No. 712,370. Patented Oct. 28, 1902.

C. H. GAFFNEY.

SEINE PURSING APPARATUS.

(Application filed Jan. 25, 1901.)

(No Model.) 2 Sheets—Sheet 1.

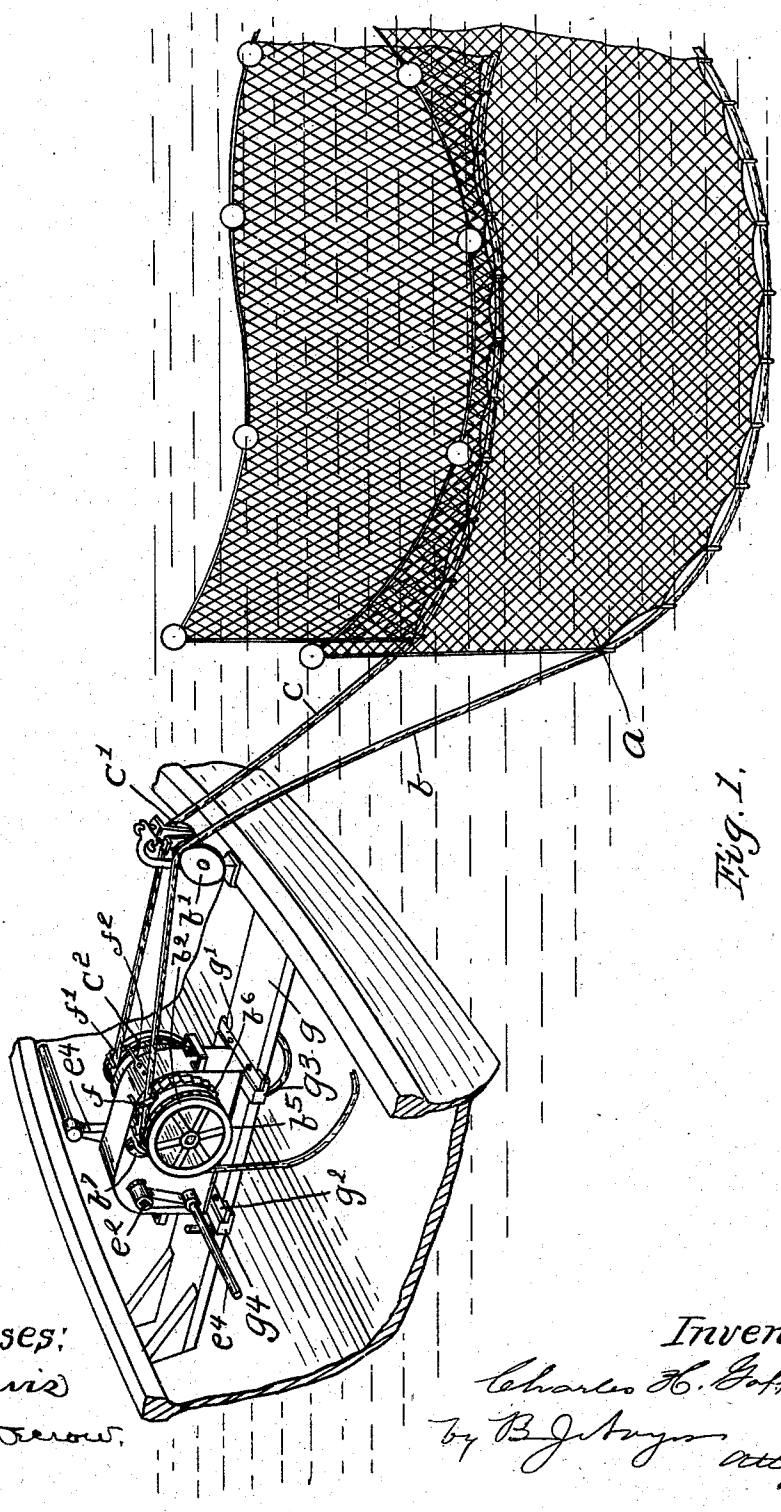


Fig. 1.

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Fig. 2.

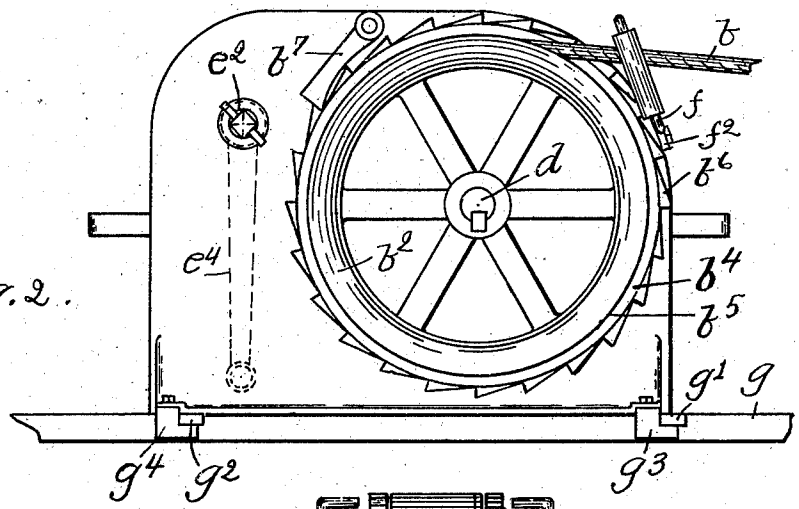



Fig. 3.

