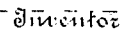


1,035,464.

FIG. 1 -



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LIFE BOAT LAUNCHING APPARATUS.
APPLICATION FILED MAY 21, 1912.

1,035,464.

Patented Aug. 13, 1912.

3 SHEETS—SHEET 2.

FIG. 2.

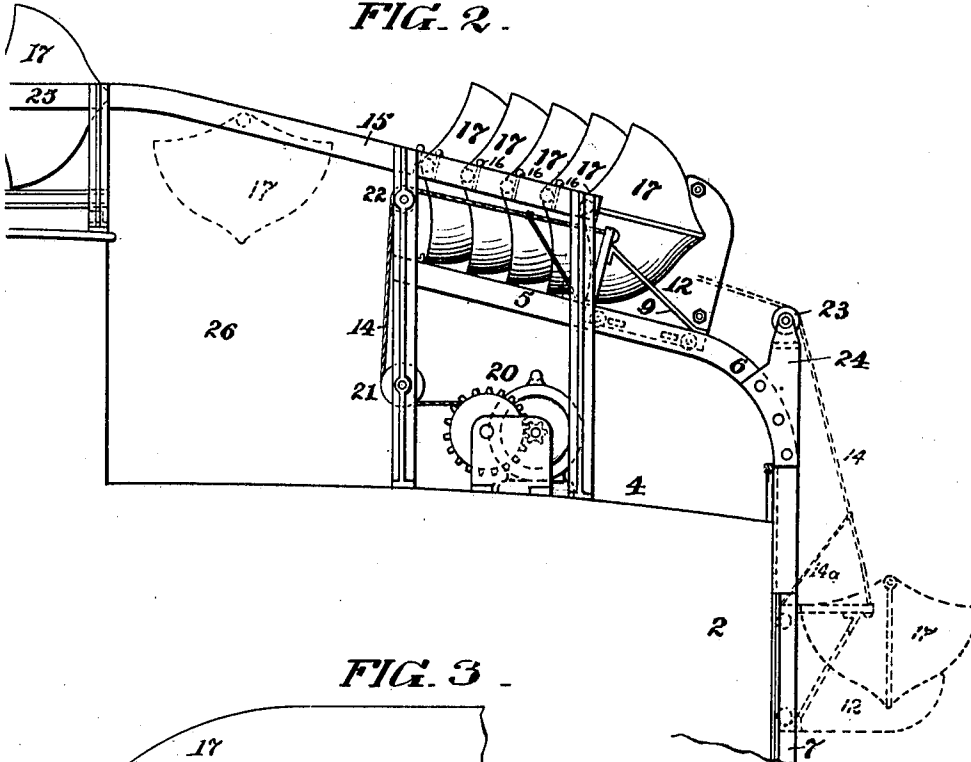
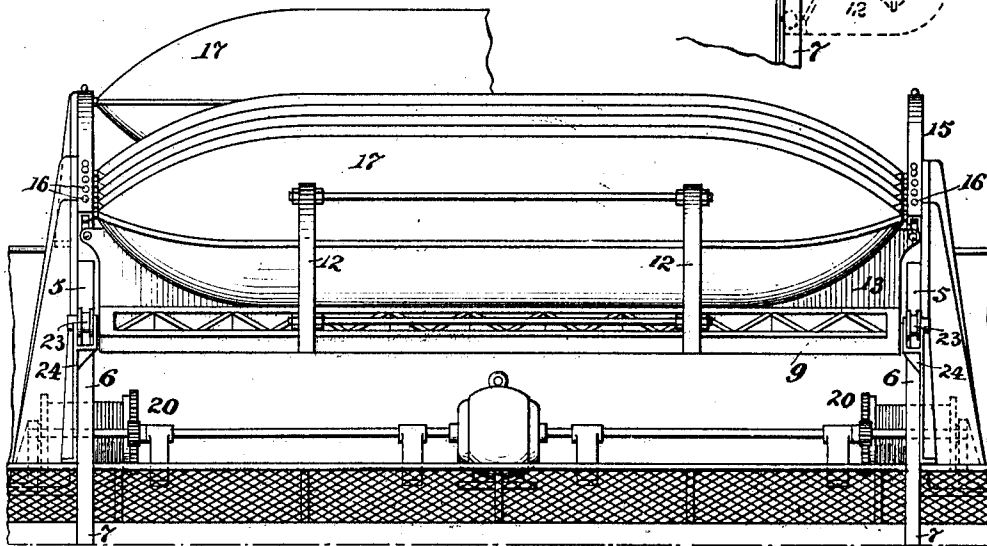


FIG. 3.



