

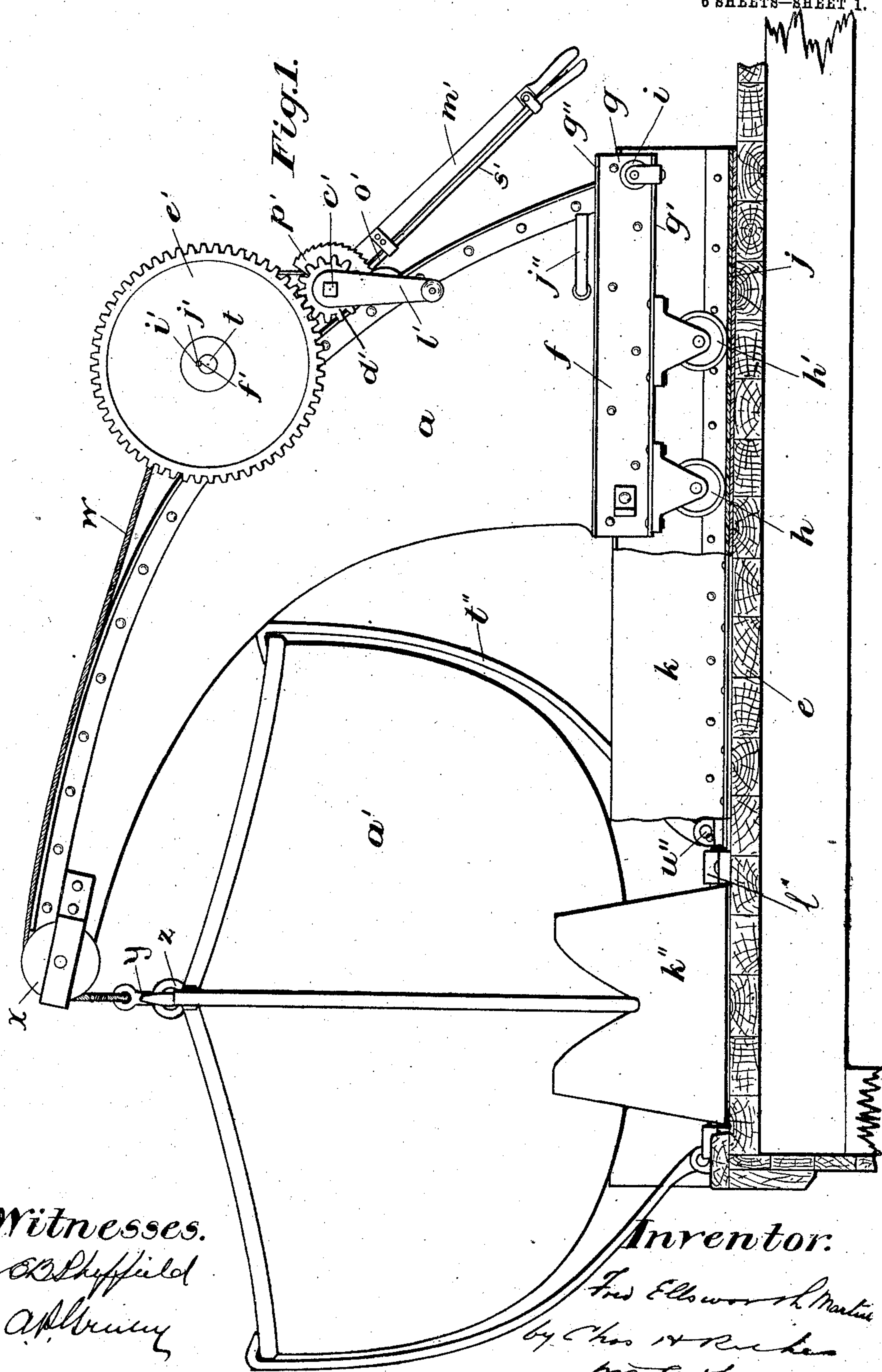
No. 850,239.

PATENTED APR. 16, 1907.

F. E. MARTIN.
BOAT LAUNCHING AND STOWING APPARATUS.

APPLICATION FILED APR. 14, 1906.

6 SHEETS—SHEET 1.



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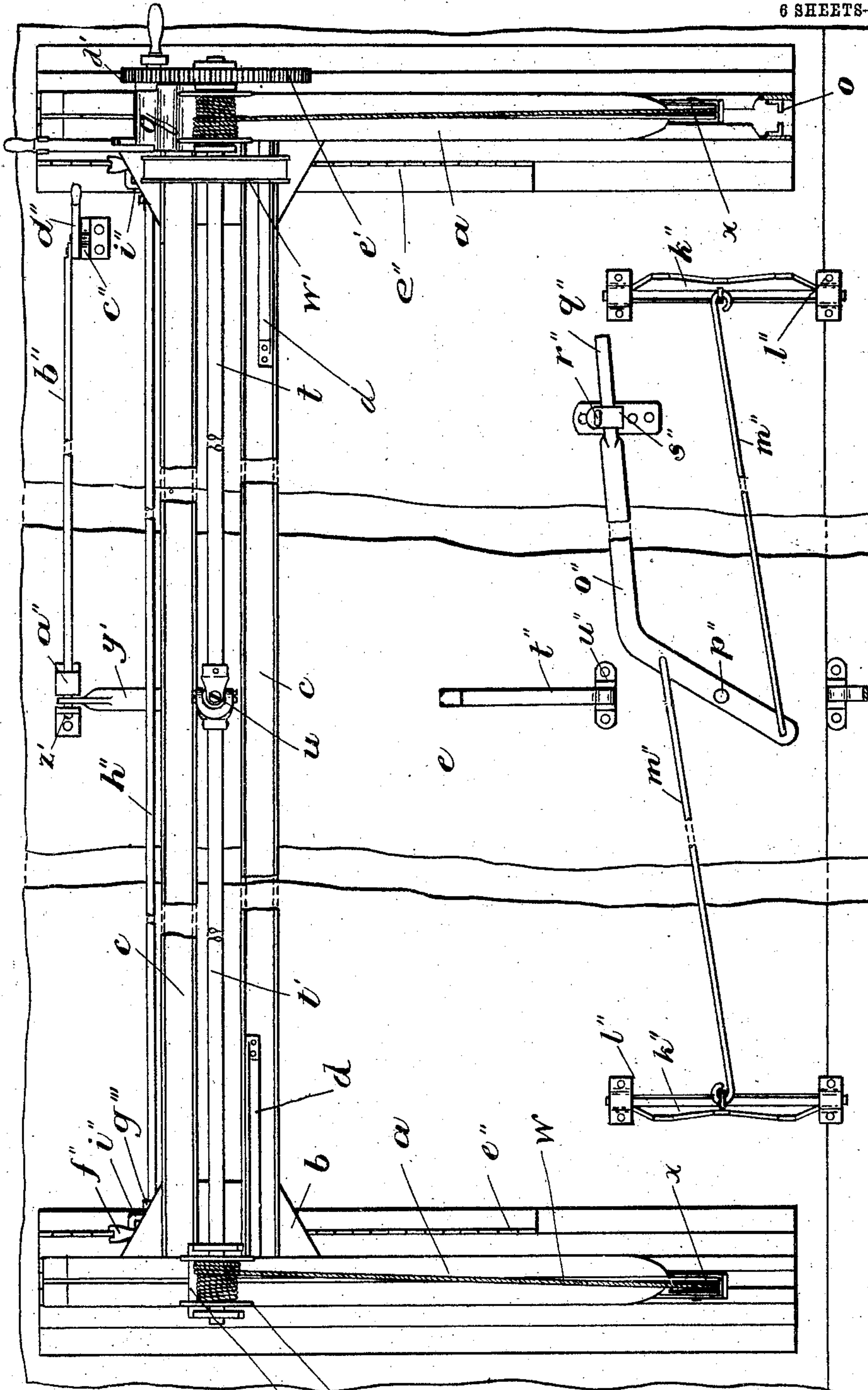