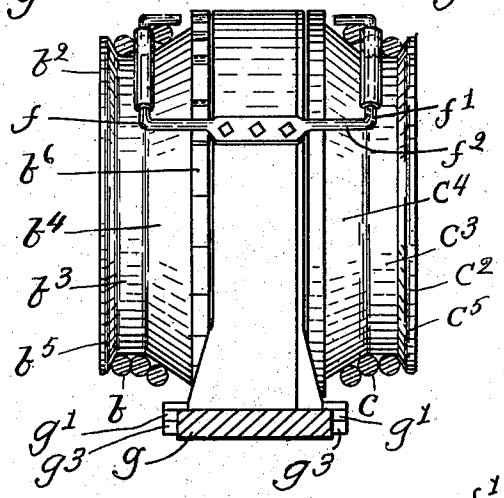
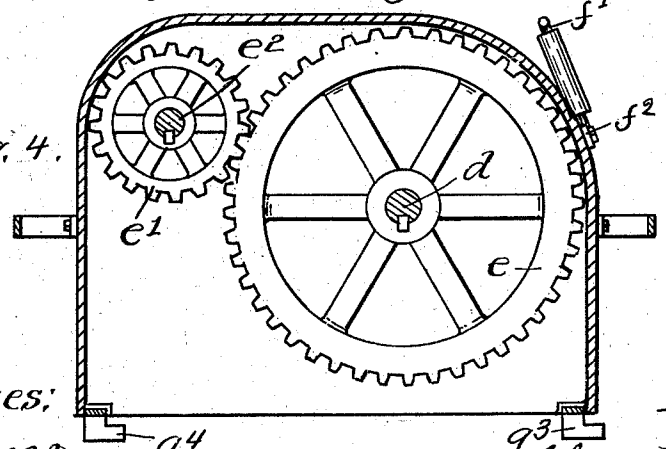



Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## SEINE-PURSING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 712,370, dated October 28, 1902.

Application filed January 25, 1901. Serial No. 44,646. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. GAFFNEY, of Gloucester, in the county of Essex and State of Massachusetts, have invented an Improvement in Seine-Pursing Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to seines, and has for its object to improve the construction of the means employed for hauling in the purse-lines and commonly called a "purser," to the end that the two purse-lines may be manipulated as follows: both purse-lines hauled in together at the same or at different relative speeds, either purse-line hauled in while the other remains checked, either purse-line hauled in while the other is paid out at the same or at a different relative speed, and both purse-lines paid out at the same or at different relative speeds.

Figure 1 shows a perspective view of a seine having a purser constructed in accordance with this invention. Fig. 2 is a side elevation of the purser. Fig. 3 is an end view of the purser, shown in Fig. 2. Fig. 4 is a longitudinal vertical section of the purser, showing particularly the actuating mechanism for the purse-line holders or drums.

The seine $a$, its purse-lines $b$ $c$, tackle-blocks $b'$ $c'$, and support for said tackle-blocks adapted to be secured to the boat are all of any usual or suitable construction. The purse-lines $b$ $c$, leading from their respective tackle-blocks, are wound around the purse-line holders, which are herein shown as drums or winches $b^2$ $c^2$, which are made alike, or substantially so, and are disposed in opposite ways upon and secured to a horizontal rotatable shaft $d$, which is supported in suitable bearings provided for it in the framework. The drums or winches $b^2$ $c^2$ are each formed or provided with a peripheral recess or groove for the purse-lines, and said recess or groove is formed with a straight portion $b^3$ $c^3$, disposed substantially in parallelism with the horizontal axis which forms the bottom of the groove and with an inclined portion or bottom $b^4$ $c^4$ at the inside of said straight portion $b^3$ $c^3$ and with a flange $b^5$ $c^5$ at the outside of said straight portion or bottom $b^2$ $c^3$. The straight portion or bottom $b^3$ $c^3$ of the recess or groove will be made wide enough to receive, say, two windings of the purse-lines, and additional windings will be received upon the inclined portion $b^4$ $c^4$.

