

No. 762,785.

PATENTED JUNE 14, 1904.

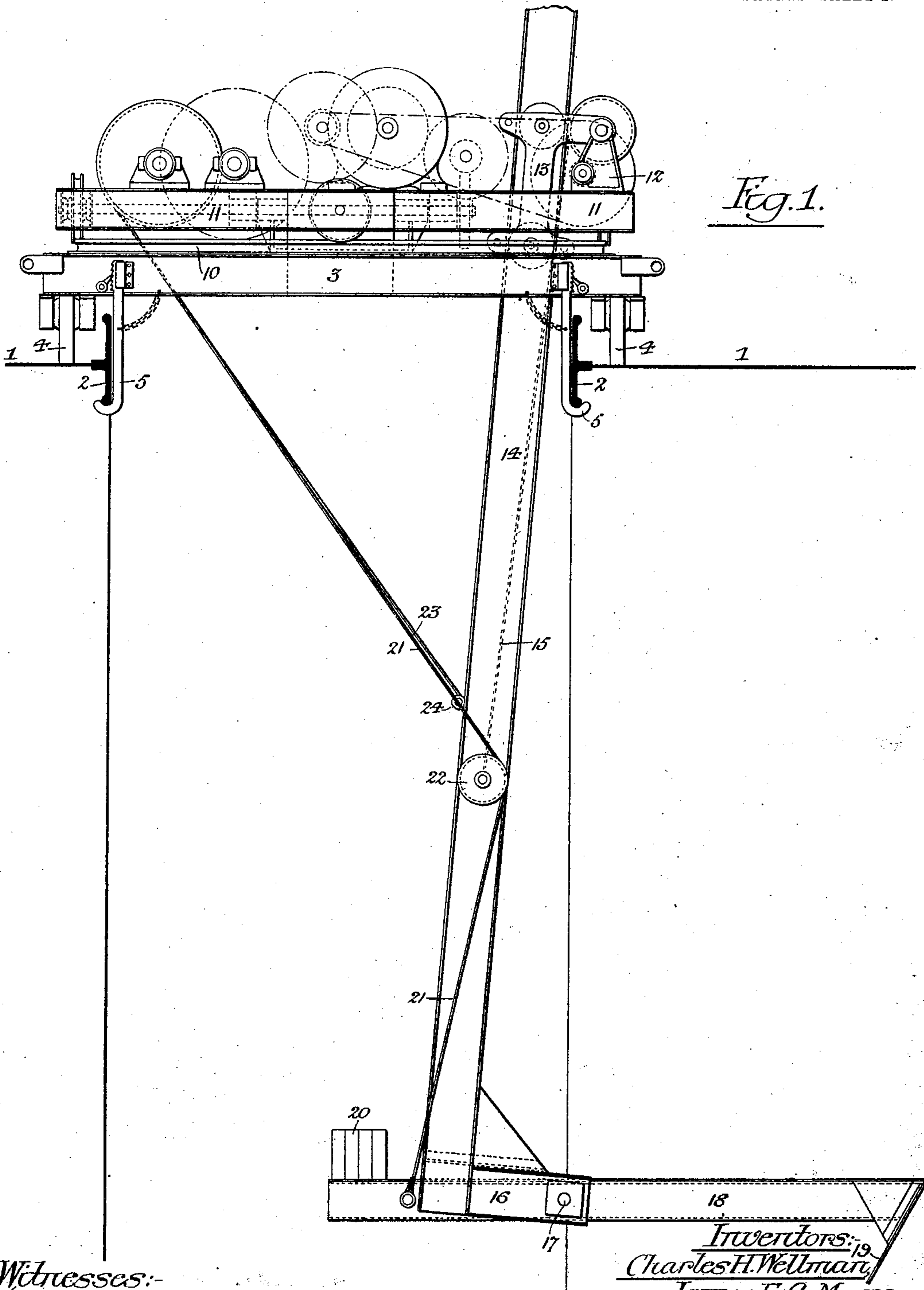
C. H. WELLMAN & J. E. A. MOORE.

MECHANISM FOR GATHERING BULK CARGOES BENEATH HATCHES.

APPLICATION FILED JAN. 2, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses:-

Norman E. Mettins.

Frank L. Graham

Inventors:¹⁹
Charles H. Wellman,
James E. A. Moore,
by their Attorneys;

Howson & Howson

No. 762,785.

PATENTED JUNE 14, 1904.

