

No. 848,297.

PATENTED MAR. 26, 1907.

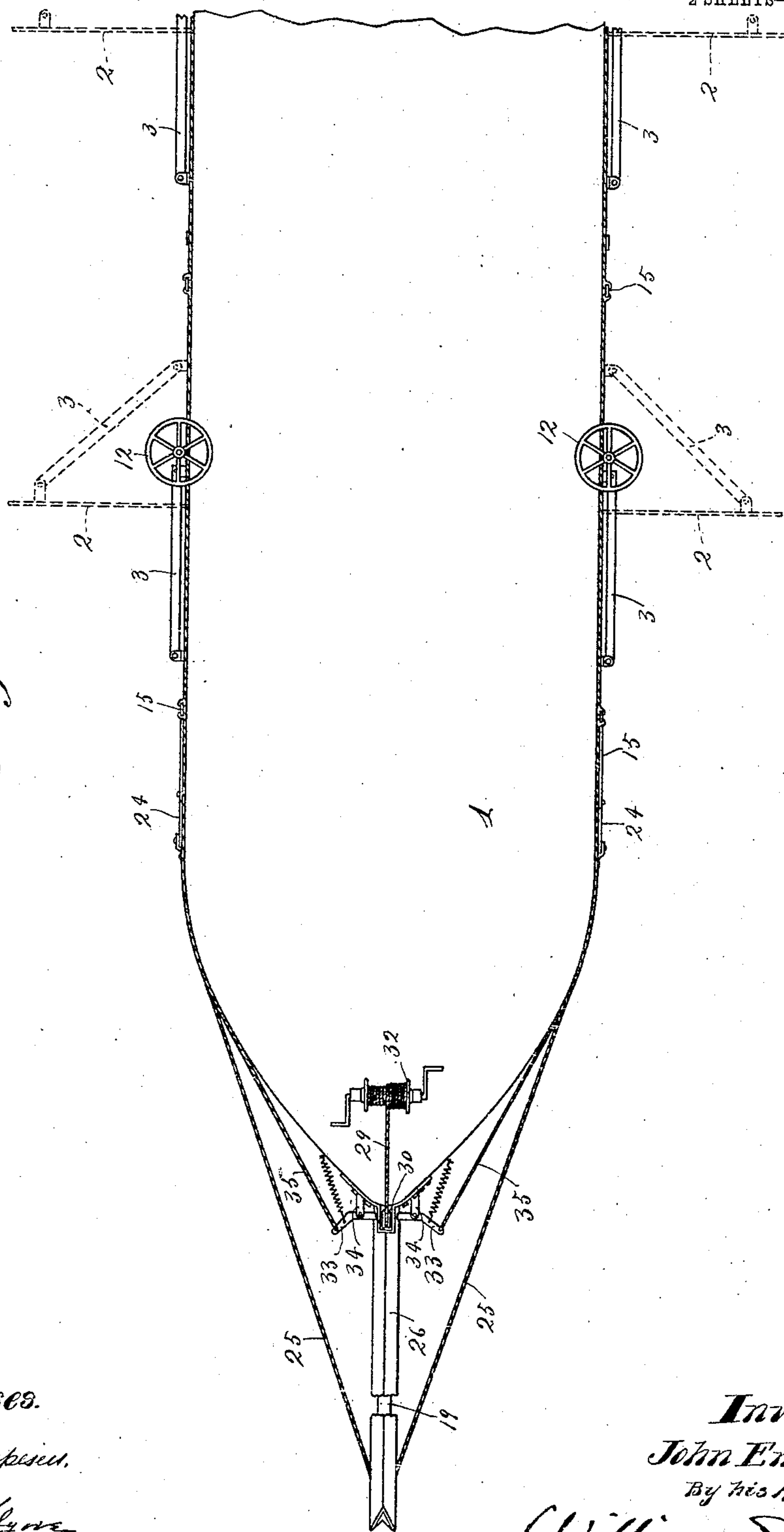
J. ENGLUND.

