

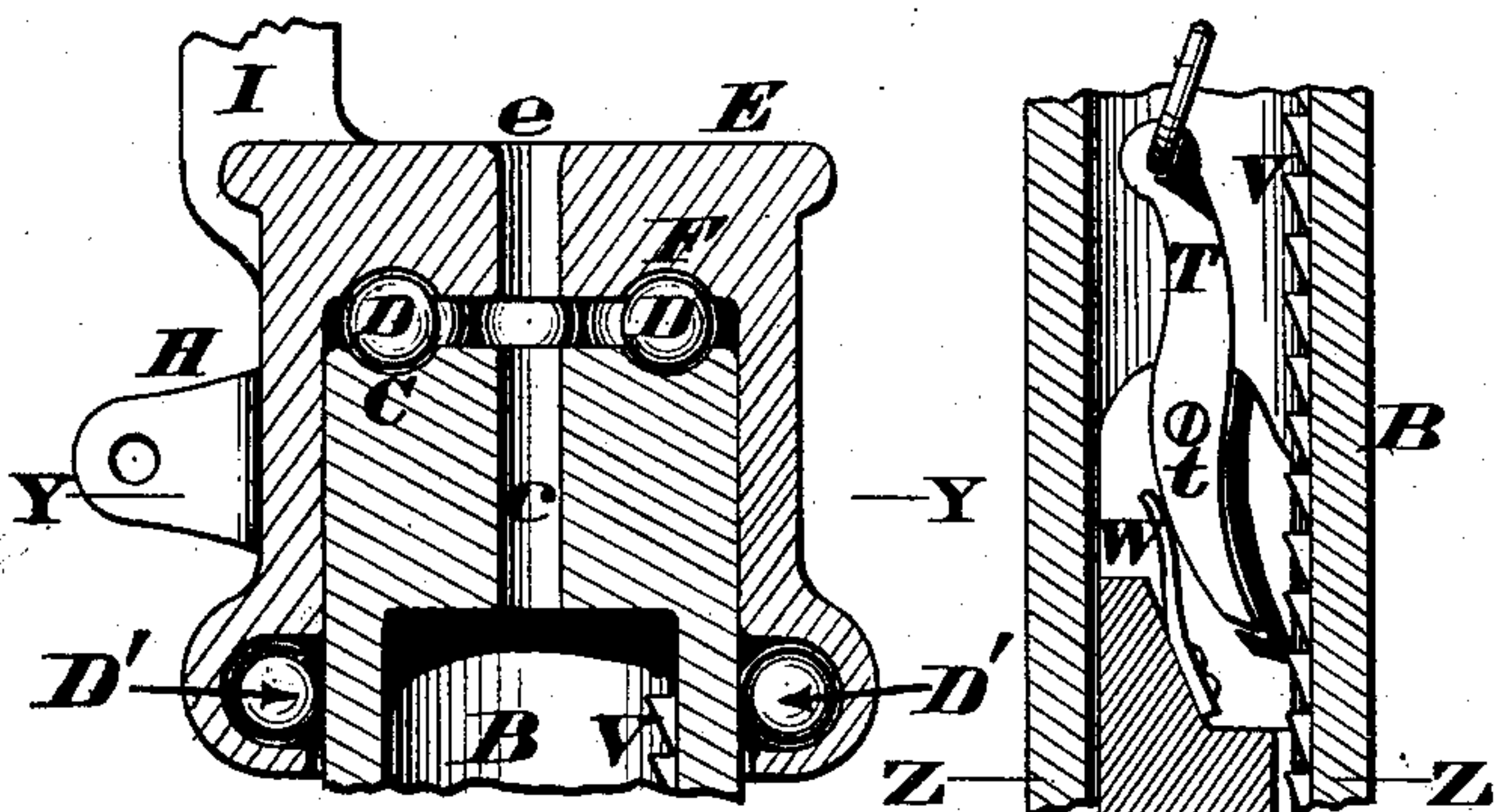