As a means of rotating the drums or winches a toothed gear $e$ is secured to the shaft $d$ between the two drums or winches, which is engaged by a pinion $e'$, secured to a shaft $e^2$, also having its bearings in the framework, and said shaft $e^2$ projects through the side walls of the framework and is formed or provided with squared ends adapted to receive upon them suitable socketed cranks $e^4$. By means of said cranks the shaft $e^2$ will be turned, and by means of the gearing described the two purse-line holders $b^2$ $c^2$ will be simultaneously rotated. By providing gearing substantially as herein shown for the drums or winches it will be seen that the ends of said drums or winches will be unobstructed and the windings of the purse-lines may be easily removed from and placed upon said drums or winches.

To prevent backward rotation of the purse-line holders, one of them—as $b^2$, for instance—will be formed with ratchet-teeth $b^6$, which are engaged by a suitable pawl $b^7$, pivoted to the framework.

To guide the purse-lines as they are wound upon the drums or winches, a pair of vertically-disposed arms $f$ $f'$ are provided, which project upward from a cross-bar $f^2$, secured to the framework, and upon said vertical arms friction-rolls may be placed, if desired. The arms $f$ $f'$ are so disposed relative to the drums or winches as to guide the lines onto the inclined sides $b^4$ $c^4$, from which the lines slip, as windings, onto the straight portions $b^3$ $c^3$. By referring to Fig. 3 it will be observed that the arms $f$ $f'$ are located approximately opposite the junction of the portions $b^3$ $b^4$ and $c^3$ $c^4$, whereby this result may be obtained. This is important, as the pinch of the several windings is obtained by the windings on the inclined portions $b^4$ $c^4$ crowding against the windings on the portions $b^3$ $c^3$.

The purser will be placed upon and secured to one of the seats, as $g$, of the boat, and as a means of detachably securing the purser to

said seat I have herein secured to the seat two cross-bars $g'$ $g^2$, the ends of which project in opposite ways from the opposite edges of the seat for a short distance, and upon the under side of the framework of the purser suitable cross-bars $g^3$ $g^4$ are secured, the ends of which project down over the edges of the seat and have secured to them laterally-projecting portions, which extend under the projecting ends of the cross-bars $g'$ $g^2$ when the apparatus is placed upon the seat and moved thereon lengthwise or toward one side of the boat.

In operating the apparatus it is the intention to place at least three windings of the purse-lines upon the drums or winches, two windings on the portion $b^3$ $c^3$, and one winding on the portion $b^4$ $c^4$, and in such event the winding on the portion $b^4$ $c^4$ will crowd the windings on the portion $b^3$ $c^3$ against the flange $b^5$ $c^5$ and the purse-lines will be hauled in together at the same relative speed as the shaft $d$ is rotated; but as the ends of the drums or winches are not in any way obstructed one or more of the windings may be removed from or placed upon the portion $b^3$ $c^3$ by slipping it over the flange $b^5$ $c^5$, even while the drums or winches are being revolved. When one or more of the windings is removed from either one of the drums or winches, the remaining windings on said drum or winch will occupy a position on the portion $b^3$ $c^3$, and the drum or winch may then turn freely within said windings, or, in other words, said windings can at such time slip upon the drum. In case it is desired that either one of the purse-lines should be paid out it will be seen that while the windings are free to slip upon the drum any pull upon the line in opposition to the pull upon the slack end will slip the windings around on the revolving drum in a direction opposite to that of the drum, and will consequently be paid out. It will therefore be seen that by the apparatus herein shown and described all the results heretofore recited may be accomplished.

I claim—

1. In combination with a seine, its purse-lines and tackle-blocks, two winches having unobstructed ends, disposed in opposite ways on a rotatable shaft, each having a peripheral recess or groove formed on its inside with an inclined portion, and guides for guiding the line onto said inclined portion, substantially as described.

2. A seine-purser comprising two drums secured to a rotatable shaft and disposed in opposite ways, each drum having a recess or groove formed with a portion $b^3$, $c^3$, disposed in parallelism with its axis, an inclined portion $b^4$, $c^4$, at the inside of said portion $b^3$, $c^3$, and a flange $b^5$, $c^5$, at the outside of said portion $b^3$, $c^3$, said recessed drums receiving a number of windings of the purse-lines, and having unobstructed ends whereby one or more windings may be removed from and placed upon said drums while said drums are rotating, and guides for guiding the lines onto the inclined portions $b^4$, $c^4$, substantially as described.

3. A support for a seine-purser consisting of cross-bars $g^3$, $g^4$, on the frame having ends which project down over the edges of the seat and which are formed with lateral extensions, the seat, and cross-bars $g'$, $g^2$, on said seat having projecting ends which receive beneath them the lateral extensions of the cross-bars $g^3$, $g^4$, substantially as described.

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

CHARLES H. GAFFNEY.

Witnesses:

B. J. NOYES,

JOHN W. DECROW.