MEANS FOR RETARDING THE MOVEMENTS OF VESSELS.

APPLICATION FILED JULY 25, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses.

E. W. Juppert.

H. D. Klyne

Inventor.

John Englund.

By his Attorneys.

Williamson Muehler

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2 SHEETS—SHEET 2.

Fig. 2.

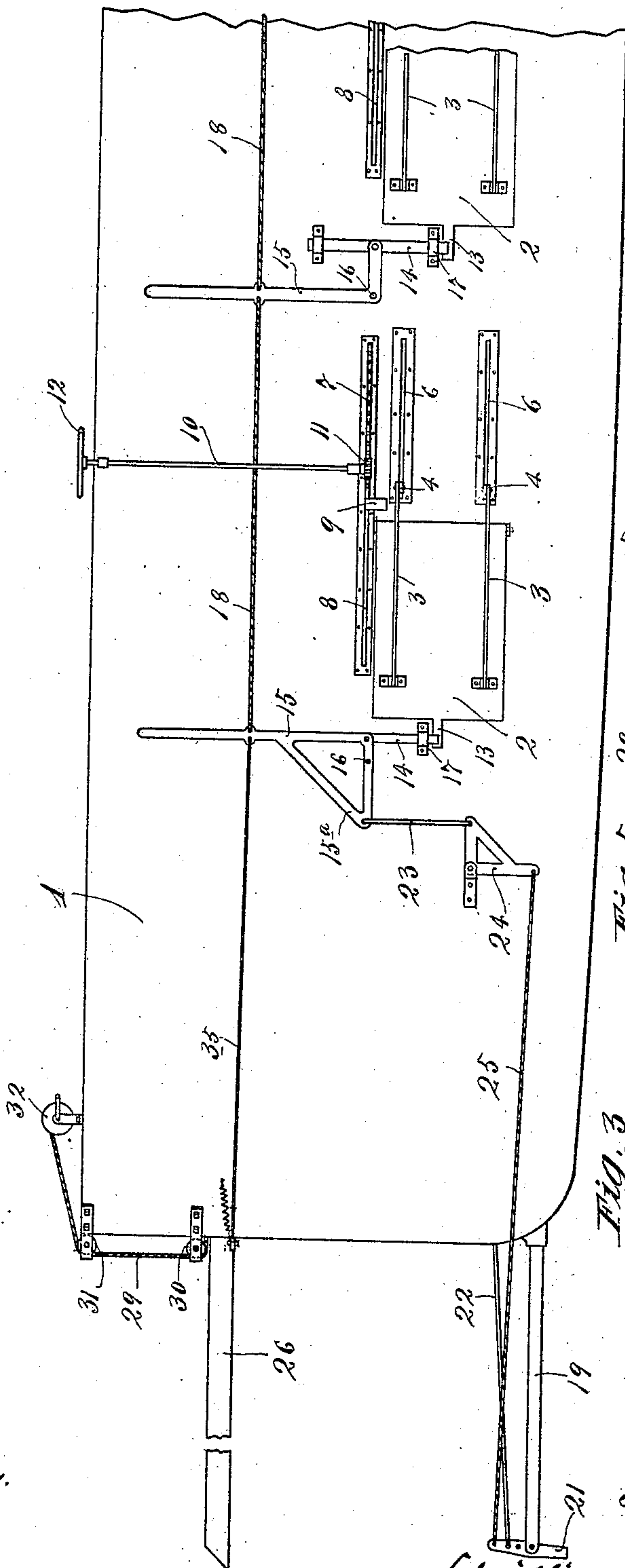


Fig. 4.