Inventor

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Witnesses

Daniel Webster, Jr.

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By

[Signature]

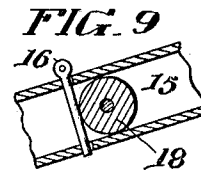
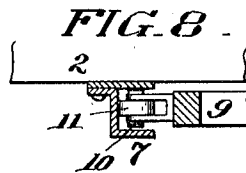
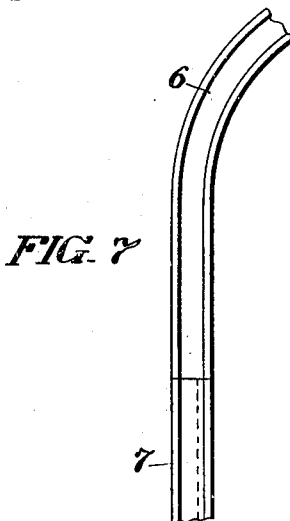
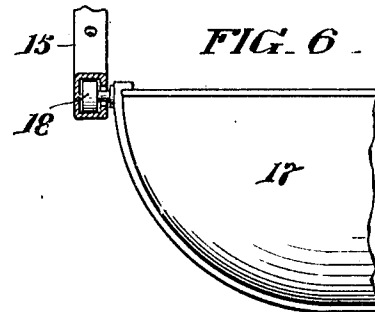
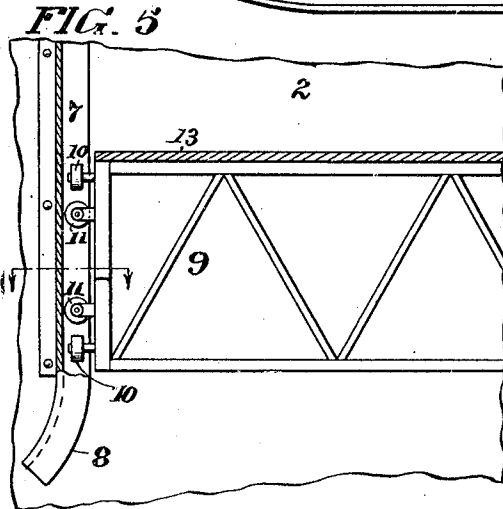
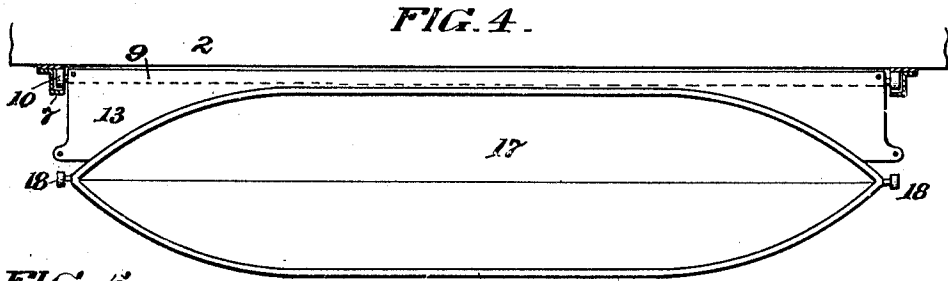
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Patented Aug. 13, 1912.

3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

EMILE G. PERROT, OF PHILADELPHIA, PENNSYLVANIA.

LIFE-BOAT-LAUNCHING APPARATUS.

1,035,464.

Specification of Letters Patent.

Patented Aug. 13, 1912.

Application filed May 21, 1912. Serial No. 698,688.

To all whom it may concern:

Be it known that I, EMILE G. PERROT, citizen of the United States, and resident of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Life-Boat-Launching Apparatus, of which the following is a specification.

My invention has reference to life-boat launching apparatus and consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings which form a part thereof.

Heretofore it has been customary to launch life-boats from davits in a laborious and slow manner, restricting the number of boats which can be handled from a given portion of the deck, as there is seldom more than one or two boats intended to be launched from one set of davits. The difficulty of storing and handling a large number of life-boats has led to the practice of the larger vessels carrying many less life-boats than would be required to take care of the persons on such vessels and great loss of life, in times of disaster has been the result.