Fig. 2.

Witnesses.

Edw. H. Haffield
Attest

Inventor.

Fred Ellsworth Martin
by Chas. H. Martin
his attorney.

No. 850.239.

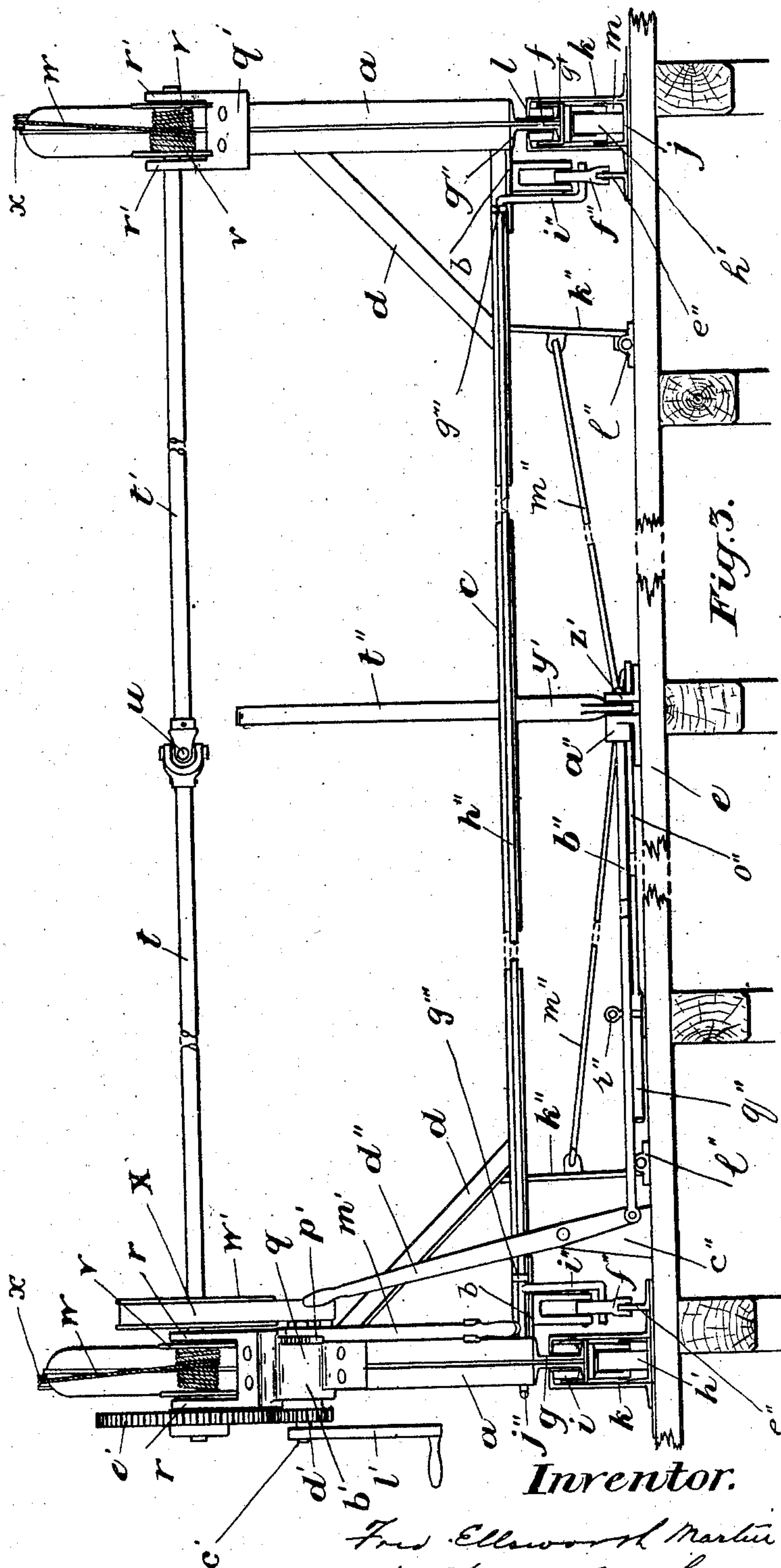
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6 SHEETS—SHEET 3.



Witnesses:

Sheffield
A. P. Green

Inventor.

Fred Ellsworth Martin
by Chas H. Miller
his Attorney.