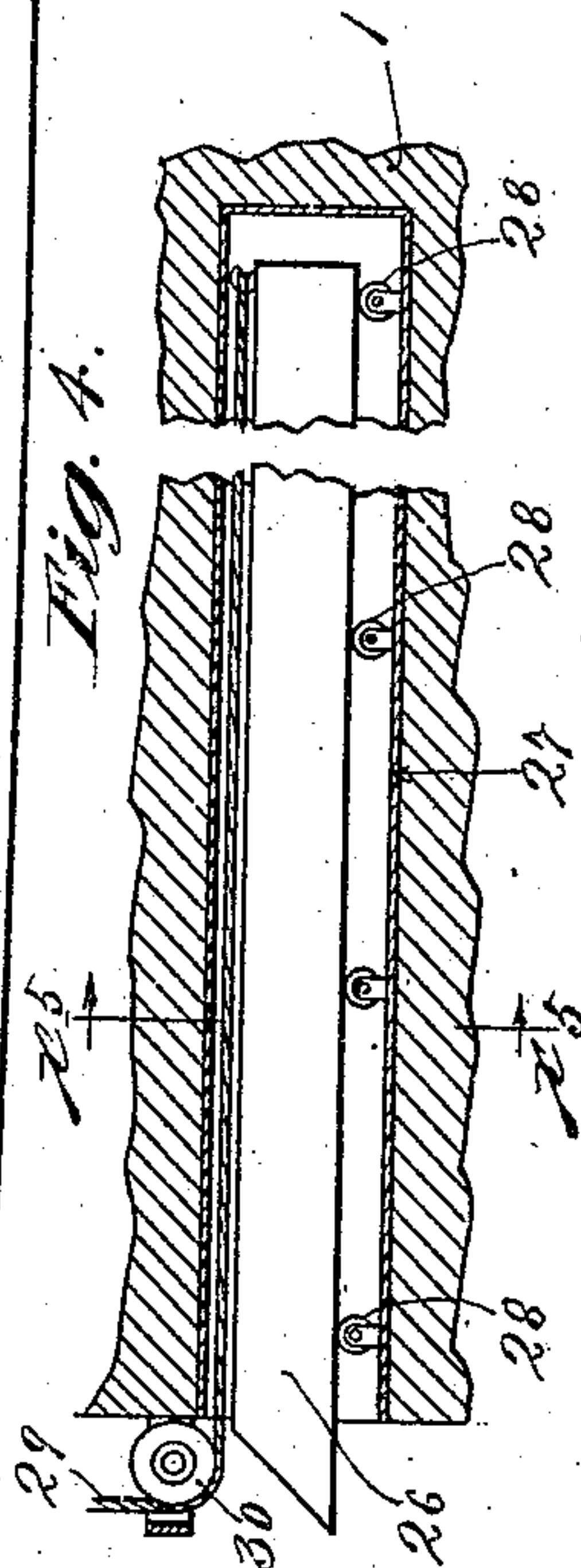


Fig. 5.