C. H. WELLMAN & J. E. A. MOORE.

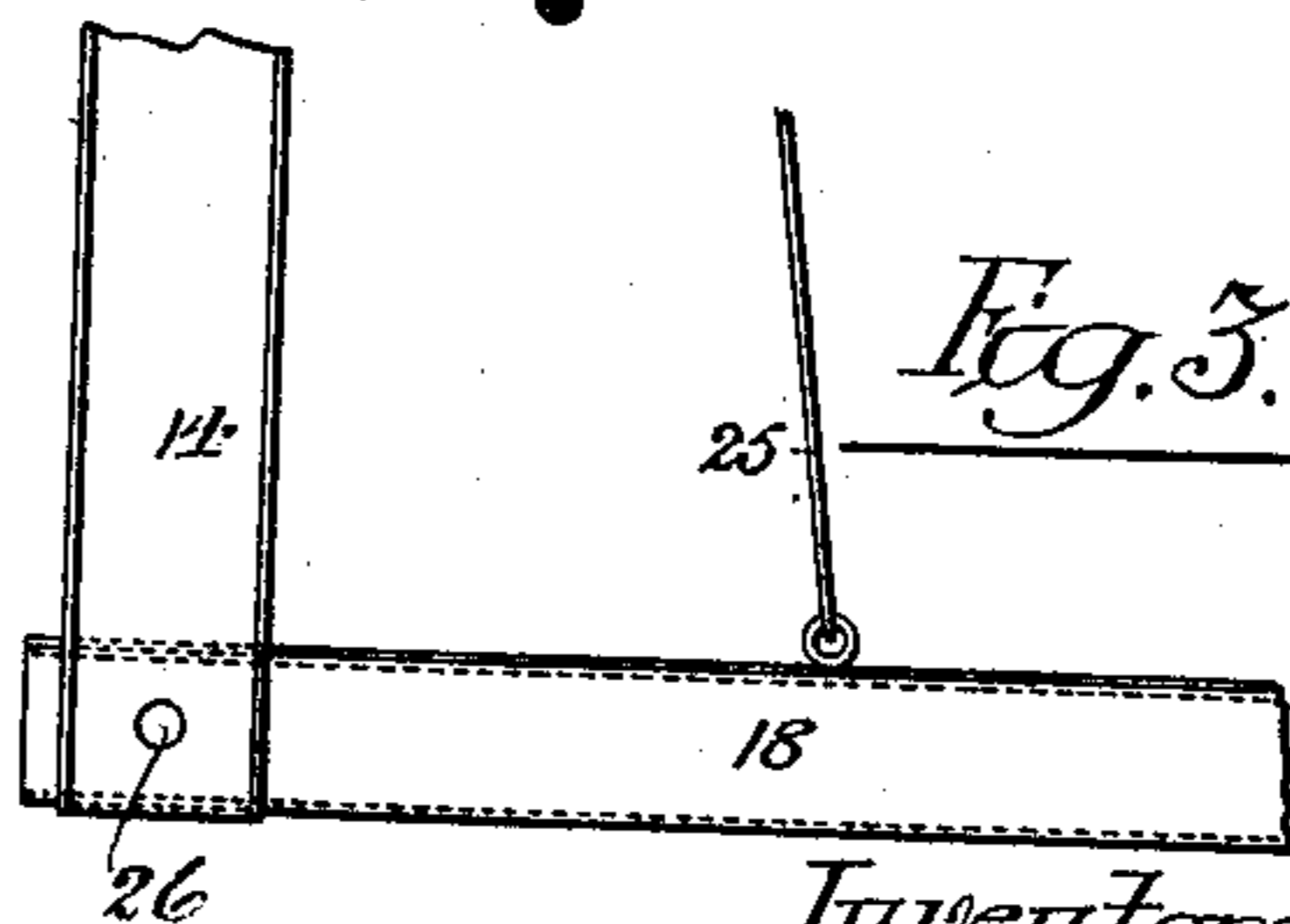