F. E. MARTIN.
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6 SHEETS—SHEET 4.

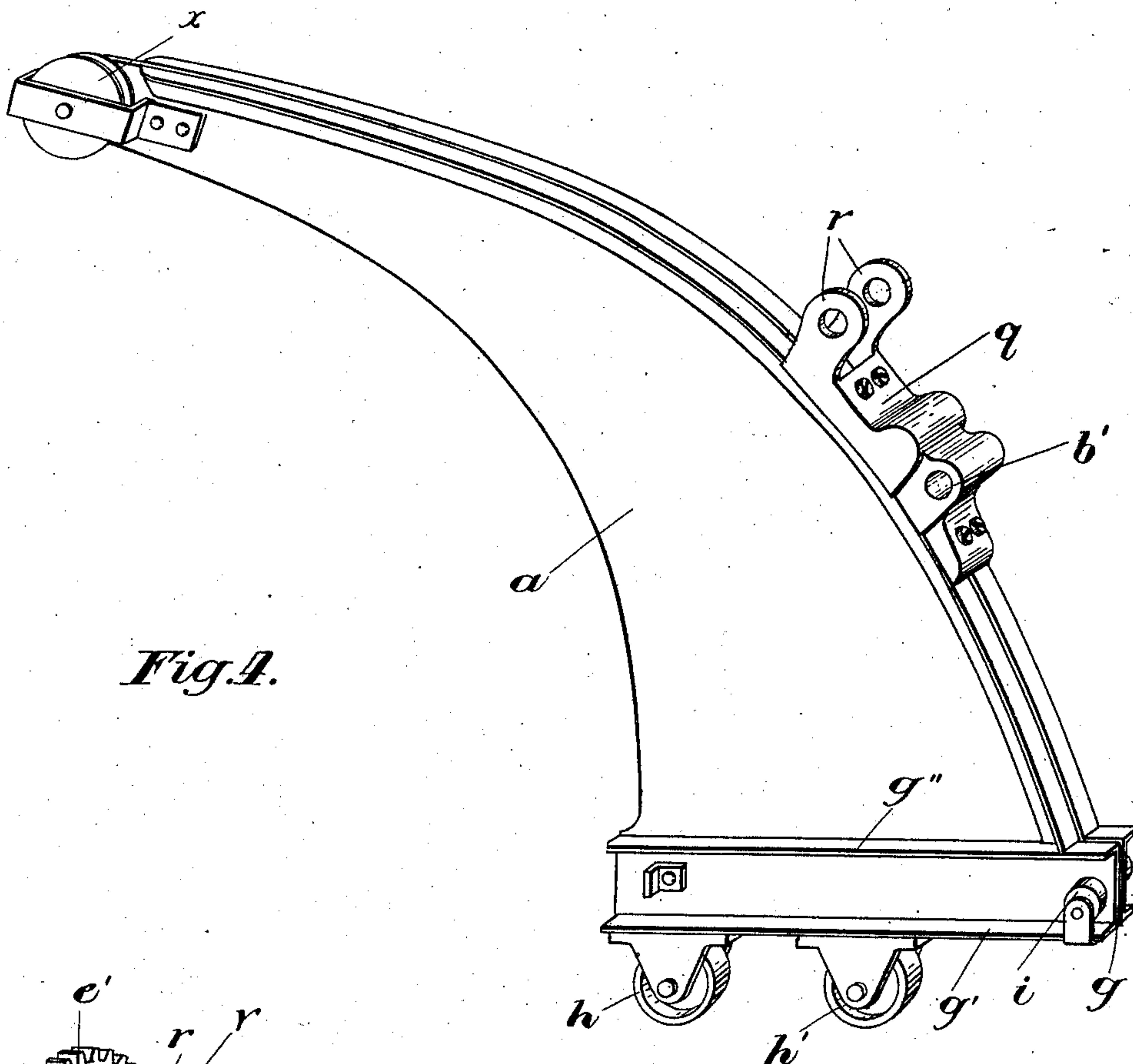


Fig. 4.

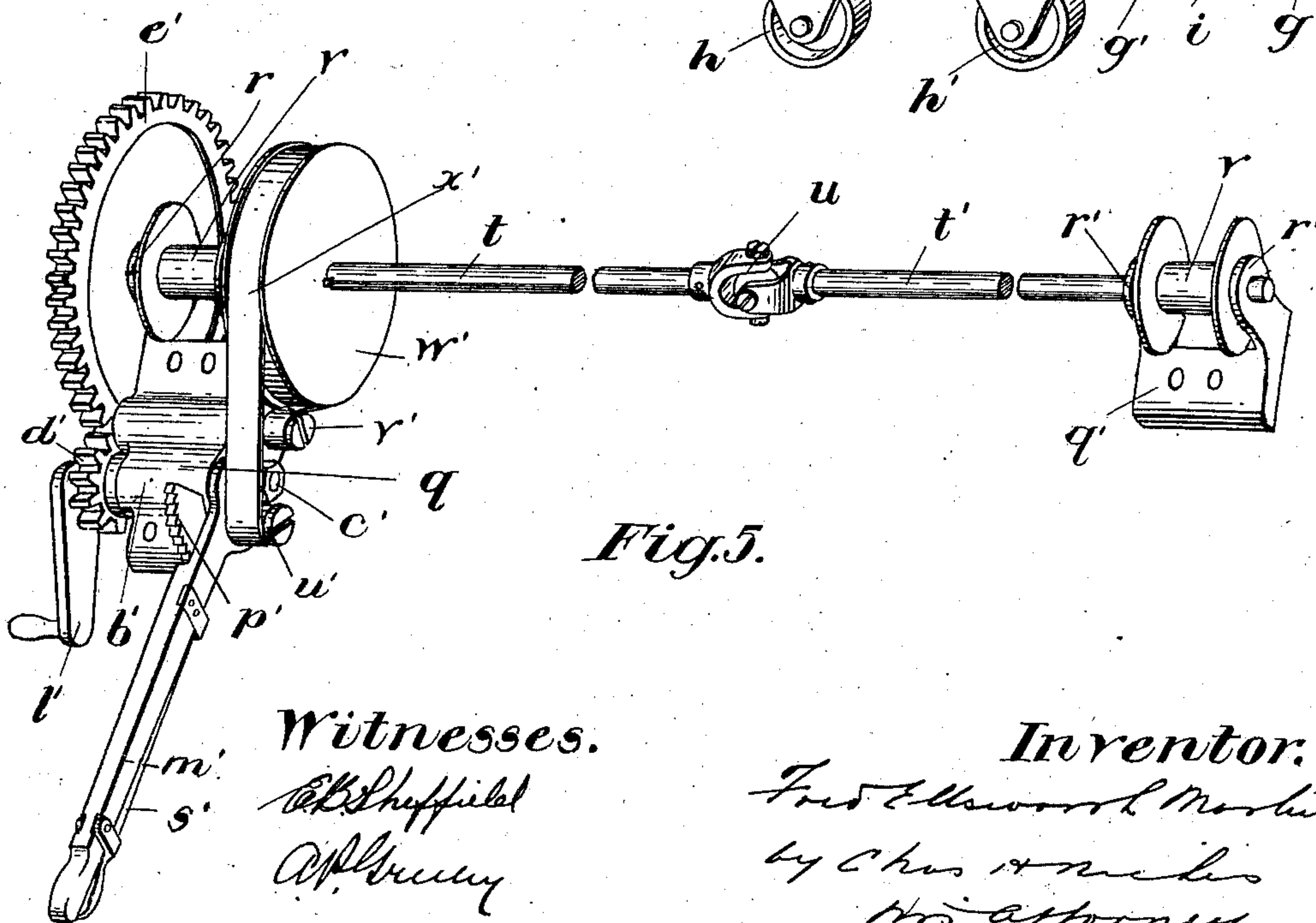


Fig. 5.

Witnesses.

E. K. Sheffield
A. P. Bailey

Inventor.

Fred Ellsworth Martin
by *Chas. H. Nichols*
His Attorney

No. 850,239.

