

(No Model.)

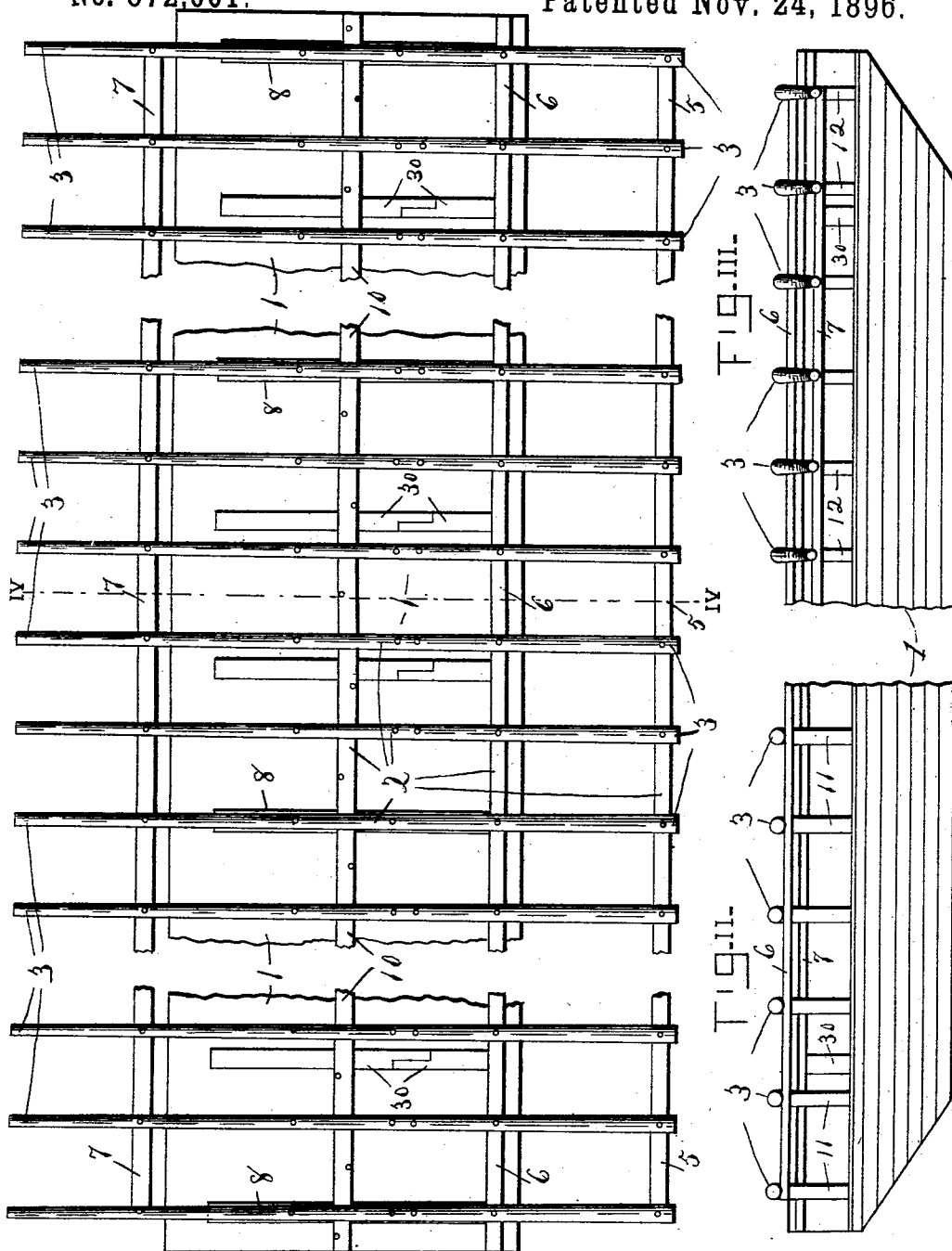
2 Sheets—Sheet 1.

W. T. GAYNOR.

BARGE FOR TRANSPORTING AND LAUNCHING MATTRESSES FOR
JETTY WORK.