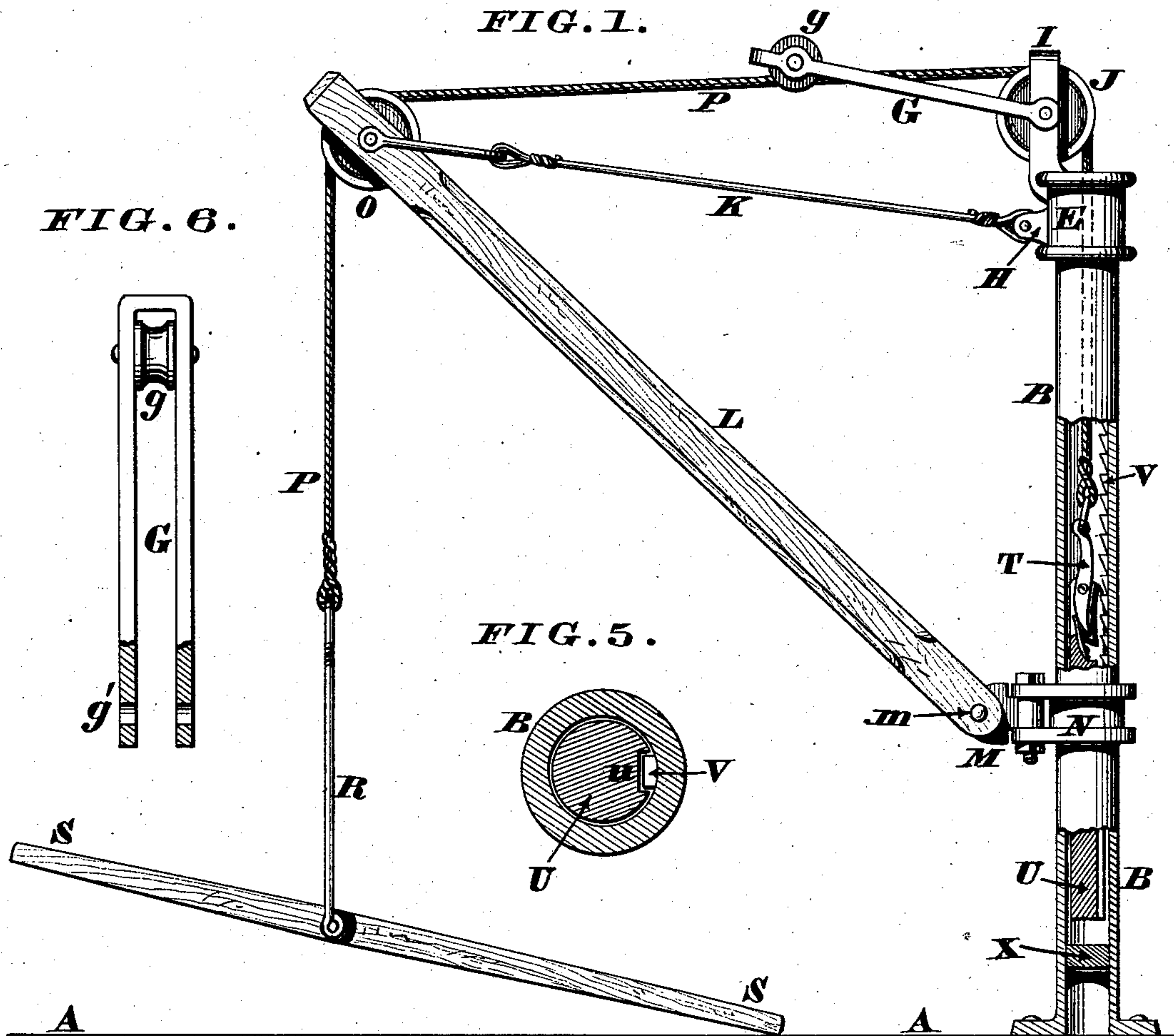
(No Model.)