The object of my invention is to provide a system of storing and launching life-boats on large ships which shall provide adequate life saving apparatus in a limited space on the decks of the ship and also to establish capacity for safe launching of the life-boats in rapid succession.

My object is, further, to concentrate the life saving apparatus at definite and restricted portions of the ship, so that no confusion will arise from lack of coöperation on the part of the officers and crew which has heretofore been due to wide separation and extended area of the life-boat distribution, and from the failure of the passengers of knowing in what directions to go to secure the attention to which they are entitled.

My invention consists more especially of two main features of improvement, namely, means for stering the life-boats in large numbers in limited space with provision for separately handling them when necessary and means comprising an elevator having a cradle guided at the side of the ship and cables and power devices for raising and

lowering the cradle for launching the life-boats.

More specifically considered, my invention embodies guideways, attached to the outer sides of the ship and extending from or near the water line to the life-boat deck and terminating near the stored life-boats, combined with an elevator carriage shaped to act as a cradle for receiving a life-boat and having guiding devices for the guideways, cables and power devices for raising and lowering the carriage and cradle, and means guiding them separately in succession into the cradle preliminary to their being launched.

My invention further consists in furnishing each end of the life-boats with projecting portions and providing guideways receiving said projecting portions for supporting and guiding the life-boats in their delivery to the lowering cradle, said means preferably permitting the rocking or partial rotation of the boat, whereby the boats may be nested and supported while turned on their sides and shifted while suspended on the guideway.

My invention also consists of launching devices on opposite sides of the ship, combined with guideways extending across the upper decks of the ship and to the launching devices, and a plurality of life-boats having means for supporting and guiding them upon the guideways, whereby said boats may be guided to the launching devices on either side of the ship, as desired or required.

My invention also comprehends details of construction which, together with the features above specified, will be better understood by reference to the drawings, in which:—

Figure 1 is a cross section of a ship having my improvements applied thereto; Fig. 2 is an enlarged view of the right-hand portion of Fig. 1; Fig. 3 is a front elevation of a portion of the deck of a ship with my improvements applied thereto; Fig. 4 is a plan view of the cradle and platform with a life-boat in position; Fig. 5 is an elevation with part in section showing the side of the elevator platform as it is leaving the guides at the bottom; Fig. 6 is a detail view showing how the end of the life-boats are supported in the guideways; Fig. 7 is a portion of the

elevator guideways adjacent to the top; Fig. 8 is a cross section showing how the elevator platform is guided in the guideways; and Fig. 9 is a sectional view showing the manner of supporting and guiding the end of the life-boat before being transferred to the launching cradle.

2 is the ship and may be of any construction, that shown being intended to illustrate the type of large passenger vessels in which there are a plurality of decks 3 and the life-boat or hurricane deck 4. Upon the sides of the ship and extending from the life-boat deck to or near the water, I arrange the launching devices and to prevent confusion I will confine my description to the said devices located at one side only since the construction on both sides is the same.

7 are vertical guideways of channel shape with the open sides directed toward each other. These guideways are preferably curved away from each other at the bottom, the curvature being shown in Fig. 5; and they may terminate at a distance above the water line, so that they will not strike a wharf when in dock. I, however, do not limit myself as to the distance down the sides of the ship to which these guideways shall extend. At their upper ends, these guideways 7 are curved inward as at 6 and terminate in the oblique portions 5. Guided on these guideways is the carriage 9 which is provided with rollers 10 to hold the carriage from moving away from the side of the ship and rollers 11 which prevent endwise movement of the carriage in the guideways. These guide rollers and channel shaped guideways will insure the proper guidance of the carriage even if the ship is listed or down at the bow or stern. The carriage 9 is further provided with the cradle 12 shaped to receive the life-boat 17 and also with a platform 13 which is of a shape in plan to approximately fit to the gunwale of the boat, as shown in Fig. 4. The carriage 9 is supported by cables 14 which are guided about guide wheels 21, 22 and 23 and wound up or paid out by hoisting apparatus 20 which may be of any ordinary construction and operating by an electric or other motor. The cables 14 are preferably connected with the carriage at a distance from the plane of its guide rollers 10 and 11 and somewhat beyond the center of gravity thereof when unloaded, consequently the guide wheels 23 are arranged above the vertical parts of the guideways and at a distance away from the curved parts 6 of the guideways somewhat less than the distance of connection of the cables with the carriage from the guideways, so that said connection may pass freely above the guide wheel when the carriage is being elevated about the curved parts 6 of the guideways to assume the position illustrated in solid lines