No. 572,001.

Patented Nov. 24, 1896.



WITNESSES:

C. Schoeneck,
L. F. Weiburg

FIG. I.

INVENTOR.
William T. Gaynor
BY Alfred Wilkinson.
ATTORNEY.

(No Model.)

2 Sheets—Sheet 2.

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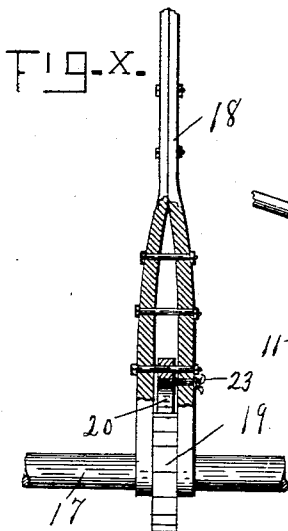
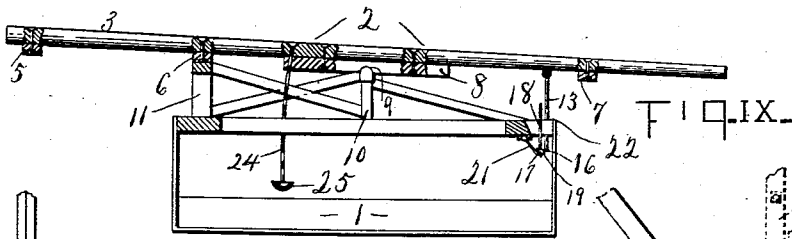
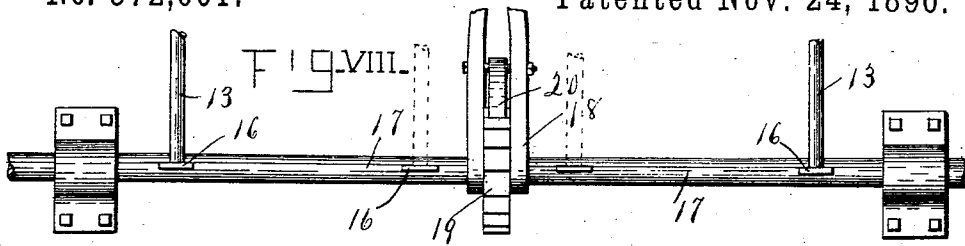


FIG. VI.

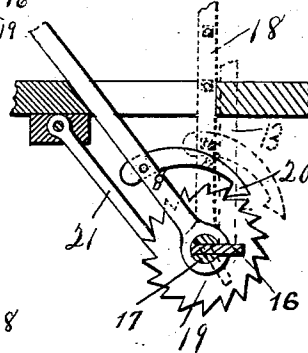


FIG. VII.

FIG. IV.

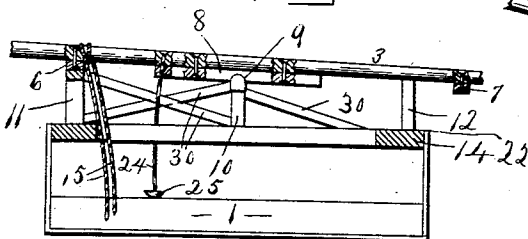
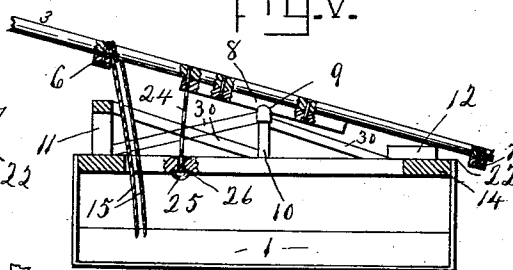
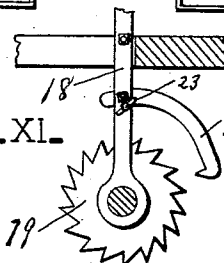


FIG. V.



WITNESSES:
C. Schaeck,
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FIG. XI.



INVENTOR.
William T Gaynor
BY Alfred Wilkinson
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UNITED STATES PATENT OFFICE.

