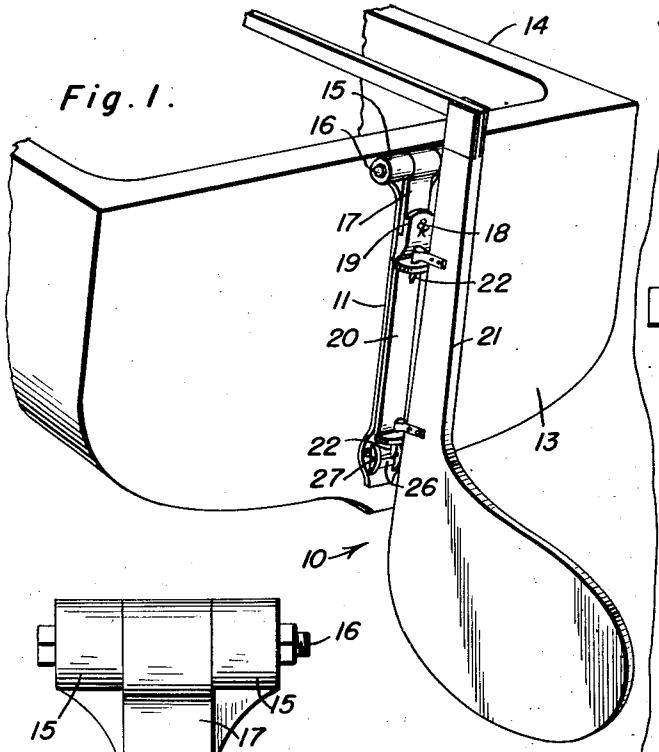
Sept. 19, 1950 J. I. M. VON SUTTKA 2,522,653

RUDDER STRUCTURE

Filed Feb. 6, 1948

Fig. 1.



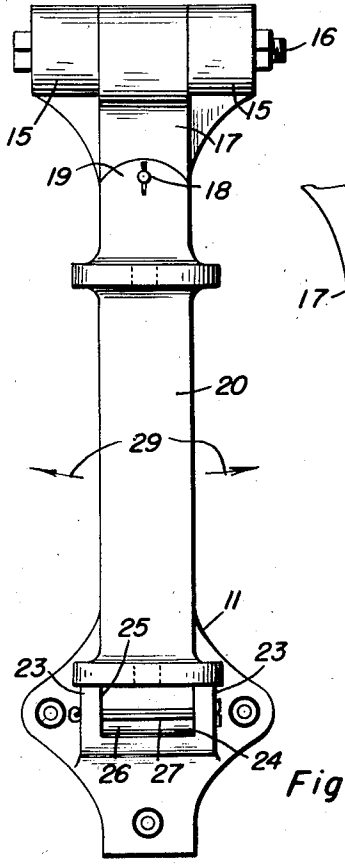


Fig. 3.

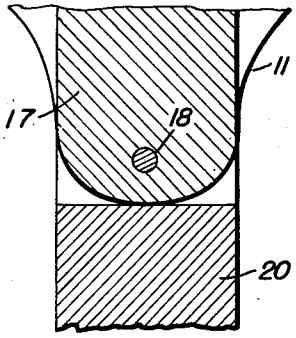


Fig. 4.

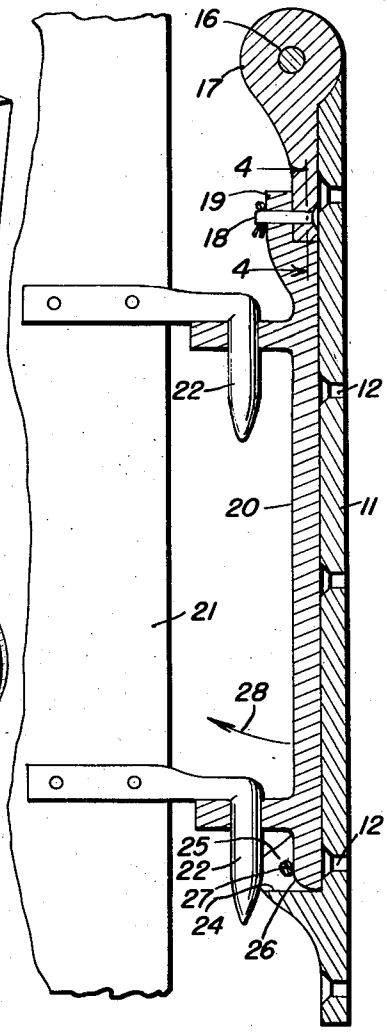


Fig. 2.

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RUDDER STRUCTURE

James L. M. von Suttka, Ladies Island, S. C.