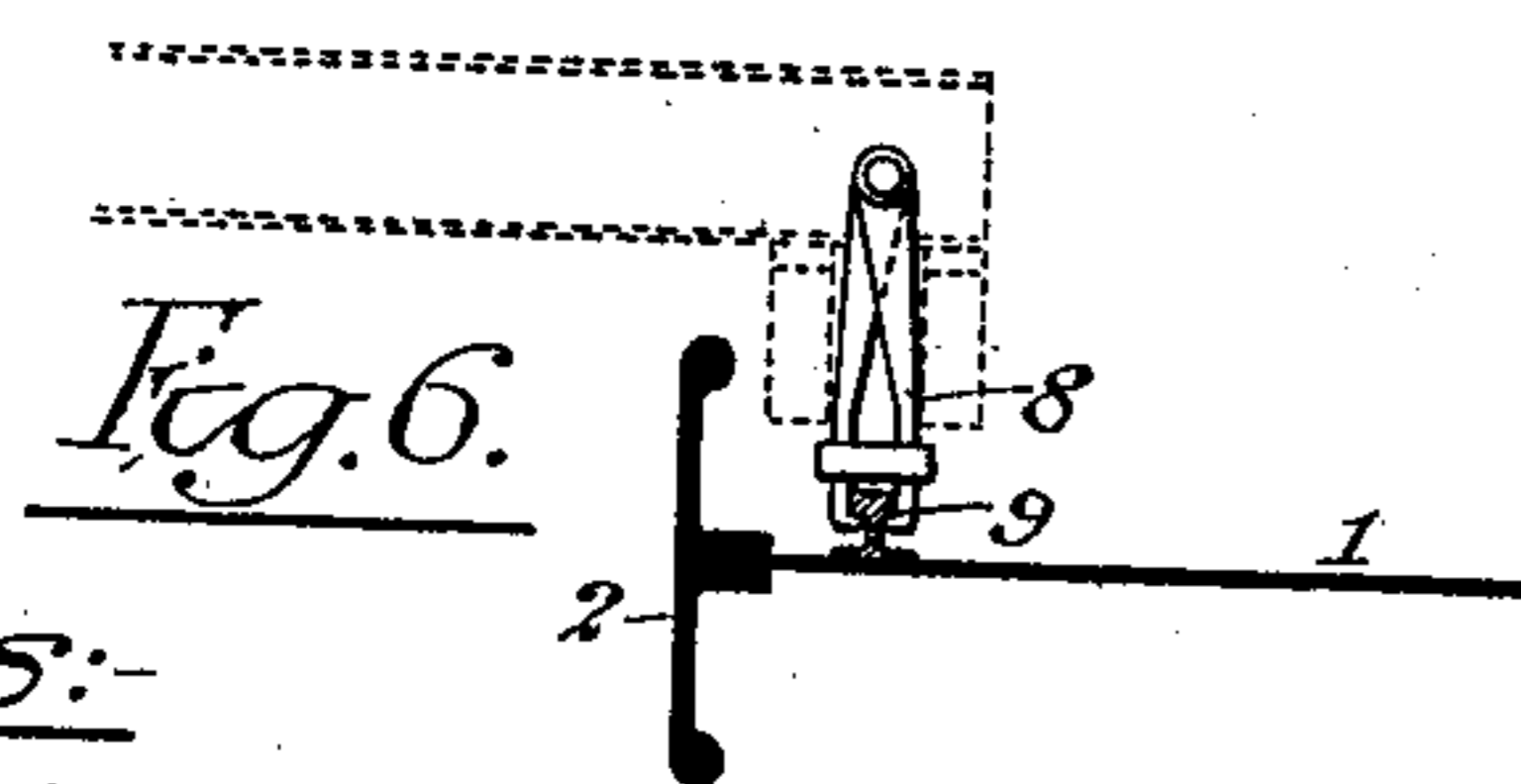
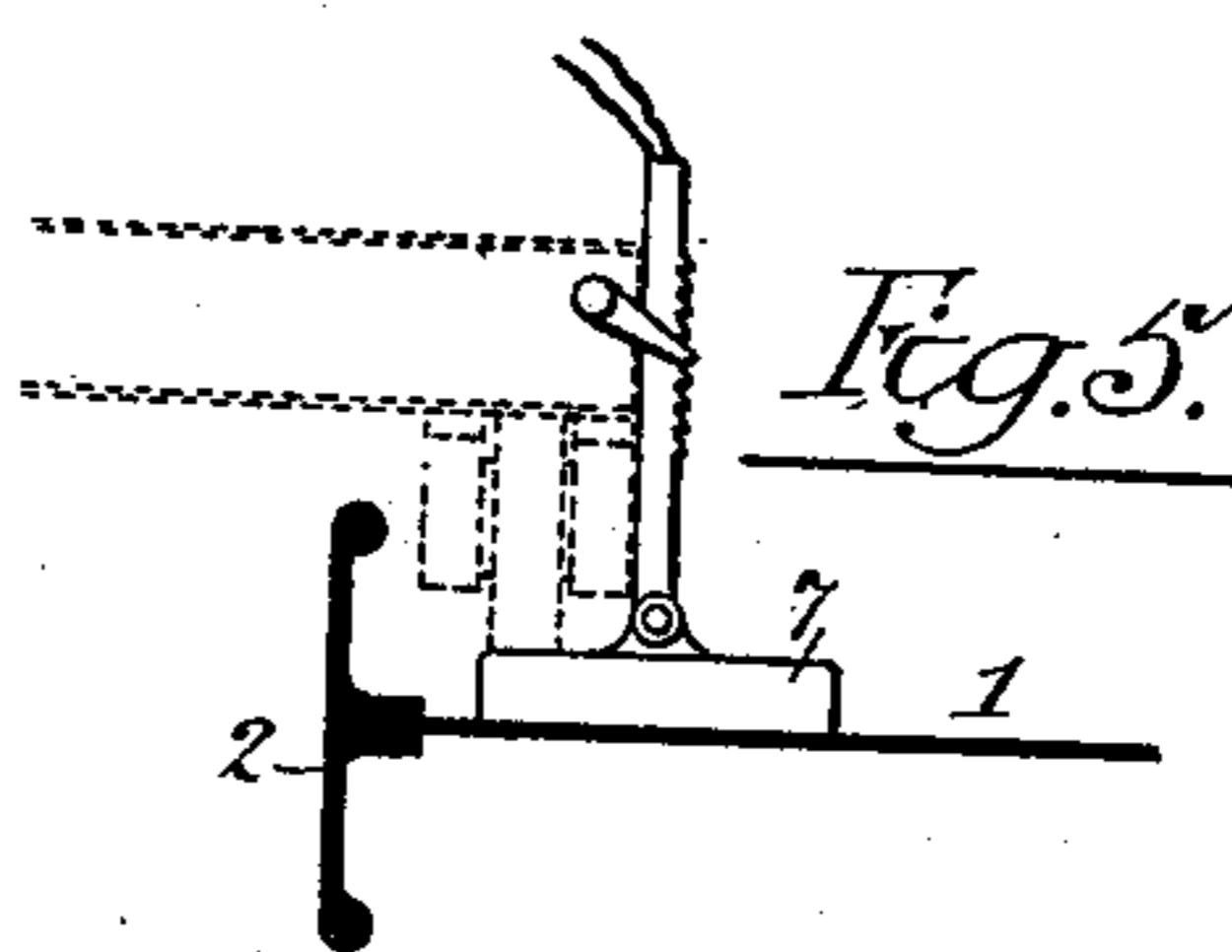