J. L. HAVEN & J. B. MOONEY.

STAGING FOR STEAMBOATS.

No. 259,685.

Patented June 20, 1882.



Attest.
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UNITED STATES PATENT OFFICE.

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STAGING FOR STEAMBOATS.

SPECIFICATION forming part of Letters Patent No. 259,685, dated June 20, 1882.

Application filed April 5, 1880. (No model.)

To all whom it may concern:

Be it known that we, JAMES L. HAVEN and JOHN B. MOONEY, both of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Stagings for Steamboats, &c., of which the following is a specification.

This invention relates to those appliances commonly known as "steamboat-staging;" and the first part of our improvement consists in providing such apparatus with a tubular mast or shaft within which plays a weight that counterbalances the platform or staging proper, said mast having applied to it the swinging boom that sustains the platform, as hereinafter more fully described.

The second part of our invention consists in providing this weight or counter-balance with a pawl or detent or other suitable catch capable of automatically engaging with a rack of the tubular mast in case the suspension-rope should break, as hereinafter more fully described.

The third part of our invention consists in applying a rotatable cap to the top of the mast, said cap being provided with two distinct sets of balls for the purpose of diminishing friction. Of these balls one set rests in an annular race in the mast-head, while the other set is seated in a groove near the lower end of the cap, the latter being extended some distance below the top of the mast, so as to afford a very secure bearing, as hereinafter more fully described.

The fourth part of our invention consists in applying to this cap a "fair-leader," which is so engaged with the suspension-cable as to serve as a lever for rotating said cap when the platform or staging is swung either to the larboard or starboard, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a side elevation of our improved steamboat-staging, portions of the tubular mast being shown in section. Fig. 2 is an enlarged axial section of the upper part of said mast and its rotatable cap. Fig. 3 is an enlarged vertical section of the safety-catch of the counter-balance. Figs. 4 and 5 are transverse sections of the mast, taken

respectively at the line Y Y and Z Z; and Fig. 6 is a plan of the fair-leader detached from the cap.

A represents the deck or roof of a steamboat or other water-craft or structure of any kind, and B is a tubular mast or shaft secured thereon. This mast is preferably circular in transverse section, as seen in Fig. 5, and may be maintained in an erect position by any suitable system of rods or braces, or otherwise. The upper end or head of the mast is preferably solid, with the exception of an opening, *c*, that permits free passage of the suspension rope or chain or other flexible medium, P, and said mast-head has an annular groove, C, that serves as a race for a series of balls, D. Adapted to rotate freely around this mast-head is a hollow cap, E, having a central opening, *e*, in line with the other opening, *c*, and for the same purpose. The under side of this rotatable cap has an annular groove, F, that houses in the upper portions of the balls D or other anti-friction bearings. Furthermore, this rotatable cap has applied to it a fair-leader consisting of a frame, G, whose free end has journaled in it a roller, *g*, which rests upon the suspension rope or cable, the object of this device being to get sufficient leverage to insure the rotation of said cap and without imposing too much of a transverse strain on the hoisting-rope where it passes over the mast-sheave. This frame may have eyes *g'* to permit it being pivoted to the standard I or directly to the cap E. Cast with this cap, or secured thereto, is a lateral lug, H, and an upright bracket or standard, I, which latter has journaled in it a sheave, J, over which passes the suspension-rope P. Lug H has attached to it one end of a tie-rod, K, whose other end is secured to the boom L, which boom is coupled at *m* to a swinging leaf, M, of collar N, said collar being fixed to the mast B. The upper or free end of boom L has journaled in it a sheave, O, over which passes the rope P, the exposed end of said rope being attached to the stirrup R of staging or platform S, whose heavier end rests on the deck or other structure, A. The concealed end of this rope or wire

cable is attached to a pawl or catch or other suitable detent, T, pivoted to the upper part of the cylindrical weight U, as at *t*, this weight or counter-balance being grooved longitudinally at *u* to avoid contact with the rack V of mast B, as seen in Fig. 3. Adapted to press against the lower part of this pivoted catch or detent is a spring, W, whose duty will presently appear.