WILLIAM T. GAYNOR, OF FAYETTEVILLE, NEW YORK.

BARGE FOR TRANSPORTING AND LAUNCHING MATTRESSES FOR JETTY-WORK.

SPECIFICATION forming part of Letters Patent No. 572,001, dated November 24, 1896.

Application filed December 23, 1895. Serial No. 572,986. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. GAYNOR, a citizen of the United States, residing at Fayetteville, in the county of Onondaga and State of New York, have invented a new and useful Barge for Transporting and Launching Mattresses for Jetty-Work; and I do hereby declare that the following, in connection with the accompanying drawings, is a full, clear, and exact description of the invention.

What I have invented is a new mode of transporting and launching mattresses, sometimes called "brush-mats," used in jetty-work, such as building jetties, breakwaters, and for shore protection, and specified for such purposes in government contracts. It consists of a barge or flat-boat on which is supported a platform or framework balanced so that it may be tilted to one side or the other and the mat supported thereon launched at the desired location. Such mats were first used by Captain Eads in the Mississippi and have been commonly constructed of one or more frameworks of crossed beams or poles called the "grillage," to which is securely wired a large quantity of brush. The mats are thus built up to a large size, and I have commonly used them in my work measuring fifty by one hundred and fifty feet and from three to fifteen feet thick, weighing sometimes as much as two hundred tons. They are constructed at some safe and convenient point near the shore, either on land or in shallow water, and are towed often many miles to the point where they are to be used and are there sunk by weighting them down. These mattresses, constructed as I have described or of different form, are heavy, unwieldy, and difficult to tow and to place in position. In heavy weather and against tide and current these difficulties are much increased, the mattresses must often be towed back, and are sometimes broken up and lost.

By the use of a barge provided with my peculiar balanced platform, on which the mattress is constructed and towed into position, these difficulties are entirely or largely overcome, the mat constructed more conveniently, and towed more easily and rapidly. On a barge, hull, or flat-boat of the desired size I construct a strong platform or framework consisting, essentially, of beams or trunks of

trees extending across the barge and preferably beyond its sides and connected together on the under side by longitudinal beams. This platform is supported at its central axis on an elevated bearing or line of bearings arranged longitudinally along the central line of the boat, so that the platform is elevated above the deck with its weight distributed with substantial equality on both sides of the bearing. Supports are also provided on each side of the central bearing, on one side removable and on the other side preferably fixed, so that the platform carrying the mat rests normally in a substantially horizontal position; but when the supports on one side are removed the platform may be depressed on that side, and the mat, of any desired construction and size, supported thereon slides off into the water.

My invention does not relate to the construction of the mattress, but to the means for transporting and launching it. It will be understood, however, that a mattress can be more conveniently constructed on my peculiar platform.

I have made heretofore many experiments to overcome the disadvantages I have mentioned. Among others, I constructed a framework fixed positively to the deck of the barge and arranged compartments in the hull of the barge along one side, which could be opened when desired and filled with water, so as to cause the barge and framework to settle to one side and so unload the mat. This, however, was slow and troublesome, and necessitated a pump on the barge in order to pump the water out again.

My invention will be better understood by reference to the accompanying drawings, in which the same figures refer to corresponding parts in all the views.

Figure I is a top plan view of the barge and platform or framework upon which the mat is constructed. Fig. II is an elevation of one-half of the barge on the positively supported side of the framework. Fig. III is a similar elevation taken from the opposite side on which the mat is launched. Fig. IV is a vertical cross-section on line IV IV of Fig. I, showing the framework supported in position. Fig. V is a similar view showing the removable supports withdrawn and the

framework tilted. Fig. VI is a view similar to Fig. IV, showing a special means for sustaining the removable supports. Fig. VII is a view of the same construction, taken in the position of Fig. V. Fig. VIII is an elevation of the rotatable rod and plates attached thereto, arranged near one side of barge and affording a support for the removable legs. Fig. IX is a cross-section of the same, showing in elevation ratchet, lever, pawl, and dog, by which it is operated. Fig. XI is a similar view, and Fig. X a rear view, of a portion of the same, showing thumb-screw for holding pawl out of engagement.