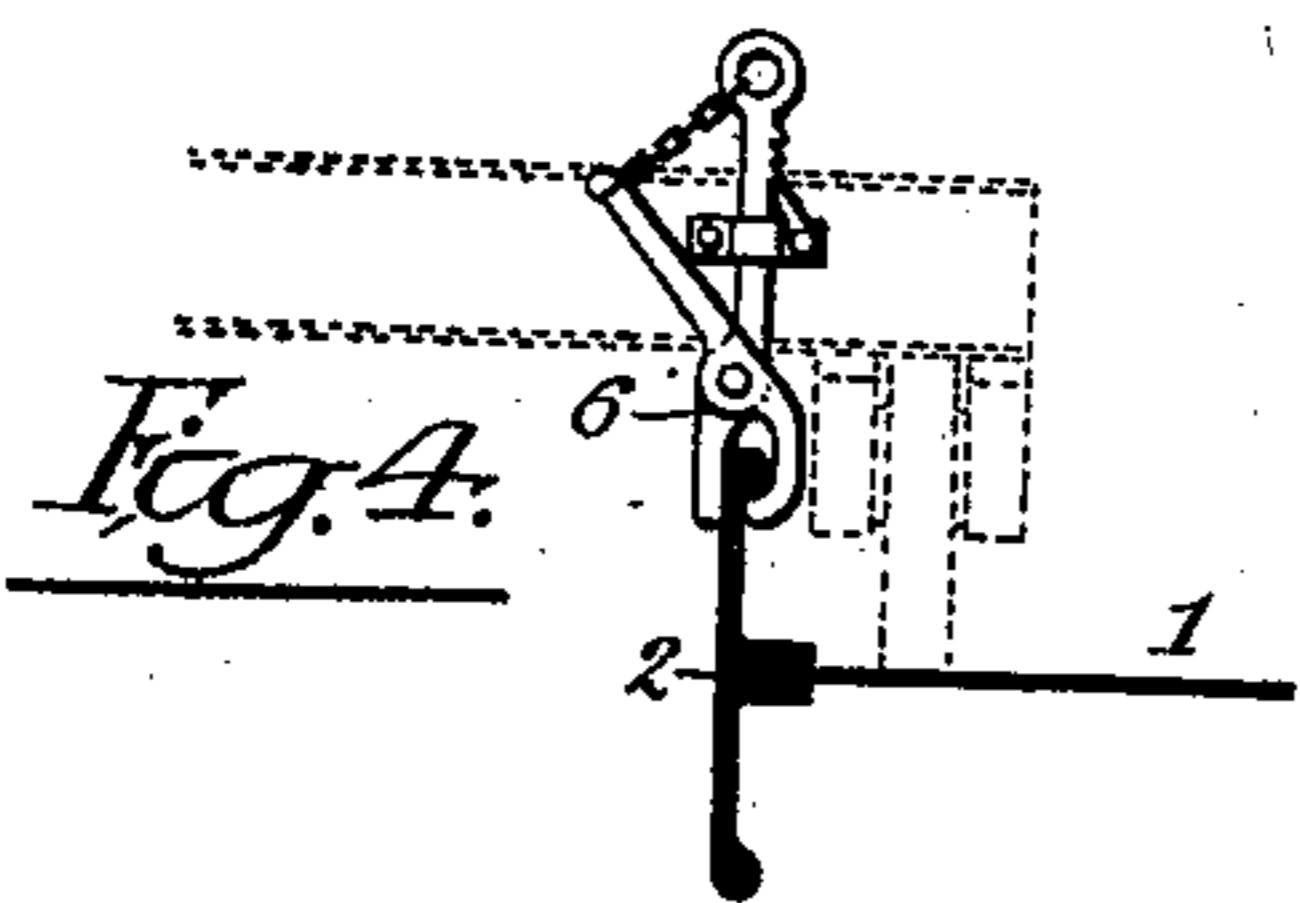
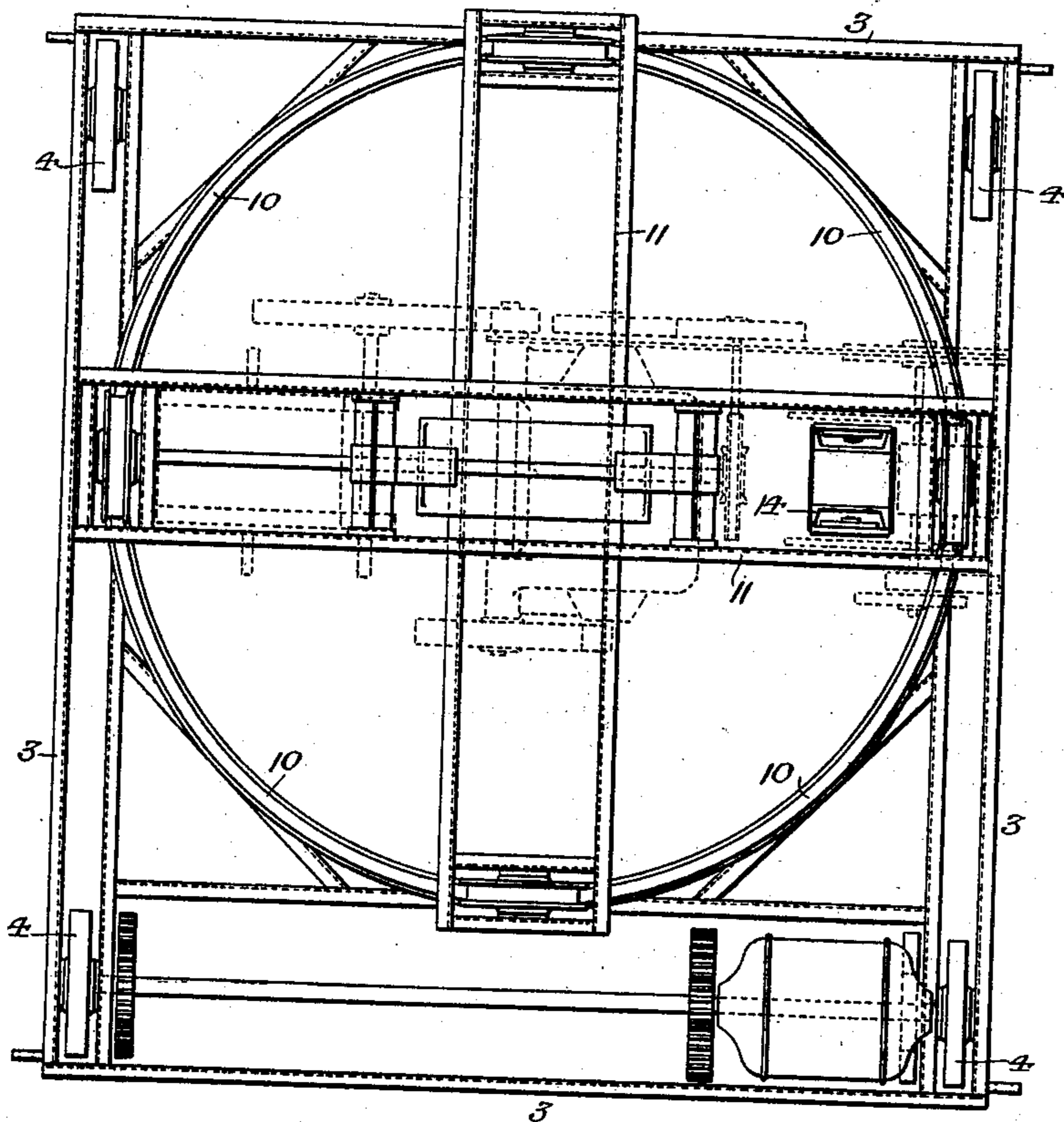
MECHANISM FOR GATHERING BULK CARGOES BENEATH HATCHES.