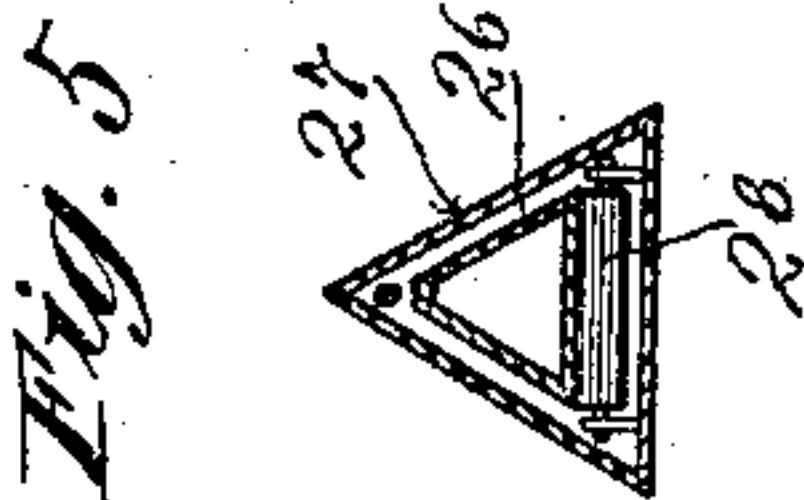
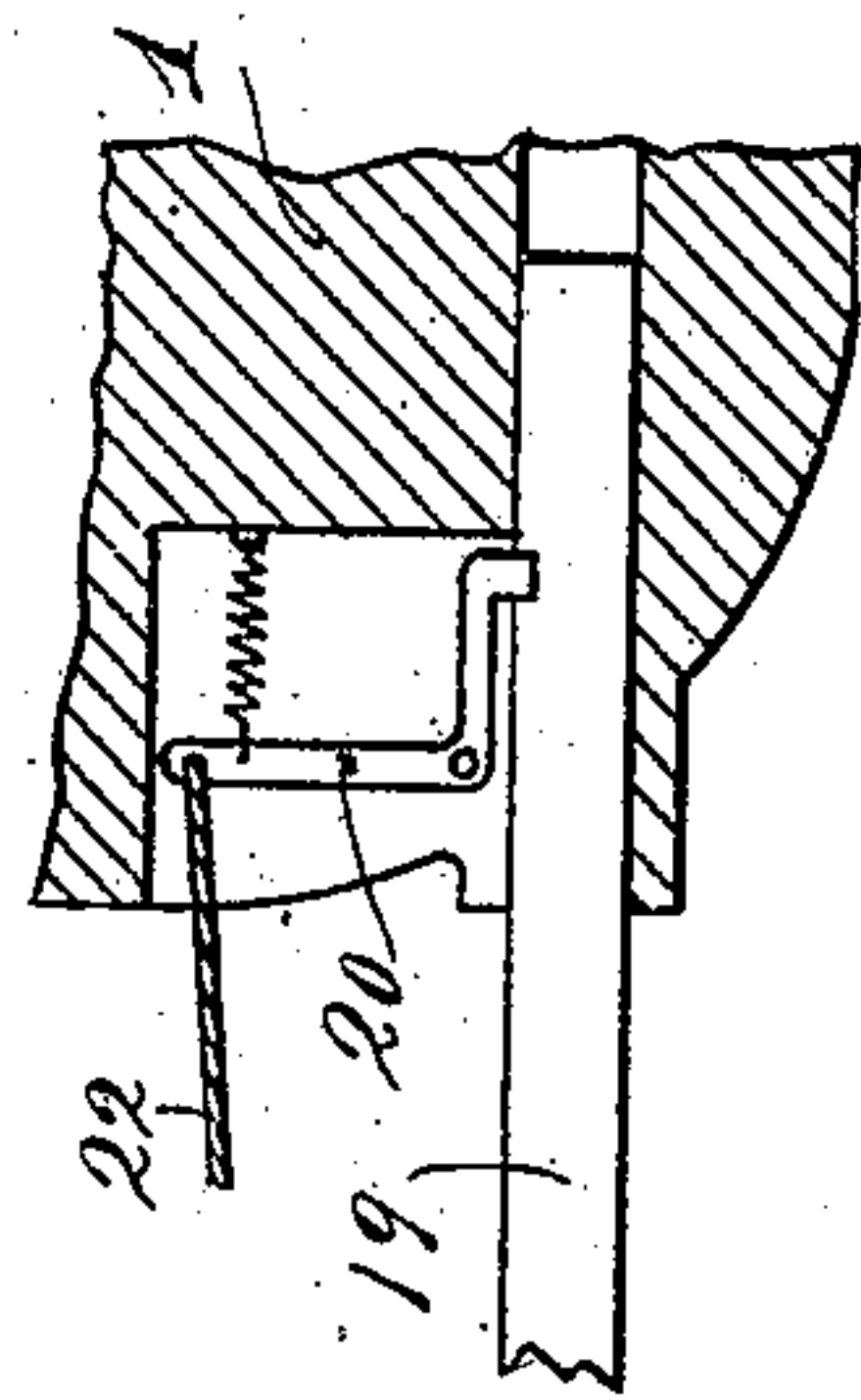


Fig. 3.