in Fig. 2. Oblique braces 14^a may be employed between the cables 14 and the inner portions of the carriage, as indicated in Fig. 2, the purpose of which is to hold the carriage from tilting downward on its inner side or that next to the ship when the carriage has passed below the guideways 7, as for instance, when it assumes a position indicated in dotted lines where it has just allowed the life-boat to float on the water. When the carriage is descending with its life-boat 17, it is positively guided by the guideways 7 until it passes beyond the lower part 8 thereof, and then it runs against the surface of the ship's side, and from the connection of the cables near the center of gravity and the employment of the bracing cables 14^a the carriage descends into the water and leaves the life-boat floating upon the surface thereof. Upon the life-boat being pushed away, the carriage is again elevated and runs up against the surface of the side of the ship and enters the curved guideways 8 and thence into the vertical portions to once more assume the elevated position indicated in Fig. 2 to receive the next life-boat in the cradle and complete the operation of launching just carried out with the previous boat.

The life-boats may be supported in any suitable and convenient manner for delivering them to the cradle of the elevator carriage, but in the preferred arrangement, and that which I have herein particularly illustrated, I nest a number of life-boats one into the other and support them on their sides and with the outermost life-boat resting in the cradle of the elevator carriage, as is clearly indicated in Figs. 2 and 3. These life-boats are each provided on their ends with extensions preferably in the form of rollers 18 which fit into grooved guideways 15, the grooves of which are T-shaped, as indicated in Fig. 6, so that the rollers 18 are locked therein and can only move longitudinally through said guideways until they are liberated from the end thereof. These guideways may be provided with a plurality of apertures in which pins 16 may be placed for holding each of the life-boats against movement in a downwardly and outwardly direction until after the pins are withdrawn. This is clearly illustrated in Figs. 2, 3 and 9. The life-boats may be supported at the bottom on any suitable frame-work, so that normally they are resting in a half turned over position, clearly shown in Figs. 1 and 2, namely a position which adapts them to be readily received in the cradle of the elevator carriage which is to lower them into the water. After the first boat is lowered, the carriage is next pulled to bring the cradle in contact with the bottom of the next boat, the pins 16 thereof are then removed, and the boat is launched, and so on until all of the boats have been launched.

The carriage and its cradle may be raised and lowered with great rapidity and with accuracy and absolute safety to the passengers. It will be understood that if desired the carriage and cradle may have their upward movement in the position illustrated in solid lines in Fig. 2, and the plurality of boats successively liberated by withdrawing the pins 16 at each end and moving said boats in succession downward upon the cradle, this operation being done by hand.

Where a large number of boats is required and it is desired to employ as few of the launching devices at the sides of the vessel as possible, I may provide on the deck above the upper saloon or house portion a further support for additional life-boats. In this case, the further supports are indicated at 25 and in Figs. 1 and 2, and are made as continuations of the grooved guideways 15 for the boats at each side of the ship, said guideways being connected over the deck passages or promenades 26 so as not to obstruct the freedom of the passengers and crew passing along the life-boat deck 4. When these additional life-boats 17 are supported on the guideways or supports, they may be moved down one at a time across the bridging guideways 15 and into the cradle of the elevator carriage. One of said life-boats is indicated in dotted lines in the act of being transferred over the passage or promenade 26. It is also evident that by employing these continuous grooved supporting guideways from one side of the ship to the other, as clearly indicated in Fig. 1, any number of the boats may be launched from either side desired, or if from any reason one of the launching devices was put out of operative condition, all of the life-boats could be transferred to the other side and launched from that side. It is also evident that should the listing of the vessel be too great upon one side to properly operate the launching devices or should that side of the vessel be obstructed to prevent the proper lowering of the boats, the life-boats may all be transferred and launched from the other side.

It will be understood that as a very large number of life-boats may be launched by two such launching devices one upon each side of the vessel, there will be easy concentration of the work of launching by the officers and crew, and there will be no confusion as to where the passengers are to find escape from the vessel in the life-boats, as frequently occurs where there are great separation of the life-boats and a separate distinct launching apparatus for each one.