1 indicates the hull of the barge, on which my balanced platform or framework 2 is supported, formed of strong cross-beams or trunks of trees 3 3 3, secured together on their under sides by longitudinal ribs or beams 5 6 7. The cross-beams are preferably stiffened at their centers by reinforcing-pieces 8 8 8, in which are cut out bearings 9 9 9, fitting substantially the rounded top of the main support 10, on which the platform is supported in a balanced position. This main support may be continuous from end to end of the barge, or may be cut up into separate supports, and is preferably finished with a cap or plate of metal. On each side of the central main support and near the edge of the barge are provided on one side the fixed supports 11 11, which may be distinct or continuous, and the removable supports 12 12. (Shown in Figs. II, III, IV, and V.) These removable supports or legs rest on some support or on the deck 14 of the barge, and when it is desired to tilt the platform to launch the mat, as shown in Fig. V, they are knocked out. A rope or ropes 15 may be used, when desired, to hold down the other side of the supporting-frame when these supports have been knocked out, which ropes are held by the men and released on signal. The supports are strengthened by braces 30 30 30.

In Figs. VI to X, I have shown a special construction for supporting these legs or removable supports for removing the support from beneath the legs, allowing them and the side of the platform supported on them to drop and for again replacing the support beneath the legs. In this construction the side of the barge which drops is supported on legs 13 13, suspended therefrom and which are sustained on plates 16 16, attached to a long rod or shaft 17, rotatably journaled longitudinally on the barge and near the side from which the supports are to be removed. On this shaft 17 is journaled a lever 18 and keyed a ratchet 19.

To the lever is pivoted a ratchet hook or pawl 20, engaging with the teeth of the ratchet 19, by means of which the shaft is rotated, bringing the plates 16 up into a horizontal position under the bottom of the legs 13. In this position the ratchet and shaft are maintained by means of dog 21, engaging with ratchet-teeth. Thumb-screws 23 may

be used to hold pawl 20 out of engagement when desired.

The mode of operation of the construction of Figs. VI to X will be clear from the aforesaid description, the framework or platform being sustained in substantially a horizontal position on bearing 10, supported on one side on the fixed supports 11 and on the other side on the legs 13, resting on plates 16, attached to the shaft 17, said plates being held up horizontally against weight of platform and mat by means of the dog 21 engaging with teeth of ratchet 19. When it is desired to launch the mat, the dog 21 is knocked out, and the shaft 17 being then free to rotate the weight on the plates 16 throws them down, the legs-drop being no longer supported, and the platform falls therewith into the sloping position shown in Fig. VII, by which means the mat is easily and conveniently launched over the side at the desired point. This having been done, by means of the lever 18, the pawl 20, and the ratchet 19, the shaft 17 is rotated, bringing the plates 16 16 into a horizontal position under the legs 13 and supporting them firmly when the dog 21 engages with the teeth of said ratchet.

It will be noticed that when the platform falls out of its horizontal position it may be arranged to strike against the side of the barge at 22, which shock is useful to start the mat in case it sticks to the platform. The cross-beams 3 3 3 are sometimes greased. Where desirable, there may be attached to the platform on the side toward the fixed supports stops or rods 24, provided with heads or hooked ends 25. The rods 24 are fitted to bearings 26, provided in the framework of the barge. In these bearings they slide and the heads 25 engage therewith, as shown in Figs. V and VII. These stops prevent the platform from slipping from its bearing, it not being attached positively to the barge.

When the mat has been launched over the side, it will be evident that the elevated side of the platform may be easily, by a little weight, forced down on the supports 11, even if it does not tend to fall back of its own weight, and the platform again to assume substantially a horizontal position. A neat arrangement is to distribute the weight so that without the mat the platform would overbalance slightly toward the fixed supports, but when the mattress is finished on the platform, so that the greater weight will be toward the removable supports, then when these supports are knocked out the platform will tip and the mat be launched automatically. This, however, is not essential, for if the platform does not tip automatically it can be tipped by hand or elevated near the fixed supports by jack-screws or other suitable means.