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6 SHEETS—SHEET 5.

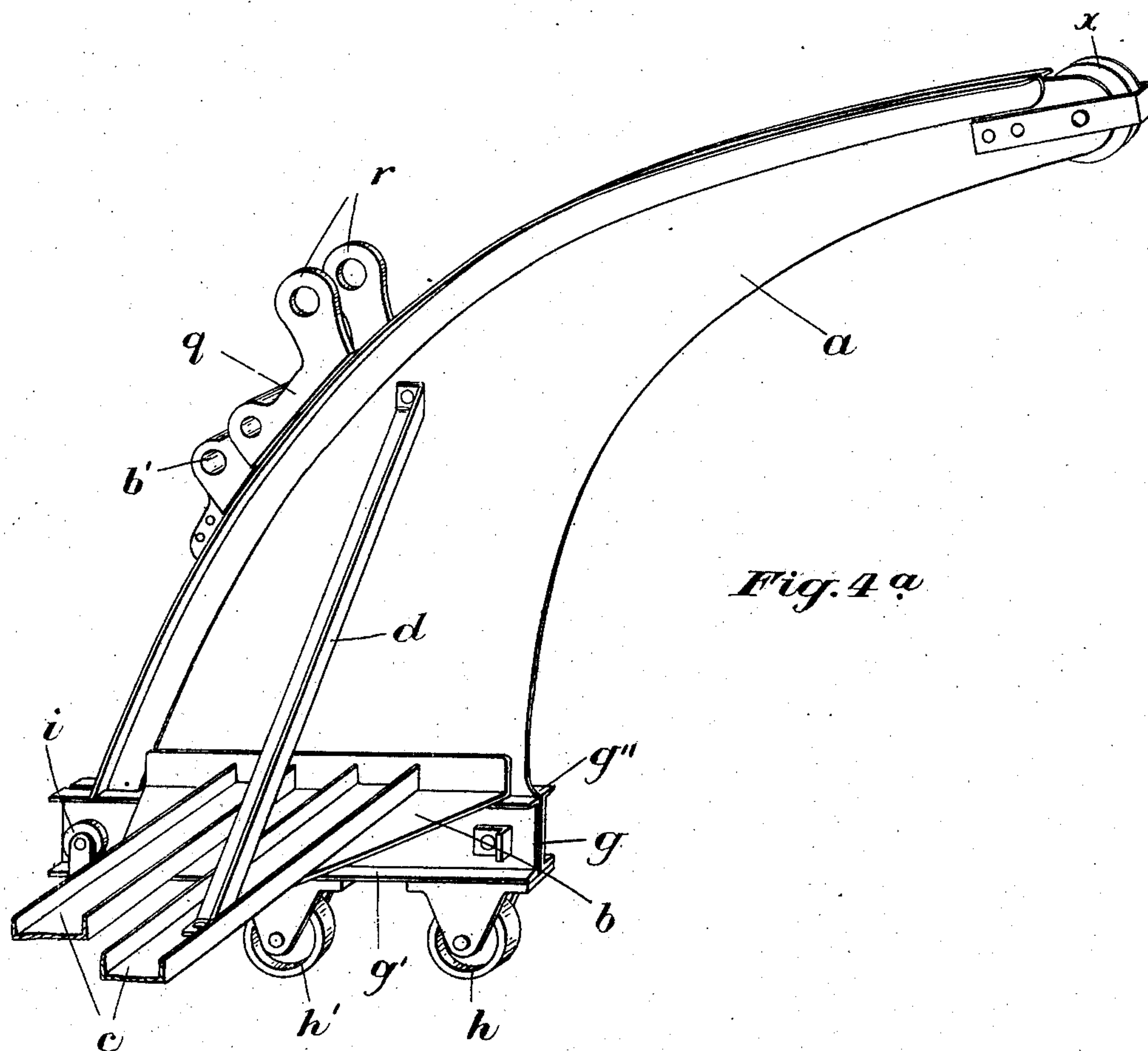


Fig. 4a

Witnesses.

E. B. Sheffield
Attorney

Inventor.

Fred Ellsworth Martin
by Chas. H. Smith
Attorney

No. 850,239.

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BOAT LAUNCHING AND STOWING APPARATUS.

APPLICATION FILED APR. 14, 1906.

6 SHEETS—SHEET 6.

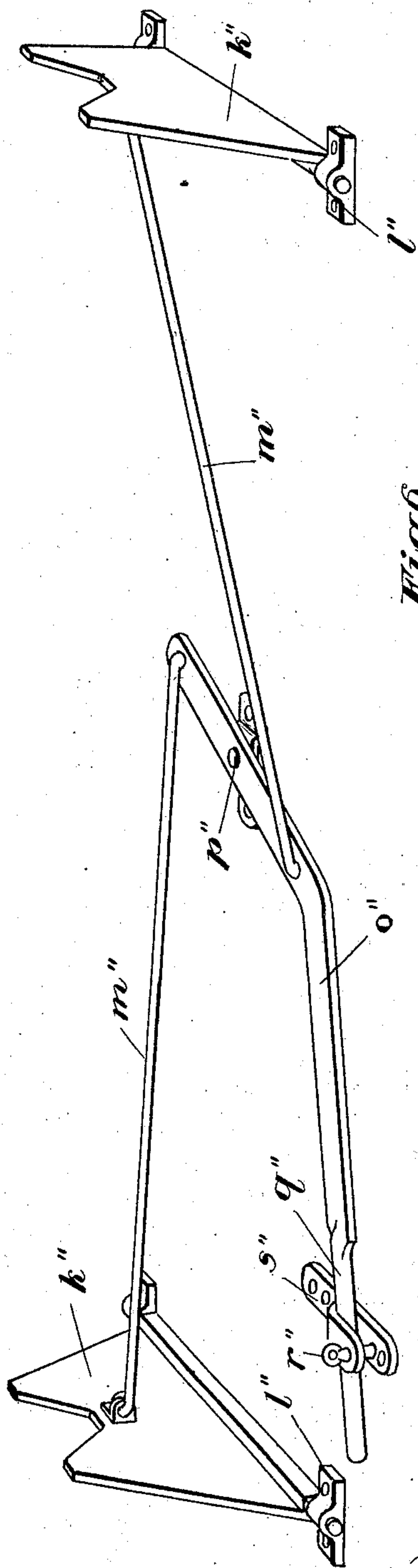


Fig. 6.