I have shown my improvements in the form which I consider best adapted for the purposes of the invention, and while I prefer the details shown, I do not restrict myself thereto, as they may be modified in vari-

ous ways without departing from the spirit of the invention.

Having now described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In apparatus for launching life-boats, the combination of the ship with a guideway extending downward upon the outside thereof and curved inward over the deck at the top, a launching carriage guided on each of said guideways at a plurality of places so as to be movable thereon with great stability and from the upper part of the ship down to and below the surface of the water and provided with outwardly extending means for receiving and supporting a life-boat by its own gravity, cables and power devices for raising and lowering the launching carriage, means separate from the guideways for the carriage for supporting a life-boat adjacent to and above the upper end of the guideways, and a life-boat supported by said supporting means and arranged in position to be readily received upon the outwardly extending means for receiving it carried by the launching carriage when said carriage is brought to its highest and most inward position.

2. In apparatus for launching life-boats, the combination of the ship with a guideway extending downward upon the outside thereof and at its upper end curved over and inward to a position above the deck, a launching carriage guided on said guideways so as to be movable from the upper part of the ship over the deck down to and below the surface of the water and provided with means for receiving and supporting a life-boat by its own gravity, cables and power devices for raising and lowering the launching carriage and independent of the life-boat, means for supporting a life-boat adjacent to the upper end of the guideways and over the deck of the vessel, a life-boat supported by said supporting means and arranged in position over the deck and having its bottom arranged to be readily received upon the means for receiving it carried by the launching carriage when moved up to the boat, and detachable means for holding the life-boat against shifting upon its support but enabling it to be quickly detached when it is to be launched by the launching carriage and its operating mechanism.

3. In apparatus for launching life-boats, the combination of a ship with guideways on its outer side extending from at or near the water to the life-boat deck and curved inwardly at the top, a launching carriage having a cradle for supporting a life-boat movable on said guideways and when in its uppermost position acting as a support for the stored life-boats, hoisting cables and power devices for raising and lowering the

- launching carriage upon its guide-ways, a plurality of life-boats nested one within the other for normal storage, supporting guides secured to the ship at each end of the nested life-boats, and means extending from the ends of each of the life-boats into the supporting guides for sustaining the boats in position to be successively delivered to the cradle of the launching carriage.
- 10 4. In apparatus for launching life-boats, the combination of a ship with guideways on its outer side extending from at or near the water to the life-boat deck and curved inwardly at the top, a launching carriage 15 having a cradle for supporting a life-boat movable on said guideways and when in its uppermost position acting as a support for the stored life-boats, hoisting cables and power devices for raising and lowering 20 the launching carriage upon its guideways, a plurality of life-boats nested one within the other for normal storage, supporting guides secured to the ship at each end of the nested life-boats, means extending from the ends 25 of each of the life-boats into the supporting guides for sustaining the boats in position to be successively delivered to the cradle of the launching carriage, and independent means for holding the several life-boats 30 against shifting upon the supporting guides when the launching carriage is in the act of lowering the outermost life-boat or is returning from such launching for the next boat.
- 35 5. In apparatus for launching life-boats, the combination of a ship with guideways on its outer side extending from at or near the water to the life-boat deck and curved inwardly at the top, a launching carriage 40 having a cradle for supporting a life-boat movable on said guideways and when in its uppermost position acting as a support for the stored life-boats, hoisting cables and power devices for raising and lowering the 45 launching carriage upon its guideways said cables being secured to the carriage at a distance from the connection thereof with the guideways, guide wheels arranged at a distance above the guideways at their upper 50 curved parts for normally guiding the cable when the carriage is being raised or lowered said guide wheels being arranged a shorter distance from the guideways than the distance between the connection of the cables 55 with the carriage and the guideways whereby said connection with the carriage may pass clear of the guide wheels when said carriage is passing about the upper curved portion of the guideways, a plurality of life-boats nested one within the other for normal storage, supporting guides secured to the ship at each end of the nested life-boats, and means extending from the ends of each of the life-boats into the supporting guides for 65 sustaining the boats in position to be successively delivered to the cradle of the launching carriage.
6. In apparatus for launching life-boats, the combination of a ship with upright guideways upon its outer sides, a vertically 70 movable launching carriage having a cradle for a life-boat and also a platform at or about the level of the gunwale of the life-boat and said carriage guided on the guide ways, cables for raising and lowering the 75 said carriage, a life-boat adapted to be supported in the cradle, and permanent means adjacent to the upper end of the guideways for supporting the life-boat in position to be delivered on the cradle of the carriage. 80
7. In apparatus for launching life-boats, the combination of a ship, guideways upon the outer sides of the ship, a launching carriage having rollers at each end moving in 85 said guideways and said carriage being provided with a cradle for supporting a life-boat and also with a platform having a shape and positioned so as to approximately fit to the gunwale of the life-boat, cables for raising and lowering the carriage, and 90 a life-boat detachably supported on the carriage.
8. In apparatus for launching life-boats, a ship provided with a supporting frame at each side thereof having guideways for sup- 95 porting and guiding a plurality of life-boats, and means at each side of the ship for launching the said life-boats comprising guideways extending upward on the side of the ship and curved over at the top and 100 terminating at a lower level than the supporting frames for the life-boats, a carriage having guiding means engaging said guideways and also having a cradle for receiving a life-boat, cables for raising and lowering 105 the carriage and causing it to travel over the curved portions of the guideways at the top so as to come over the deck of the vessel, combined with a middle supporting frame arranged adjacent to the middle longitudinal 110 portion of the ship for supporting a plurality of additional life-boats, and guides extending from the middle supports to each of the guideways of the supporting frames at the sides of the ship and at a 115 distance above the deck whereby the life-boats supported on the middle supports may be transferred to either side of the ship and launched by the launching devices thereof, or in which all of the life-boats from the 120 middle and both sides of the ship may be launched from one side of the ship only should such be necessary.
9. In apparatus for launching life-boats, the boat provided with two vertical grooved 125 guides arranged upon the outside of the boat and extending down the side thereof and having their upper ends curved inward and obliquely upward over the deck, in combination with guiding supports arranged 130