It will be evident that it will be much easier and safer to transport a mat on my barge and easier to bring the mat to the desired posi-

tion and there launch it than to tow the mat floating in the water into position in the old way.

Having thus fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In transporting and launching mattresses, the combination with a suitable barge or scow, of a platform supported upon said barge or scow by one or more fixed supports, and one or more removable supports at one side, said removable support or supports suspended at one end and movable at the other, whereby one side of the platform may be dropped to discharge the mat.

2. In transporting and launching mattresses, the combination with a barge or scow provided with a support or supports arranged approximately along the longitudinal center of the barge or scow, of a platform mounted upon the said support or supports, one or more fixed supports arranged to support one side of the platform, and one or more removable supports arranged to support the other side, said removable support or supports suspended at one end and movable at the other, whereby the platform may be tilted to discharge the mat.

3. In transporting and launching mattresses, the combination with a barge or scow provided with an elevated support or supports arranged approximately along the longitudinal center of the barge or scow, of a platform mounted upon said support or supports and having its sides projecting over the sides of said barge or scow, one or more stationary supports arranged to support one side of the platform, and one or more suitable supports suspended at one end and movable at the other, arranged to support the other side of said platform and have said movable end displaced to permit the platform to tilt and discharge its load.

4. In transporting and launching mattresses, the combination with a suitable barge or scow, of a platform mounted upon said barge or scow and supported at one side by one or more stationary supports, and at the other side by one or more removable supports, a rock-shaft arranged to support the removable support or supports, and means for rocking said shaft to displace said removable support or supports, so as to permit the platform to be tilted, as and for the purpose specified.

5. For transporting and launching mattresses, the combination with a suitable barge having an elevated support arranged longitudinally at or near the center of the barge, of a platform supported thereon at or near its longitudinal axis and arranged to have its weight distributed with substantial equality on both sides thereof, fixed supports at one side of the central support and removable supports at the other side, one or more ropes or chains for retaining the platform in its horizontal position, and one or more rods hav-

ing enlarged heads for engaging with bearings in the frame of the barge for limiting the dumping movement of the platform, substantially as specified.

6. For transporting and launching brush-mats, the combination of a barge or flat-bottom boat, having a fixed support arranged along the longitudinal axis of the boat, a platform supported thereon at or near its longitudinal axis, having its weight distributed equally on both sides thereof, a fixed support or series of fixed supports on one side of said central support and substantially parallel thereto, and removable supports on the other side, consisting of legs attached to the platform, their lower ends resting on plates attached to a rotatable shaft sustained normally in a horizontal position, but dropping from under said legs when the shaft rotates, substantially as described and shown.

7. For transporting and launching brush-mats, the combination of a barge or flat-bottom boat, having a fixed support arranged longitudinally at or near the center of the boat, a platform supported thereon at or near its longer axis, having its weight distributed with substantial equality on both sides thereof; a fixed support or series of fixed supports on one side of said central support and substantially parallel thereto; and removable supports consisting of legs attached to the cross-beams of said platform sustained on plates attached to shaft rotatable in journals supported on the barge, said plates being elevated into a horizontal position to sustain said legs and being maintained in that position by means of a ratchet keyed to the shaft, a lever, pawl, and dog, substantially as described and shown.

8. For transporting and launching brush-mats, the combination of a barge; a fixed support arranged longitudinally along the center of the barge; a platform supported thereon at or near its central longitudinal axis and having its weight arranged with substantial equality on both sides thereof; fixed supports on one side of said central support; removable supports on the other side, consisting of legs depending from the platform, and plates for sustaining said legs attached to a rotatable shaft; means for rotating the shaft consisting of ratchets keyed thereto, lever journaled thereon and pawl; dog for engaging with said ratchet, and thumb-screw for retaining said pawl out of engagement, substantially as described and shown.

In witness whereof I have hereunto set my hand, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 18th day of December, 1895.

WILLIAM T. GAYNOR.

Witnesses:

ALFRED WILKINSON,
CONRAD SCHOENECK.