Witnesses.
E. W. Jappene.
H. D. Kilgore

Inventor:
John Englund.
By his Attorneys.
Williamson & Merchant

UNITED STATES PATENT OFFICE.

JOHN ENGLUND, OF MINNEAPOLIS, MINNESOTA.

MEANS FOR RETARDING THE MOVEMENTS OF VESSELS.

No. 848,297.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed July 25, 1906. Serial No. 327,697.

To all whom it may concern:

Be it known that I, JOHN ENGLUND, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Means for Retarding the Movements of Vessels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as it appertains to make and use the same.

My invention has for its object to provide means for automatically and quickly stopping ships or other vessels, thereby preventing a collision between two ships or vessels and also preventing the ship or vessel from running into rocks or reefs.

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a plan view, showing a portion of the hull of a boat to which my improved device is applied. Fig. 2 is a side elevation of the parts shown in Fig. 1. Fig. 3 is a detail in vertical section, taken centrally through the lower forward portion of the bow of the boat, some parts being broken away. Fig. 4 is a view in vertical section, taken centrally through the upper portion of the bow of the boat, some parts being broken away; and Fig. 5 is a section taken on the line $x^5 x^5$ of Fig. 4.

The numeral 1 indicates the hull or body of the boat. At the exterior of the hull, below the water-line and on each side thereof, are pivotally attached a plurality of retarding wings or plates 2, that normally lie flush or approximately flush with the surface of the hull. When these wings 2 are thrown outward into operative positions, they stand as shown in dotted lines of Fig. 1, and to securely brace the same while in such position links 3 are pivotally connected to the free portions of said wings at their outer ends and at their inner ends are pivotally connected to traveling blocks 4, that are mounted to slide in guide-channels 6, secured to the sides of the hull and extending longitudinally thereof, as best shown in Fig. 2. When the wings 2 are opened up, the sliding blocks 4 engage the rear extremities of the guide-channels 6

and then act as stops to prevent further rearward movement of the said wings. The wings when thus opened up, as is evident, will very greatly retard the movement of the boat in the water and will bring the same to a comparatively quick standstill.

For closing each of the wings 2 there is provided a device comprising a rack 7, which is mounted to slide in the guide-channel 8, secured to the side of the boat, and is provided with a push-lug 9, (see Fig. 2,) that is adapted to engage the back or outer surface of the wing to press the same closed when the rack is moved forward. For moving the rack there is a vertical shaft 10, mounted in suitable bearings on the side of the boat and provided at its lower end with a pinion 11, that meshes with the teeth of the said rack. At its upper end said shaft 10 is provided with a hand-wheel 12, by means of which it may be turned.

At their forward or free ends the wings 2 are provided with projecting lips 13, that are normally held against the hull of the boat by lock-bolts 14, pivotally connected to bell-cranks 15. The bell-cranks 15 are pivoted to the hull 1 at 16, and the lock-bolts 14 work through suitable guides 17 on the side of the hull. The bell-cranks 15 that are on the same side of the hull are connected for common movement, as shown, by means of a cable 18. The upper ends of the bell-cranks, as shown, project upward, so that they may be operated from the deck of the boat to thereby engage the lock-bolts 14 with the lips 13, and thereby lock the wings 2 in their inoperative positions.

Two automatic tripping devices for releasing and throwing the wings into action are provided. These two releasing devices project forward from the bow of the boat, and one is located above the other. The upper tripping device is especially intended for engagement with obstacles, such as other boats, that project above the water, while the lower tripping device is located below the water-level and is adapted to be tripped by rocks and reefs that are closely approached by the boat. The lower tripping device involves a long plunger-rod 19, that works in a longitudinal seat formed in the bottom of the bow of the boat. This plunger-rod is normally held in a projected position by means of a spring-pressed latch-dog 20, which, as shown in Fig. 3, is mounted in a recess in the bow of the boat and engages a notch in said plunger. A

tripping-lever 21 is pivoted to the forward end of the plunger 19, and the upper end of this lever is connected by a cable 22 with this latch-dog 20. The most forward bell-cranks 5 15 are provided with bracket-like extensions 15^a, which, as shown, are connected by links 23 to intermediate bell-cranks 24, also pivoted on the side of the hull 1. The depending arms of the bell-cranks 24 are connected 10 by cables 25 to the upper end of the tripping-lever 21, which is at the forward end of the plunger 19.

