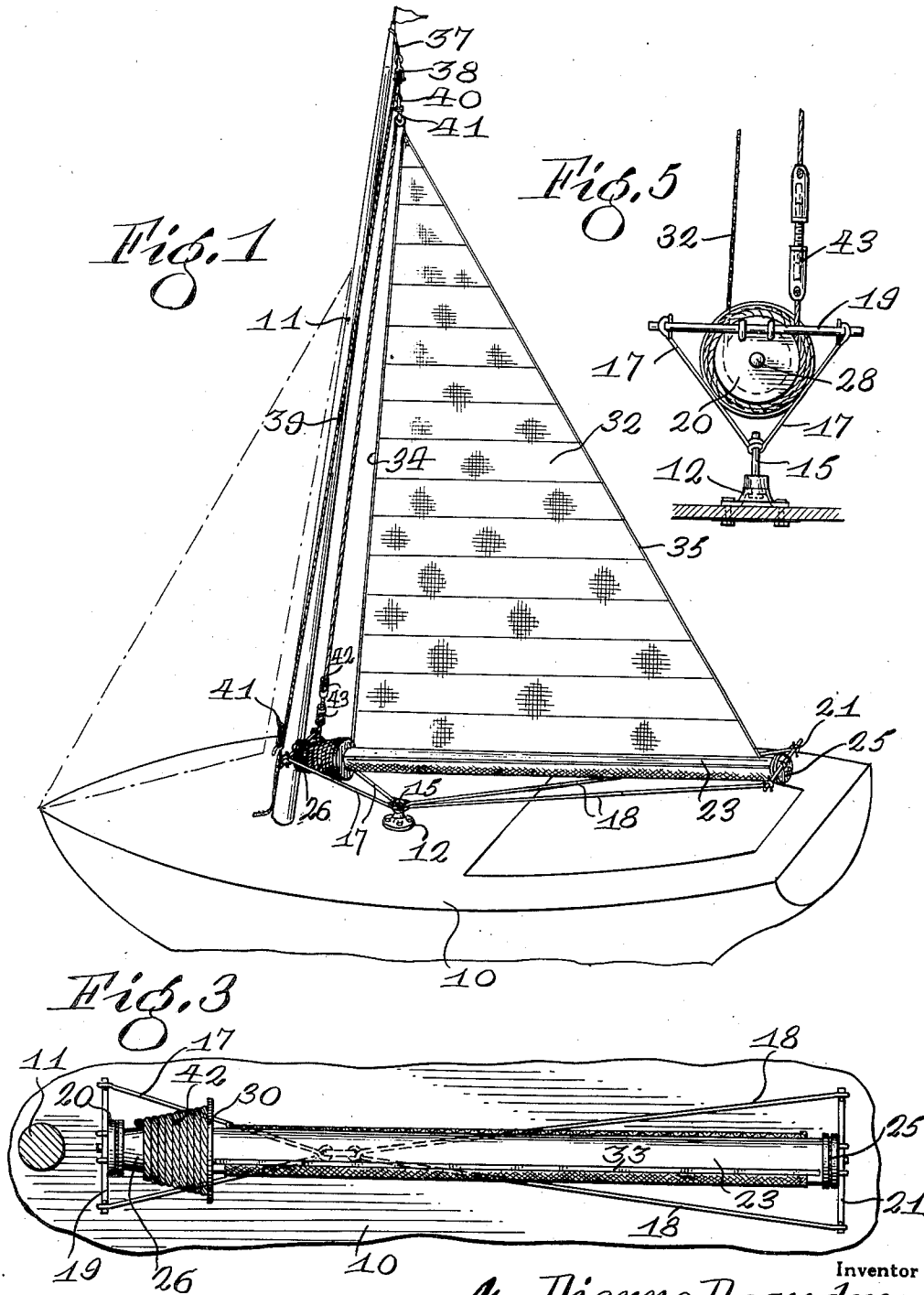
P. BEAUDRY

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RIG FOR SAILBOATS

Filed Aug. 24, 1938

2 Sheets-Sheet 1



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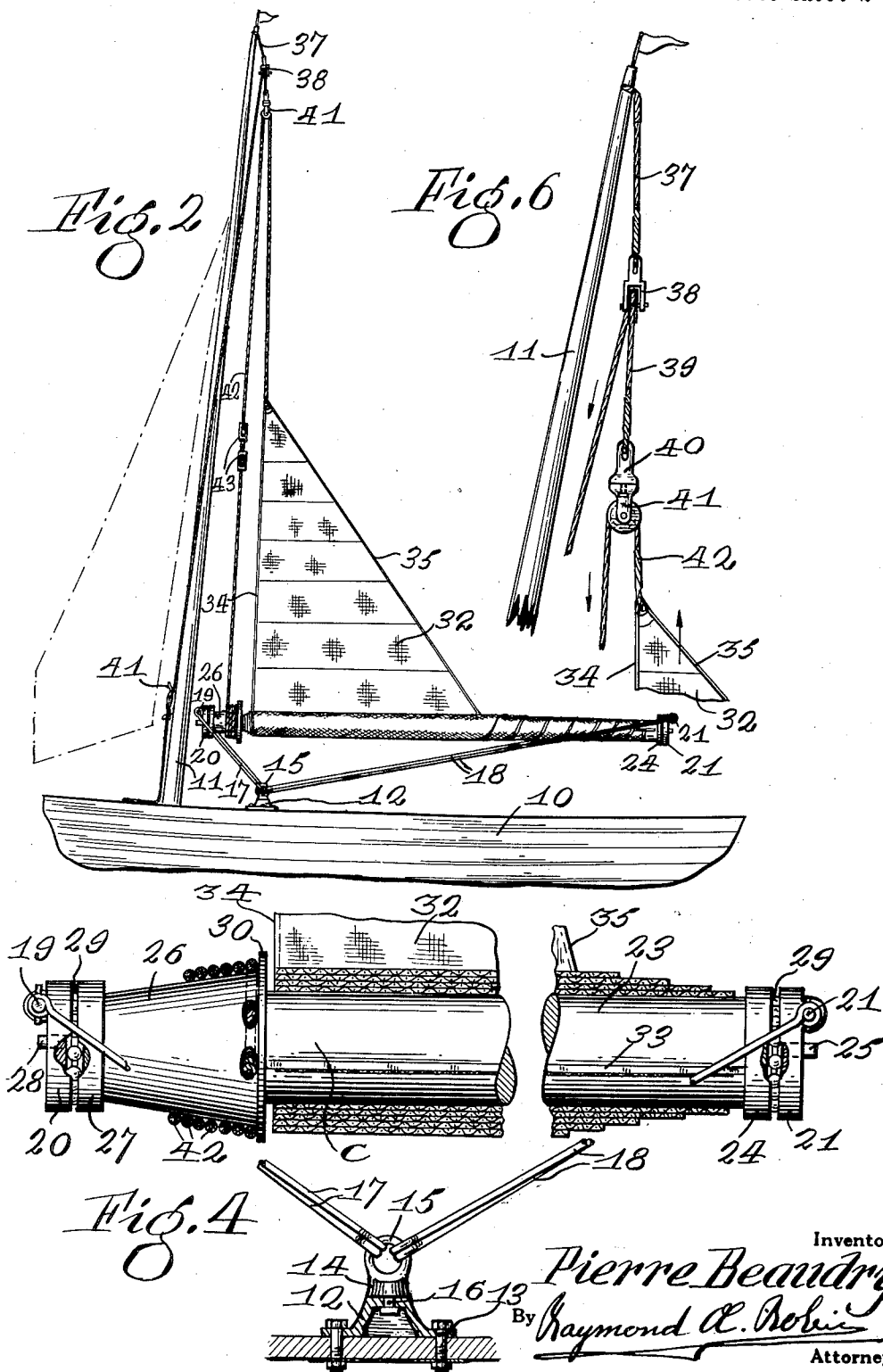
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UNITED STATES PATENT OFFICE

2,197,654

RIG FOR SAILBOATS

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2 Claims. (Cl. 114—107)

The present invention relates to improved rigs for sailboats.

An object of the invention is the provision of a rig for sail boats of generally improved construction.

Another object of the invention is the provision of a rig for sailboats designed so as to enable relatively easy handling of a sail.

A further object of the invention is to provide a rig of the above character which increases the sailing efficiency.

Still another object of the invention is the provision of a sailing rig of the aforesaid character which can be readily installed upon boats of conventional design.

Other objects and advantages of the invention will become apparent as the description progresses.

In the accompanying drawings forming a part of this specification and in which like reference characters are employed to designate corresponding parts throughout the same:

Figure 1 is a side elevational view of the rig with the sail in fully hoisted position,

Figure 2 is a similar view with the sail in partly furled position,

Figure 3 is a horizontal section taken just above the boom.

Figure 4 is a longitudinal section through the boom partly broken away,

Figure 5 is a bow end view of the boom, and

Figure 6 is a fragmentary side elevational view of the upper portion of the rig.

Referring to the drawings, wherein for the purpose of illustration is shown a preferred embodiment of the invention, 10 generally designates the hull of a conventional small-sized sailing vessel, having mounted on the forward portion an upstanding mast 11 which may be arranged vertically or raked, as illustrated.