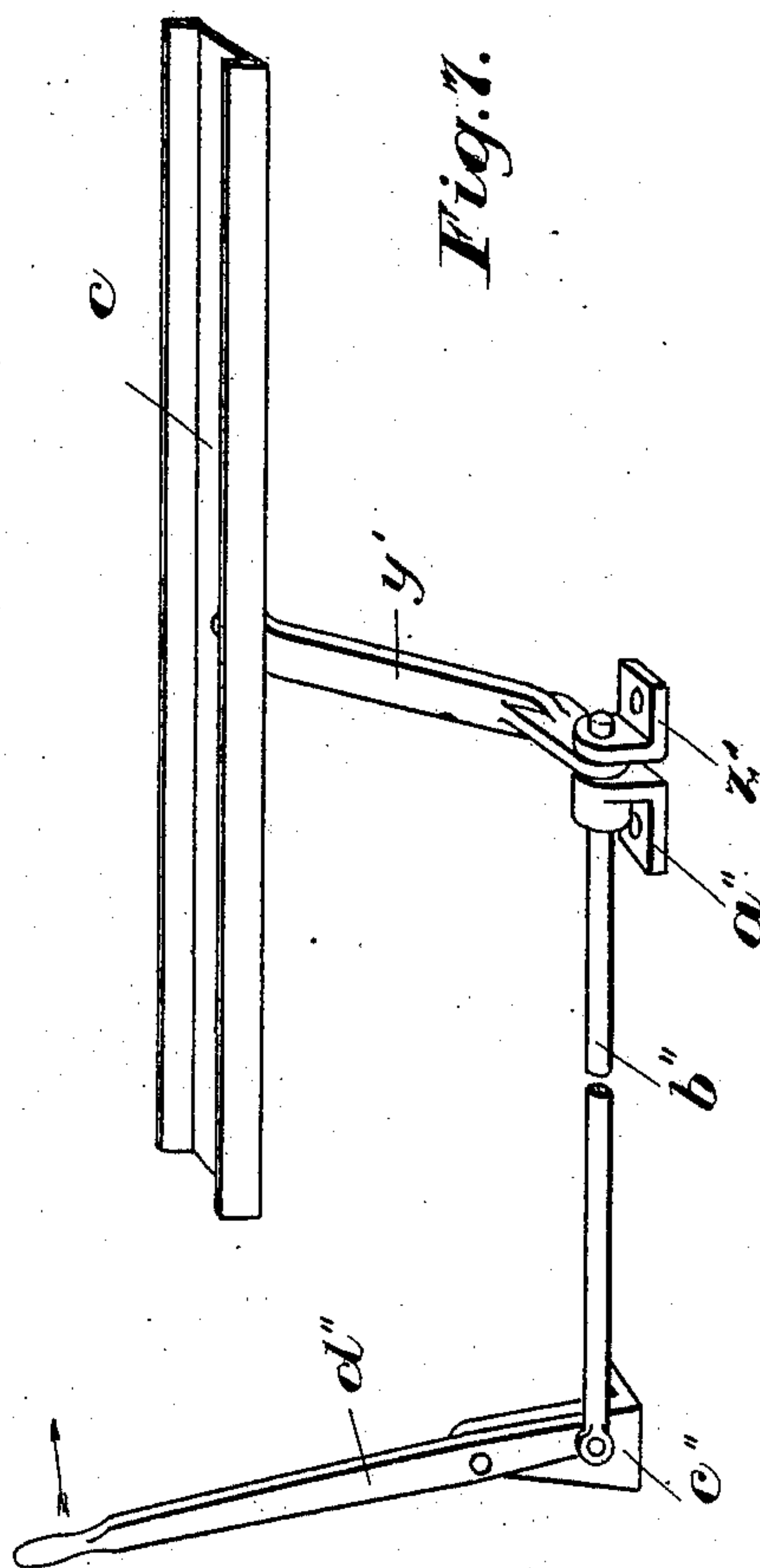


Fig. 7.

Witnesses. Inventor.
C. Sheffield Fred Ellsworth Martin
Attest by Charles H. Martin
his attorney.

UNITED STATES PATENT OFFICE.

FRED ELLSWORTH MARTIN, OF OAKVILLE, ONTARIO, CANADA, ASSIGNOR
OF ONE-THIRD TO WILLIAM JOHN KIVELL AND TWO-THIRDS TO
CHARLES H. RICHES, BOTH OF TORONTO, CANADA.

BOAT LAUNCHING AND STOWING APPARATUS.

No. 850,239.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed April 14, 1906. Serial No. 311,760.

To all whom it may concern:

Be it known that I, FRED ELLSWORTH MARTIN, of the town of Oakville, in the county of Halton and Province of Ontario, Canada, have invented certain new and useful Improvements in Boat Launching and Stowing Apparatus; and I hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to a means whereby a boat can be quickly and easily lowered from a ship's deck into the water and raised from the water and stowed in a fixed place on the ship's deck; and it consists, essentially, of the construction and arrangement of the parts hereafter described, and particularly pointed out in the appended claims.

For a full understanding of the invention reference is to be had to the following description and to the accompanying drawings, in which—

Figure 1 is a side elevation of the apparatus, with one of the track-guards partly broken away, showing the location and arrangement of the parts. Fig. 2 is a plan view of the same looking at it from the top, the boat shown in Fig. 1 being absent from this view. Fig. 3 is a rear elevation showing the same parts as in Fig. 2. Fig. 4 is a detail view of one of the davit-cranes. Fig. 4^a is a detail view of the construction shown in Fig. 4 looking at it from the opposite side to that shown in Fig. 4. Fig. 5 is a detail view of the winding mechanism. Fig. 6 is a detail view of the boat-supporting saddles, and Fig. 7 is a detail view of the detent mechanism to hold the apparatus in its inboard position.

Like characters of reference refer to like parts throughout the specification and drawings.

The davit-cranes *a* are provided at their lower ends with horizontally-disposed brackets *b*, to which are rigidly bolted or otherwise fastened the horizontal coupling-braces *c* to cause the united movement of the davit-cranes *a* as they travel between their inboard and outboard positions, and connected to the horizontal braces *c* and davit-cranes *a* are inclined braces *d* to increase the rigidity of the structure and assist in maintaining the davit-cranes in an upright position with relation to the horizontal plane of the deck *e*.

Rigidly secured to the lower end of each

davit-crane *a* is a carriage *f*, consisting of two channel-plates having their webs *g* placed back to back in a vertical plane with relation to the height of the davit-cranes and their flanges *g'* *g''* projecting horizontally therefrom and antifriction-rollers *h* and *h'* secured to the flanges *g'* and arranged to travel on fixed trackways *j*, secured to the deck *e* and extending to the ship's side. Antifriction-rollers *i* are secured above the flanges *g'* and below the flanges *g''* and so positioned that there will be an unoccupied interval between them and the flanges *g''*, for the purpose hereinafter stated.

Rigidly secured to the deck *e* at each side of each trackway *j* is a guide-plate *k*, having at its upper end an inturned flange *l*. Between the flanges *l* of each pair of guide-plates *k* is an unoccupied space located vertically above the central line of the trackway *j* and extending from end to end thereof for the passage of the webs *g* of the carriages *f*.