If the lower end of the tripping-arm 21 be thrown against a rock, reef, or other obstruction 15 below the water-level, the upper end of said lever will be rocked forward, and this will draw the cables 22 and 25 forward, thereby, through the bell-crank connections described, raising the lock-bolts 14 and releasing the wings 2, and by throwing the latch-dog 20 into an inoperative position will re- 20 lease the plunger 19 and permit the same to be forced into its seat within the bow of the boat.

25 The upper tripping device involves a long sliding bar or plunger 26, which, as shown, is triangular in cross-section and works telescopically within a triangular sheath 27, which is set into the body of the boat and is 30 pivotally provided with small bearing-rollers 28, on which the said plunger rests. The plunger 26 is adapted to be drawn forward and outward into working position by means of a cable 29, attached to the inner end there- 35 of and passed over guide-sheaves 30 and 31 on their upper portion of the bow of the boat. This cable 29, as shown, is attached to a crank-actuated windlass 32, applied to the deck of the boat.

40 Spring-pressed latch-levers 33, which, as shown, are pivoted to bearings 34 on the bow of the boat, engage notches in the sides of the upper plunger 26. Cables 35 connect the outer ends of the latch-levers 33 to the cor- 45 responding most forward bell-cranks 15. When the projecting end of the plunger 26 is forced against an obstacle, such as an adjacent boat, the said plunger will be forced rearward and into its sheath 27, and such movement 50 of the plunger causes the latch-lever 33 to draw the cables 35, and hence the tripping bell-cranks 15, forward, and thereby release the several wings 2, allowing them to open up and retard the movement of the boat. It 55 will thus be seen that when either of the two

tripping devices encounters an obstacle in front of the boat the retarding-wings 2 will be automatically opened up.

What I claim is—

1. The combination with a boat-body and 60 a plurality of retarding-wings applied thereto below the water-line, and adapted to be moved into positions to retard the movement of the boat, of a sliding tripping-plunger nor- 65 mally projecting in front of the boat, and connections between said tripping-plunger and the several retarding-wings whereby the latter are rendered operative when said plunger is engaged with an obstacle, substantially as 70 described.

2. The combination with a boat-body, of a plurality of retarding-wings hinged thereto and movable into positions to retard the movement of the boat, upper and lower trip- 75 ping-plungers slidably mounted in front of the boat, and connections between said two tripping-plungers and the several retarding-wings, whereby the latter will be rendered operative when either of said tripping-plun- 80 gers is engaged with an obstacle, substantially as described.

3. The combination with a boat-body and plurality of retarding-wings applied thereto below the water-line and adapted to be moved 85 into positions to retard the movement of the boat, of a tripping-arm mounted on a sliding plunger, and connections between said tripping-arm and the several retarding-wings, whereby the latter will be rendered operative 90 when said tripping-arm is engaged with an obstacle, substantially as described.

4. The combination with a boat-body and a plurality of retarding-wings applied thereto below the water-line and adapted to be moved 95 into positions to retard the movement of the boat, of a tripping-arm mounted on a sliding plunger, a lock normally holding said plunger in an extended position, and connections between said tripping-arm, said lock and said 100 retarding-wings, whereby the lock will release the sliding plunger and the retarding-wings will be rendered operative when said tripping-arm is engaged with an obstacle, substantially as described.

In testimony whereof I affix my signature 105 in presence of two witnesses.

JOHN ENGLUND.

Witnesses:

MALIE HOEL,
F. D. MERCHANT.