APPLICATION FILED JAN. 2, 1903.

NO MODEL.

3 SHEETS—SHEET 2.

Fig. 2.



Witnesses:-

Norman E. Watkins.

Frank L. Gahane.

by their Attorneys:

Inventors:-

Charles H. Wellman,

James E. A. Moore,

Howson & Howson

No. 762,785.

PATENTED JUNE 14, 1904.

C. H. WELLMAN & J. E. A. MOORE.

MECHANISM FOR GATHERING BULK CARGOES BENEATH HATCHES.

APPLICATION FILED JAN. 2, 1903.

NO MODEL.

3 SHEETS—SHEET 3.

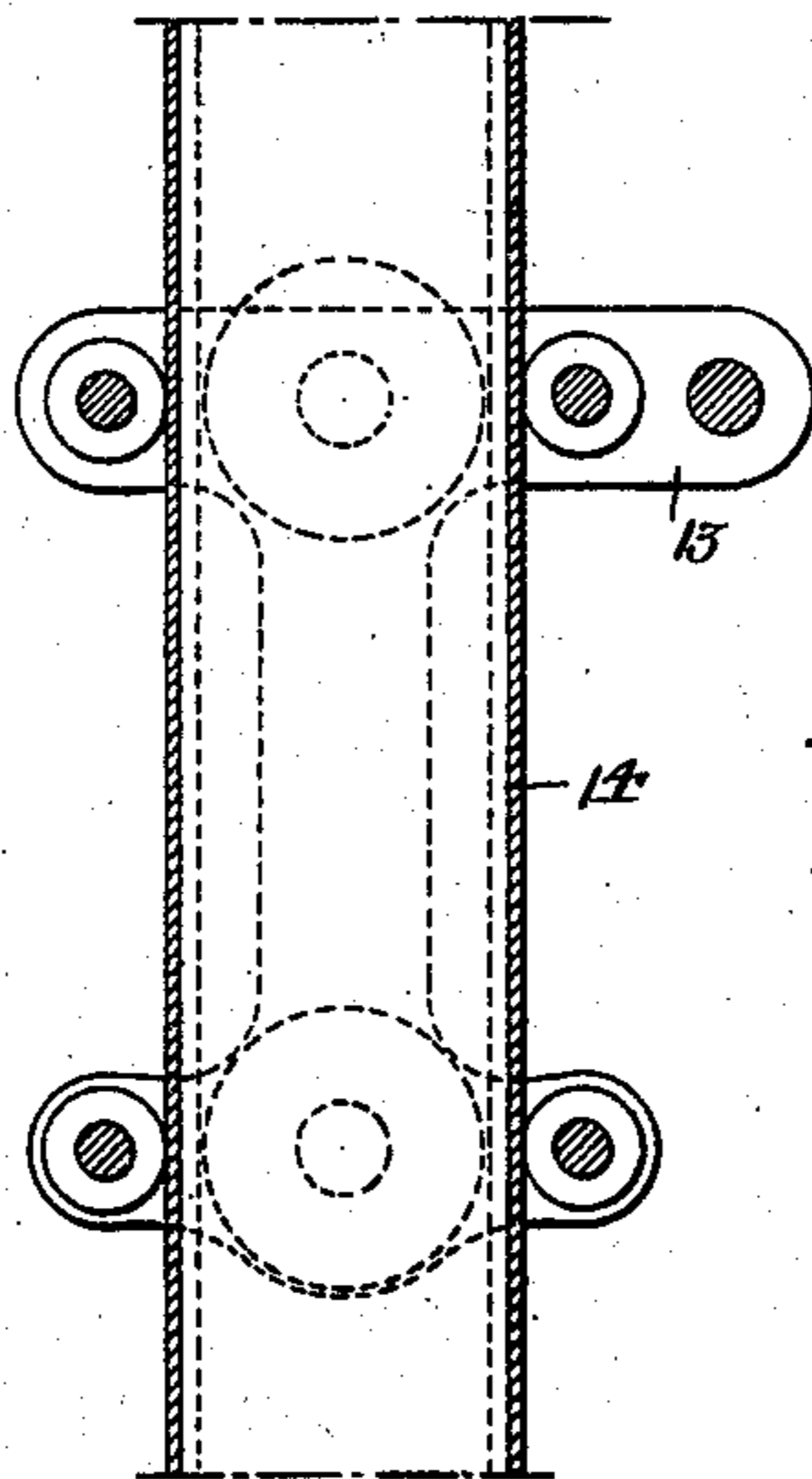


Fig. 7.