above the upper ends of the grooved guideways and terminating to one side of the plane of the side of the boat for supporting the life-boats, a launching carriage arranged between the grooved guideways and provided with guiding devices extending into the grooves of said guideways and also provided with an outwardly directed and laterally projecting cradle structure for supporting a life-boat to one side of the carriage, a life-boat adapted to the cradle and free to liberate itself when the carriage and cradle descend below the surface of the water on being lowered, and cables and power devices therefor for lowering the carriage and cradle to a position below the level of the water to free the life-boat by its own buoyancy when it strikes the water.

10. In apparatus for launching life-boats, the boat provided with two vertical grooved guides arranged upon the outside of the boat and extending down the side thereof and having their upper ends curved inward and obliquely upward over the deck, in combination with guiding supports arranged above the upper ends of the grooved guideways and terminating to one side of the plane of the side of the boat for supporting the life-boats, a launching carriage arranged between the grooved guideways and provided with guiding devices extending into the grooves of said guideways and also provided with an outwardly directed and laterally projecting cradle structure for supporting a life-boat to one side of the carriage, a life-boat adapted to the cradle and free to liberate itself when the carriage and cradle descend below the surface of the water on

being lowered, cables and power devices therefor for lowering the carriage and cradle to a position below the level of the water to free the life-boat by its own buoyancy when it strikes the water, a plurality of other life-boats, means on all of the life-boats for engaging the guiding supports for holding the life-boats normally above the deck and the guideways when not being launched, and separate means for liberating each of the life-boats from the others when it is to be lowered by the launching carriage and its cradle.

11. In apparatus for launching life-boats, the combination with the vessel, of grooved guides extending down upon the outside thereof and curved over at the top above the deck, supporting means for a plurality of life-boats arranged above the curved upper end of the guides, a launching carriage guided by the grooved guides and provided with a laterally projecting cradle structure arranged to one side of the frame and adapted to receive the life-boats in succession, and means for raising and lowering the launching carriage and its cradle whereby the cradle is brought upward and over the boat's side and into position adjacent to the bottom of the boat to be launched and when lowered to pass downward below the surface of the water to leave the life-boat float on the water in an automatic manner.

In testimony of which invention, I hereunto set my hand.

EMILE G. PERROT.

Witnesses:

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R. M. KELLY.