Application February 6, 1948, Serial No. 6,721

2 Claims. (Cl. 114—165)

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This invention relates to new and useful improvements and refinements in rudder structures for small boats, and the principal object of the invention is to eliminate the possibility of damage to the rudder or to the stern of the boat when the rudder encounters a submerged obstacle such as a rock or the bottom in shallow water.

This object is achieved by mounting the rudder upon a swingable gudgeon plate which is normally retained in proper operating position by means of a shear pin, whereby the gudgeon plate together with the associated rudder is freely swingable upon breakage of the pin when the rudder encounters an obstruction.

An important feature of the invention resides in the provision of the rudder structure above outlined, wherein the gudgeon plate, notwithstanding its swingable mounting, is firmly held under normal operating conditions.

An additional feature of the invention resides in the provision of a rudder structure which is simple, which may be easily and conveniently manipulated and which may be used in association with small boats of various types.

With the above more important objects in view, and such other objects and features as will be apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of the invention shown on the stern of a boat;

Figure 2 is a fragmentary cross sectional view of the invention;

Figure 3 is a rear elevational view of the device shown in Figure 2 with the rudder removed, and

Figure 4 is cross sectional view, taken substantially in the plane of the line 4—4 in Figure 2.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of a rudder structure designated generally by the reference character 10, the same including a vertically elongated base plate 11 formed with a plurality of apertures 12 so that it may be secured by suitable screws, or the like, to the stern 13 of a small boat 14.

The upper end portion of the base plate 11 is widened and enlarged to provide a pair of spaced bearings 15 for a transversely extending pivot pin 16, the latter carrying an aftwardly swingable block 17 which is disposed between the bearings 15, as will be clearly apparent.

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The lower end portion of the block 17 is rounded and is connected by a further pivot pin 18 to an offset upper end portion 19 of a laterally swingable gudgeon plate 20, the rounded lower end of the block 17 facilitating free lateral swinging movement of the gudgeon plate, as will be clearly understood.

A suitable rudder unit 21 is pivoted by means of the gudgeon pin 22 to the plate 20 in the conventional, well-known manner.

The lower end portion of the base plate 11 is widened and thickened to accommodate a pair of spaced ears 23, between the lower edge portions of which extends a transverse ledge 24. In fact, the ears 23 together with the ledge 24 define what may be referred to as a pocket 25, and the lower end portion of the gudgeon plate 20 constitutes what may be referred to as a tongue 26 which is removably receivable in this pocket.

The tongue 26 of the gudgeon plate is retained in the pocket 25 by means of a transverse shear pin 27 which extends through the ears 23. When the invention is placed in use, the rudder unit 21 is manipulated in the conventional, well-known manner, while the gudgeon plate 20 is firmly and securely retained in proper operating position by the tongue 26 thereof which is disposed in the pocket 25.

While in this position, the pin 27 will prevent the gudgeon plate 20 from swinging aftwardly, and the ears 23 will prevent the gudgeon plate from swinging laterally, as will be clearly understood. Moreover, the lower end or edge of the tongue 26 engages the ledge 24, whereby the weight of the gudgeon plate 20 and rudder unit 21 is supported by the ledge 24 of the base plate 11, rather than by the pivot pin 16.

However, when the rudder strikes a submerged obstacle, the pin 27 will be sheared, and the gudgeon plate 20 will swing aftwardly in the direction of the arrow 28, so that tilting of the rudder to clear the obstacle will be facilitated.

This aftward swinging of the gudgeon plate 20 takes place, of course, about the pivot 16, and it is to be noted that as soon as the tongue 26 emerges from the pocket 25, the plate 20 will also be free to swing laterally on the block 17 about the pivot 18. This lateral swinging movement is indicated by the directional arrows 29, and the purpose thereof is to eliminate undue strain on the pin 16 after the tongue 26 leaves the pocket 25, particularly when the rudder strikes an obstacle while being deflected to either port or starboard.

It is believed that the advantages and uses of

the invention will be clearly apparent from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

1. A rudder structure comprising a vertically elongated base plate secured to the stern of a boat, a transverse pivot pin at the upper end of said base plate, an aftwardly swingable block carried by said pivot pin, a laterally swingable gudgeon plate pivoted at the upper end thereof to said block, a rudder pivoted to said gudgeon plate, a pair of spaced ears at the lower end of said base plate, the lower end portion of said gudgeon plate being receivable between said ears, and a shear pin extending through said ears and releasably retaining said gudgeon plate therebetween.

2. The device as defined in claim 1 together with a ledge provided on said base plate below said ears, the lower end of said gudgeon plate being supportably engageable by said ledge.

JAMES I. M. VON SUTTKA.

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