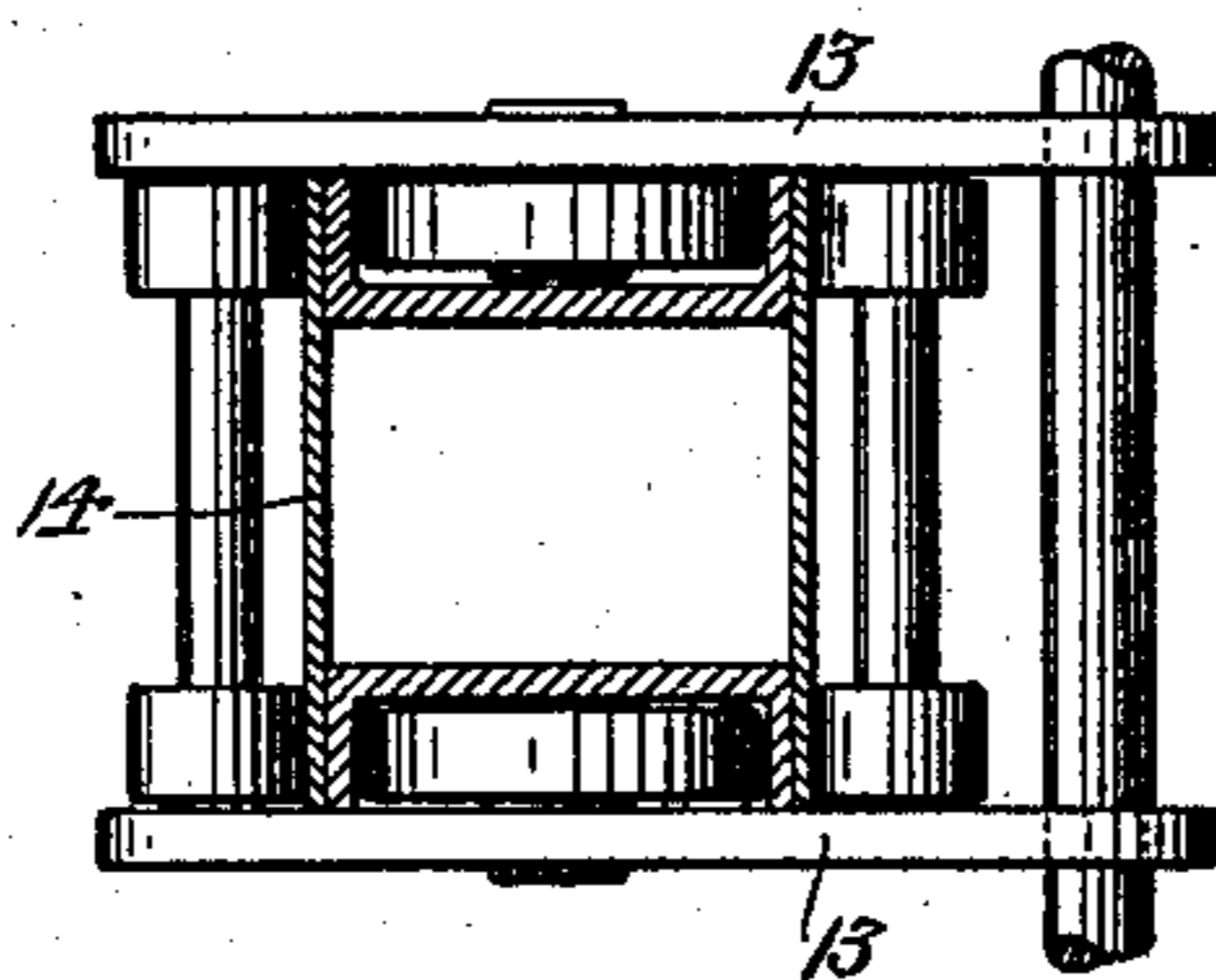


Fig. 8.

Witnesses:-

Augustus B. Coppes
Norman E. Melius

Inventors:-

Charles H. Wellman,

James E. A. Moore,

by their Attorneys:

Howson & Howson

UNITED STATES PATENT OFFICE.