Secured on the deck of the hull 10, aft of the mast, is a flanged hollow bearing bracket 12 secured in position by the bolts 13 and adapted to rotatably support thereon a rotary top section 14 mainly consisting of a relatively large eye 15. The top section 14 is formed with a flat circular bottom adapted to fit approximately flush with the elevated centre portion of the bracket 12 and is rotatably connected with the bracket by means of a headed pivot pin 16. Securely attached to the eye 15 are a pair of relatively short rods 17 and a pair of comparatively long arms 18. The short rods 17 extend, when the boom is in a longitudinally arranged position, forwardly of the boat and at an upward inclina-

tion, the outer ends being securely fastened to the end portions of a transverse bar 19. The intermediate portion of the bar 19 is rigidly attached to a front member 20 in the form of a disc having a central bearing aperture. The oppositely extending rods 18 are also directed at an upward inclination and engage the ends of a transverse bar 21 secured to a rear apertured disc member 21.

Between the discs 20 and 21 is supported an elongated rotary member C the major portion of which is in the form of a cylindrical boom 23 formed at the rear end with an enlarged shoulder 24 and with an axially extending stub shaft 25 extending through the central aperture in the disc 21. At the forward portion of the boom 23 is integrally formed or secured a winding drum 26, preferably of frusto-conical form terminating in a shoulder 27 and having an axial forward stub shaft 28 penetrating the aperture in the disc 20. Ball bearings 29 are mounted between the ends of the rotary member and the end bearing discs. As will be noted the drum 26 is shaped to provide a diminishing taper toward the outer end formed to correspond with the roll of the sail to be described hereinafter. At the inner portion the drum is formed with a retaining flange 30. As shown to advantage at Figures 1 and 4, the rods 17 and 18 extending at an upward inclination from the support eye 15 function as arms to firmly support the boom in a substantially horizontal position above the deck of the boat, the mounting being preferably arranged so that the major portion of the boom extends astern or outwardly relative to the support bracket 12.

Secured to the boom 23 so as to be rolled thereon is a sail 32, in the present example of triangular form, and having its bottom edge or foot firmly secured to the boom by a wedge key 33 disposed to be fitted in a groove in the boom, or in any other suitable manner. To the forward edge of the sail 32 is secured a fore line or luff 34 while to the rear inclined edge is secured an after or leech line 35.

The sail is supported by a short top line 37 having one end secured to the top of the mast 11 and having a block 38 attached to the bottom depending portion. Over the pulley in the block 38 is trained a tension line or halyard 39 having attached to one end a support bracket 40 making rotatable connection with a block 41. The opposite end portion is adapted to be wound about a cleat 41 secured to the bottom portion of the mast.

About the pulley of the block 41 is trained a sail or reefing line 42 having one end attached to the apex or head of the sail 32, while the opposite end is secured to the inner enlarged end portion of the drum 26, as shown to advantage at Figure 4. In this line 42 is preferably provided a turn-buckle 43 to effect proper tension. This reefing line is mounted so that, as the sail is hoisted, for instance when unrolled from the cylindrical boom section 23 in a counter-clockwise direction looking forward, it will wind up on the drum from the side opposite that which the sail leaves the boom.

During adjustment of the sail, that is, when preparing to hoist, reef or furl the same, the halyard is loosened and, when the desired operation is completed, the halyard line is tightened so that the tension caused thereby on the reefing line will maintain the latter in set position. The sail lowering operation is practically automatic inasmuch as reduction of tension on the reefing line will result in furling of the sail by its own weight. Furthermore, the reverse winding of the reefing line on the drum, with respect to the rolling of the sail, enables very rapid hoisting with a minimum of effort.

The arrangement of the swivel or rotary bearing for the boom support arms in a position spaced from the mast and abaft thereof greatly increases the sailing efficiency as the full sail is thus exposed to the wind, mast interference is obviated and yawing greatly reduced.

It is to be understood that the form of my invention herein shown and described is to be taken as a preferred example of the same, and that various changes as to the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a sailboat having a hull and mast, a sail rig of the character described comprising a boom rotatably supported horizontally above the hull, means for supporting and pivoting said boom to the hull, the pivot point being at approximately one-third of the boom length, a triangular sail attached to said boom and adapted to be rolled thereon, a tapered drum axially secured to one end of the boom, a reefing line connected to the top of the sail and adapted to be wound on the drum, and means at the mast-head including a pulley over which the reefing line is trained, the boom being mounted abaft of the mast and so adapted to swing a full 180° without obstruction.

2. In a sailboat having a rigid mast, a pulley secured to the top of said mast, a halyard line trained over said pulley and one end of which is adapted to be secured to the mast, a second pulley attached to the free end of the halyard line, a rotary boom disposed abaft of the mast and adapted to swing horizontally around a pivot point disposed at approximately one-third of its length from the mast end, a swivel bearing mounted abaft of the mast on the sailboat proper, support means extending upwardly from said bearing to the ends of the boom which they hold in place, a conical drum axially mounted at the mast end of the boom, a sail attached to the boom at its foot, and a reefing line attached at one end to the top of the sail and wound at the other end on the drum, said line being trained over the second pulley above, whereby reefing of the sail can be easily effectuated by manipulating the reefing line and the pivoted boom can swing around a 180° arc without meeting obstruction from the mast or the usual shrouds extending from said masthead to the sailboat sides.

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