Secured to the guide-plates *k* at the outboard end of the trackway *j*, as shown in Fig. 2, are arresting-stops *o* to limit the outward movement of the davit cranes and carriages. When the carriages are positioned between the guide-plates *k*, the antifriction-rollers *h* and *h'* contact the top surfaces of the trackways *j* and the antifriction-rollers *i* contact the under surfaces of the flanges *l* to maintain the davit-cranes *a* in an upright position while at rest and in motion. The antifriction-rollers *h*, *h'*, and *i* are so positioned that when the carriages *f* are contained between the guide-plates the flanges *g''* will be maintained at a sufficient height above the flanges *l* to avoid frictional contact therewith.

Secured to the davit-cranes *a* are brackets *q* and *q'*, having outwardly-projecting arms or lugs *r* and *r'*, in which is journaled the winding-shaft. The winding-shaft consists of two shaft-sections *t* and *t'*, coupled together intermediate the davit-cranes *a* by a universal coupling *u* to compensate for any reasonable contraction and permit of the revolution of the winding-shaft in the event of the compression or displacement of the davit-cranes as a result of accident. Mounted on the winding-shaft opposite the davit-cranes *a* and revoluble with the winding-shaft are winding-drums *v*, upon which are wound the davit-falls *w*, and journaled at the upper ends

of the davit-cranes *a* are guide-pulleys *x*, alined with the winding-drums *v*. At the free ends of the davit-falls *w* are davit-fall hooks *y*, which engage with the ring-bolts *z* in the boat *a'*.

The bracket *q* is provided with a journal *b'* below the lugs *r*, and mounted in the journal *b'* is a pinion-shaft *c'*, which projects beyond the outer side of the davit-crane *a*, to which the journal is secured. Mounted on the pinion-shaft *c'* on the outer side of the davit-crane is a pinion *d'*, which meshes with the spur-wheel *e'*, mounted on the winding-shaft section *t* on the outer side of the same crane. In the end of the winding-shaft section *t* is a key-seat *f'*, and in the hub of the spur-wheel is a corresponding key-seat *i'* to receive the key *j'*, which normally locks the spur-wheel *e'* to the winding-shaft section *t*, so that they will revolve unitedly when winding the davit-falls on the winding-drums. The pinion-shaft *c'* on the outer side of the pinion *d'* is fitted to receive the winding-crank *l'*, by which the pinion-shaft is revolved to cause the winding revolution of the spur-wheel, winding-shaft, and winding-drums. The pinion-shaft *c'* projects beyond the inner side of the bracket *q*, and loosely mounted upon its inner end is a lever *m'*, having a detent-dog *o'* to engage the toothed segment *p'*, secured to the bracket *q*. (See Fig. 5.) The detent-dog *o'* is actuated by an ordinary spring-tensioned link *s'*, connected with the lever *m'*. Carried by the lever *m'* and movable therewith is a stud *u'*, and connected to the bracket *q* is a stud *v'*, alined with the stud *u'*. Fixed on the winding-shaft section *t* is a brake-wheel *w'*, alined with the studs *u'* and *v'*. Connected to the studs *u'* and *v'* and engaging the peripheral surface of the brake-wheel *w'* is a brake-band *x'* to arrest the unwinding revolution of the winding-shaft. Fastened to the horizontal braces *c*, between the davit-cranes *a*, is a downwardly-extending arm *y'*, having a bolt-aperture there-through, and secured to the deck *e* at the inboard position of the arm *y'* is a lug *z'*, having a bolt-aperture corresponding to the bolt-aperture of the arm *y'*.

Fastened to the deck *e* is a bolt-guide *a''*, and movable through the bolt-guide *a''* is a locking-bolt *b''*, adapted to extend through the apertures in the lug *z'* and the arm *y'* to hold the davit-cranes at their inboard position. Fastened to the deck *e* is a bracket *c''*, and fulcrumed to the bracket *c''* is an operating-lever *d''*, pivotally connected with the locking-bolt *b''*. The operation of the locking-bolt *b''* in the direction indicated by arrow in Fig. 7 actuates the locking-bolt *b''* to release the arm *y'*, so that the cranes may be moved from their inboard to their outward position. The reverse operation of the lever *d''* actuates the locking-bolt *b''* to enter the bolt-aperture in the arm *y'* and lock the parts

at their inboard position. Fastened to the deck *e*, adjacent to the inner side of each trackway, is a ratchet-tooth rack *e''*, and pivotally connected with the horizontal braces *c* are gravity-dogs *f''* to engage with the teeth of the racks *e''*. Fastened to one of the horizontal braces *c* are lugs *g''*, in which is journaled the crank-shaft *h''*, having cranks *i''* to engage with the gravity-dogs *f''* and raise them out of engagement with the teeth of the racks *e''*, and a handle *j''*, by which the cranks are actuated. The boat *a'* is suspended from the davit-falls *w*, and when the parts are in their inboard position it normally rests upon the saddles *k''*. The saddles *k''* are located vertically below the boat and engage it between the fullness of the body portion and the ends so that they can freely fall outward into a horizontal position, as hereinafter stated. The saddles *k''* are articulately connected to hinge members *l''*, fastened to the deck *e*, and are raised into a vertical position by links *m''*, connected to the arms of the bell-crank lever *o''* on opposite sides of the lever-fulcrum *p''*. The bell-crank lever *o''* is provided with a handle *q''*, by which it is actuated. When the saddles are in their upright position, the handle *q''* is locked in a stationary position by a key *r''*, which passes through a U-shaped lug *s''*, fastened to the deck, and which is adapted to receive between its opposite arms the handle *q''*. The bell-crank lever *o''* when actuated moves the saddles *k''* into the vertical position shown in Fig. 1 to engage the bottom of the boat and support it above the deck when in its inboard position, and the handle *q''* of the bell-crank lever can then be locked between the arms of the lug *s''* by the key *r''*, so that the saddles will be maintained in their operative position under ordinary conditions until the handle has been released. The davit-falls hold the boat suspended so as to engage the top of the saddles with its full weight resting thereon. To normally prevent the displacement of the boat from the saddles, lashing-arms *t''*, curved to correspond with the curvature of the body of the boat, are pivotally connected at their lower ends to the brackets *u''*, fastened to the deck *e* at approximately the boat's midships and as nearly under the middle line running lengthwise of the boat as possible. The upper ends of the lashing-arms *t''* are intumed to engage the boat's gunwales, and when the saddles are lowered the lashing-arms fall away by gravity. To lower the boat, the key *r''* is withdrawn from the lugs *s''* and the handle *q''* of the bell-crank lever *o''* is moved outwardly from the lug *s''* to actuate the links *m''* and cause them to lower the saddles *k''* into contact with the deck. The upper ends of the saddles *k''* as they descend, move outwardly on a curvilinear plane from the hinge members *l''*, so that they will move

past the decreasing dimensions of the boat, which may be termed "the line of least resistance," as compared with an inward movement, in which case they would be compelled to move past constantly-increasing dimensions. The lowering movement of the saddles is accelerated by the weight of the boat resting thereon, as the weight of the boat when the saddles have moved from their vertical position instantly forces the saddles in the direction of the deck. When the saddles are lowered, the locking-bolt b'' is released from engagement with the arm y' , and the davit-cranes are moved to their outboard position to hold the boat suspended beyond the side of the ship. The lever m' is then actuated to release the brake-band x' from engagement with the brake-wheel w' , so that the weight of the boat can cause the davit-falls to unwind from the winding-drums, the crank l' before the unwinding of the davit-falls being preferably detached from the pinion-shaft c' .