Fitting snugly within the tubular mast B, and near its lower end, is a solid disk, X, of wood or other suitable material, the duty of said disk being more fully described hereinafter.

The weight U and staging S bear such relations to each other as to cause the latter to maintain the position seen in Fig. 1; but when it is desired to take aboard or land freight or passengers the boom L is first swung around to the proper side of the vessel, which act carries the elevated end of the platform S around with said boom. The platform is now depressed until its outer end rests on the wharf or riverbank, which depression of the platform causes a corresponding elevation of the weight U within the mast B. After use, the outer end of the staging S is slightly elevated and the boom L is swung back to its normal position, so as to maintain the platform in a position longitudinally of the vessel, the weight U descending within the mast as the staging is thus elevated. This swinging of said boom either to the right or left is readily effected, because the cap E rests on the balls D, which revolve freely within the grooves C and F, and thereby reduce the friction of said cap to a minimum. While the weight U is suspended from rope or cable P, catch T maintains the position seen in Fig. 3; but in case said rope should break the spring W will instantly exert its force, so as to throw outwardly the lower end of said catch and cause it to engage with rack V, by which act any further descent of said weight is promptly and automatically prevented.

It is evident the groove *u* and rack V prevent the counter-balance turning in the hollow mast B, and consequently said weight is always in a proper position to effect the instant engagement of catch T with rack V the moment the suspension-rope breaks. A still further precaution against accidents is provided for by inserting the disk X within the tubular mast B, as this disk will compress or imprison the air below it in case the detent T should be tampered with and the weight U suddenly dropped. In such an event the weight would be gradually arrested by the air being imprisoned below the disk, and consequently there would be no danger of said weight breaking through the deck of the boat. When our apparatus is to be employed for handling very heavy weights—such as large blocks of building-stones, &c.—a groove similar to the one

F may be formed within the inner side of cap E to receive another set of balls, as indicated at D' in Fig. 2.

We have described the mast B as circular in transverse sections, but do not propose to limit ourselves to any special shape, as it is evident it may be hexagonal or octagonal, or any other suitable form; or it may be composed of a series of bars banded together, so as to constitute a long cylindrical cage, as the leading feature of our invention will be attained by any construction of derrick that will permit the counter-balance for the staging to play within or traverse the mast or other member of the apparatus that supports said staging or platform or its equivalent device.

We claim as our invention—

1. In combination with a steamboat-staging, a counter-balance traversing the tubular mast or cage, to which latter is coupled the swinging boom that supports the platform, substantially as herein described and set forth.
2. The combination of tubular mast or cage B, rotatable cap E *e* I, swinging boom L M, sheaves J O, suspender P, staging S, and counter-balance U, which latter plays within said mast, as and for the purpose described.
3. The grooved mast B C *c*, surmounted with a rotatable cap, E *e* F, resting on the balls D, said cap being extended below the mast-head, and being furnished with a secondary set of balls, D', bearing against the exterior of said mast, for the purpose specified.
4. The combination, in a steamboat-staging, of tubular mast B, internal rack, V, counter-balance U, pivoted detent T *t*, spring W, and rope P, which latter passes over a pulley applied to the swinging boom, and has said counter-balance U and platform S secured to its opposite ends, as and for the purpose described.
5. The combination, in a steamboat-staging, of tubular mast B, internal rack, V, and weight U, said weight having a longitudinal groove, *u*, that surrounds the rack to prevent rotation of said weight, as herein described.
6. In a steamboat-staging, the rope P, traversing the tubular mast B, and supporting at one end the platform S and at the other end a counter-balance, U, the latter being provided with a pivoted detent, T *t*, that automatically engages with the internal rack, V, of the mast as soon as said rope breaks, substantially as described.
7. The combination, in a steamboat-staging, of rotatable cap E, sheave J, fair-leader G, and suspension-cable P, for the purpose specified.

In testimony of which invention we hereunto set our hands.

JAMES L. HAVEN.
JOHN B. MOONEY.

Witnesses:

JAMES H. LAYMAN,
WM. S. BATES.