In the event of an accident happening to the pinion-shaft and pinion-wheel the key j' can be withdrawn from the key-seats in the spur-wheel and winding-shaft section to permit the unwinding movement of the winding-shaft independently of the spur-wheel and pinion. As the davit-cranes move to the outboard position the gravity-dogs f'' engage with the teeth of the ratchet-tooth racks and prevent the return of the davit-cranes to their inboard position until the gravity-dogs have been displaced from engagement therewith by the actuation of the crank-shaft, this being necessary during the rolling of the ship and when the deck is so inclined that the trackways slope inwardly from the ship's side.

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

1. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, davit-cranes movable on said trackways, a releasable bolt for securely holding the davit-cranes in their inboard position, means for arresting the davit-cranes at the limit of their outboard position and other releasable means to resist the return of the davit-cranes to their inboard position.

2. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, davit-cranes movable on the trackways, releasable means for securely holding the davit-cranes at their inboard position, means for arresting the davit-cranes at their outboard position, means for resisting the return of the davit-cranes to their inboard position, and means for releasing the resisting means comprising a rock-shaft engaging therewith.

3. A boat launching and stowing appara-

tus comprising fixed trackways leading to the ship's side, two davit-cranes rigidly coupled together, a carriage for each davit-crane movable on its respective trackway, a winding-shaft journaled in bearings connected with the davit-cranes comprising two shaft-sections coupled together by a universal coupling, winding-drums mounted on the winding-shaft, guide-pulleys connected with the davit-cranes, davit-falls passing over the guide-pulleys and wound on the winding-drums, and means for causing the revolution of the winding-shaft.

4. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, two davit-cranes rigidly coupled together, a carriage for each davit-crane movable on its respective trackway, a winding-shaft journaled in bearings connected with the davit-cranes, comprising two shaft-sections coupled together, winding-drums mounted on the winding-shaft, guide-pulleys connected with the davit-cranes, davit-falls passing over the guide-pulleys and wound on the winding-drums, means for causing the revolution of the winding-shaft consisting of a pinion-shaft journaled in a bearing connected with one of the davit-cranes, a pinion mounted on the pinion-shaft, means for causing the revolution of the pinion-shaft and pinion, and a spur-wheel mounted on the winding-shaft meshing with the pinion.

5. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, two davit-cranes rigidly coupled together, a carriage for each davit-crane movable on its respective trackway, a winding-shaft journaled in bearings connected with the davit-cranes, comprising two shaft-sections coupled together, winding-drums mounted on the winding-shaft, guide-pulleys connected with the davit-cranes, davit-falls passing over the guide-pulleys and wound on the winding-drums, means for causing the revolution of the winding-shaft consisting of a pinion-shaft journaled in a bearing connected with one of the davit-cranes, a pinion mounted on the pinion-shaft, means for causing the revolution of the pinion-shaft and pinion, a spur-wheel loosely mounted on the winding-shaft meshing with the pinion, and a removable locking means for causing the united revolution of the spur-wheel and winding-shaft.

6. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, two davit-cranes rigidly coupled together, a carriage for each davit-crane movable on its respective trackway, a winding-shaft comprising two shaft-sections coupled together journaled in bearings connected with the davit-cranes, winding-drums mounted on the winding-shaft, guide-pulleys connected with the davit-cranes,

davit-falls passing over the guide-pulleys and wound on the winding-drums, means for causing the revolution of the winding-shaft consisting of a pinion-shaft journaled in a bearing connected with one of the davit-
 5 cranes, a pinion mounted on the pinion-shaft, means for causing the revolution of the pinion-shaft and pinion, and a spur-wheel mounted on the winding-shaft meshing with
 10 the pinion, a brake-wheel fixed on the winding-shaft, a movable brake-lever, and a band passing partly around the brake-wheel and connected at one end with one of the davit-
 15 cranes and at the other end with the movable brake-lever.

7. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, two davit-cranes rigidly coupled together, a carriage for each davit-crane
 20 movable on its respective trackway, a winding-shaft journaled in bearings connected with the davit-cranes comprising two shaft-sections coupled together, winding-drums mounted on the winding-shaft, guide-pul-
 25 leys connected with the davit-cranes, davit-falls passing over the guide-pulleys and wound on the winding-drums, means for causing the revolution of the winding-shaft consisting of a pinion-shaft journaled in a
 30 bearing connected with one of the davit-cranes, a pinion mounted on the pinion-shaft, means for causing the revolution of the pinion-shaft and pinion, a spur-wheel mounted on the winding-shaft meshing with the pin-
 35 ion, a brake-wheel fixed on the winding-shaft, a movable brake-lever, a brake-band passing partly around the brake-wheel and connected at one end with one of the davit-
 40 cranes and at the other end with movable brake-lever, a detent-dog for the brake-lever, a link connected with the detent-dog and having a hand-grip whereby it can be actuated, and a toothed segment connected with the davit-crane to be engaged by the detent-
 45 dog.

8. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, guards at the sides of the fixed trackways and extending above the same
 50 with inturned flanges at their upper ends and an unoccupied interval between the flanges, two davit-cranes rigidly coupled together and movable above the guards, a carriage for each davit-crane movable between the
 55 guards, antifriction-rollers for the carriages movable upon the trackways, other antifriction-rollers connected with the carriages movable between the guards to engage the top flanges thereof, and a boat raising and
 60 lowering means carried by the davit-cranes.

9. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, guards at the sides of the fixed trackways and extending above the

same with inturned flanges at their upper
 65 ends and an unoccupied interval between the flanges, two davit-cranes rigidly coupled together and movable above the guards, a carriage for each davit-crane movable between
 70 the guards, antifriction-rollers for the carriages movable upon the trackways, other antifriction-rollers connected with the carriages movable between the guards to engage the top flanges thereof, a boat raising and
 75 lowering means carried by the davit-cranes, releasable means for securely holding the davit-cranes at their inboard position, and means to arrest the movement of the davit-cranes at their outboard position.

10. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, guards at the sides of the fixed trackways and extending above the same
 80 with inturned flanges at their upper ends and an unoccupied interval between the flanges, two davit-cranes rigidly coupled together and movable above the guards a carriage for each davit-crane movable between the
 85 guards, antifriction-rollers for the carriages movable upon the trackways, other antifric-
 90 tion-rollers connected with the carriages movable between the guards to engage the top flanges thereof, a boat raising and lowering means carried by the davit-cranes, releasable means for securely holding the davit-
 95 cranes at their inboard position, means to arrest the movement of the davit-cranes at their outboard position, and a releasable resisting means to prevent the inboard movement of the davit-cranes when the latter are
 100 at their outboard position.

11. A boat launching and stowing apparatus comprising fixed trackways leading to the ship's side, guards at the sides of the fixed trackways and extending above the same
 105 with inturned flanges at their upper ends, and an unoccupied interval between the flanges, two davit-cranes rigidly coupled together and movable above the guards, a carriage for each davit-crane movable between
 110 the guards, antifriction-rollers for the carriages movable upon the trackways to support the davit-cranes therefrom, other antifriction-rollers connected with the carriages movable between the guards to engage the
 115 top flanges thereof, a boat raising and lowering means carried by the davit-cranes, releasable means for securely holding the davit-cranes at their inboard position, means to arrest the movement of the davit-cranes at
 120 their outboard position, releasable resisting means to prevent the inboard movement of the davit-cranes when the latter are at their outboard position, and means for releasing the resisting means.

12. A boat launching and stowing apparatus comprising two davit-cranes rigidly coupled together, a carriage for each davit-crane,

a winding-shaft consisting of two shaft-sections journaled in bearings connected with the davit-cranes, a universal coupling uniting the inner ends of the winding-shaft, winding-drums mounted on the winding-shaft, guide-pulleys connected with the davit-cranes, davit-falls passing over the guide-pulleys and wound on the winding-drums, and means for causing the revolution of the winding-shaft and winding-drums.

13. A boat launching and stowing apparatus comprising two davit-cranes rigidly coupled together, a carriage for each davit-crane, a winding-shaft consisting of two shaft-sections journaled in bearings connected with the davit-cranes, a universal coupling uniting the inner ends of the winding-shaft, a winding-drum mounted on the winding-shaft, davit-falls passing over the guide-pulleys and wound on the winding-drums, means for causing the revolution of the winding-shaft and winding-drums, consisting of a pinion-shaft journaled in a bearing connected with one of the davit-cranes, a pinion mounted on the pinion-shaft, a spur-wheel mounted on the winding-shaft and meshing with the teeth of the pinion, and means for causing the revolution of the pinion-shaft.

14. A boat launching and stowing apparatus comprising two davit-cranes rigidly coupled together, a carriage for each davit-crane, a winding-shaft consisting of two shaft-sections journaled in bearings connected with the davit-cranes, a universal coupling uniting the inner ends of the winding-shaft, a winding-drum mounted on the winding-shaft, guide-pulleys connected with the davit-cranes, davit-falls passing over the guide-pulleys and wound on the winding-drums, means for causing the revolution of the winding-shaft and winding-drums, consisting of a pinion-shaft journaled in a bearing connected with one of the davit-cranes, a pinion mounted on the pinion-shaft a spur-wheel mounted on the winding-shaft and meshing with the teeth of the pinion, means for causing the revolution of the pinion-shaft, and a braking mechanism for the winding-shaft consisting of a brake-wheel mounted thereon, a toothed segment, a movable lever having a releasable detent-dog to engage with the toothed segment and a brake-band to engage the brake-wheel connected at one end with the davit-crane and at the other end with the brake-lever.

15. A boat launching and stowing apparatus comprising two davit-cranes rigidly coupled together, a carriage for each davit-crane, an arm connected with the davit-cranes having a bolt-aperture therein, bolt-guides at the inboard position of the davit-cranes, a locking-bolt movable in the bolt-guides to enter the bolt-aperture in the arm,

a lever to actuate the bolt, stops to arrest the movement of the davit-cranes at their outboard position, racks, and gravity-dogs carried by the davit-cranes adapted to engage with the racks to resist the return of the davit-cranes from their outboard position.

16. A boat launching and stowing apparatus comprising two davit-cranes rigidly coupled together, a carriage for each davit-crane, an arm connected with the davit-cranes having a bolt-aperture therein, bolt-guides at the inboard position of the davit-cranes, a locking-bolt movable in the bolt-guides to enter the bolt-aperture in the arm, a lever to actuate the bolt, stops to arrest the movement of the davit-cranes at their outboard position, racks, gravity-dogs carried by the davit-cranes to engage with the racks to resist the return of the davit-cranes from their outboard position, and a rock-shaft carried by the davit-cranes having cranks to engage with the gravity-dogs and raise them out of engagement with the racks.

17. A boat launching and stowing apparatus comprising two davit-cranes rigidly coupled together, a carriage for each davit-crane, an arm connected with the davit-cranes having a bolt-aperture therein, bolt-guides at the inboard position of the davit-cranes, a locking-bolt movable in the bolt-guides to enter the bolt-aperture in the arm, a lever to actuate the bolt, stops to arrest the davit-cranes at their outboard position, racks, gravity-dogs carried by the davit-cranes to engage with the racks to resist the return of the davit-cranes from their outboard position, a rock-shaft carried by the davit-cranes having rock-shaft cranks to engage with the gravity-dogs and raise them out of engagement with the racks in combination with boat-supporting saddles to engage the boat at its inboard position, an actuating-lever and links connected with the actuating-lever to cause the saddles to fall outward when operated.

18. A boat launching and stowing apparatus comprising two davit-cranes rigidly coupled together, a carriage for each davit-crane, fixed trackways, an arm connected with the davit-cranes having a bolt-aperture therein, bolt-guides at the inboard position of the davit-cranes, a locking-bolt movable in the bolt-guides to enter the bolt-aperture in the arm, a lever to actuate the bolt, stops to arrest the davit-cranes at their inboard position, racks, gravity-dogs carried by the davit-cranes adapted to engage with the racks to resist the return of the davit-cranes from their outboard position, a rock-shaft carried by the davit-cranes having cranks to engage with the gravity-dogs and raise them out of engagement with the racks, in combination with boat-supporting saddles

to engage the boat at its inboard position, an actuating-lever, links connected with the actuating-lever to cause the saddles to fall outward when operated, and lashing-arms
5 pivotally connected with the deck to engage the gunwale of the boat when seated upon the saddles and automatically disengage

themselves therefrom by gravity when the saddles have been lowered by the saddle-actuating means.

FRED ELLSWORTH MARTIN.

Witnesses:

B. BOYD,

E. McEACHERN.