CHARLES H. WELLMAN AND JAMES E. A. MOORE, OF CLEVELAND, OHIO,
ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE WELLMAN-SEEVER-
MORGAN COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

MECHANISM FOR GATHERING BULK CARGOES BENEATH HATCHES.

SPECIFICATION forming part of Letters Patent No. 762,785, dated June 14, 1904.

Application filed January 2, 1903. Serial No. 137,583. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. WELLMAN and JAMES E. A. MOORE, both citizens of the United States, and residents of Cleveland, Ohio, have invented certain Improvements in Mechanism for Gathering Bulk Cargoes Beneath Hatches, of which the following is a specification.

The object of our invention is to provide a mechanical device whereby coal, ore, or other granular material contained in the hold of a vessel can be drawn into position beneath a hatch, so that it can be raised from the hold by means of a grab-bucket or other hoisting device.

In the accompanying drawings, Figure 1 is a side elevation of a gathering device constructed in accordance with our invention. Fig. 2 is a plan view of the same with some of the parts omitted in order to show parts which would otherwise be hidden thereby. Fig. 3 is a side elevation illustrating a modification of one of the features of the invention. Figs. 4, 5, and 6 are views illustrating different methods of securing the device in place in the hatch, and Figs. 7 and 8 are respectively a vertical section and a plan view of part of the device on an enlarged scale.

In Fig. 1 part of the deck of a vessel is represented at 1 and the coaming of one of the hatches at 2. Spanning the hatch is a carriage 3, suitably mounted so as to traverse along the hatch and provided with means whereby it can be clamped in place in any desired position of adjustment. As shown in Fig. 1, the carriage is mounted upon wheels 4, running on the deck on each side of the hatch-coaming, and is clamped to said hatch-coaming by means of hooked bars 5; but various other means of holding the carriage in place may be adopted—for instance, in Fig. 4 we have illustrated a pair of gripping-tongs 6 engaging the bulb at the top of the hatch-coaming, while in Fig. 5 we have shown a magnet 7, intended to be held by magnetic attraction to the steel deck of the vessel, and in Fig. 6 we have shown a pair of clamping-jaws 8 engaging a rail 9, extending alongside

of the hatch, and which may also receive the wheels or rollers upon which the carriage is mounted. The carriage 3 has an annular rail 10, and upon the latter is mounted a turntable 11, which carries the hoe or scraper and the mechanism for operating the same. As shown in Fig. 1, said turn-table 11 has brackets 12, in which is pivotally mounted a swinging frame 13, and in the latter is vertically guided a beam 14, which can be raised and lowered in said swinging frame by means of a hoisting-rope 15, or a rack and pinion, or other suitable mechanism operated by a motor on the turntable. Projecting from the lower portion of this beam 14 is a bracket 16, and to the latter is pivoted at 17 an arm 18, which carries at its outer end the hoe or scraper 19, said arm 18 being counterweighted, as shown at 20, so that the hoe has a normal tendency to swing upwardly. Connected to the arm 18 in the rear of its pivot is a rope 21, which extends around a guide-sheave 22 on the beam 14, and thence to any suitable form of hauling mechanism mounted on the turn-table 11, and another rope 23 extends from a connection 24 on the beam to another hauling device mounted on the turn-table. It will therefore be seen that provision is afforded for moving the beam 14 from end to end of the hatch, for moving it throughout a half-circle at either end of the hatch, for moving it bodily in a vertical direction, for swinging the arm 18 vertically on its pivot 17, and also for swinging the beam 14 laterally on the pivot of the frame 13. Hence all needed facilities are provided for causing the hoe or scraper 19 to engage with the material in the hold of the vessel at any point within the range of projection of the arm 18 and to draw the same into position directly beneath the hatch, where it is accessible to a grab-bucket or other hoisting device operated through the hatch. In some cases the hoe may be mounted directly upon the beam or upon a rigid arm thereon; but it is preferable to mount it upon an independently-swinging arm, as shown. The arm 18 may, however, be pivoted directly to the lower end of the beam 14 at the point 26, as shown in Fig. 3,

and connected to a suitable hauling device by means of a rope 25, the counterweight 20 in this case being dispensed with and the hoe or scraper having a normal tendency to descend upon the load.

Of course many different forms of mechanism may be employed for operating the different hauling devices mounted upon the frame 11 and also for rotating the latter and for moving the carriage 3; but we prefer for this purpose gearing operated by electric motors, because of the facility with which power can be conveyed to the latter and the general convenience arising from their use.

Having thus described our invention, we claim and desire to secure by Letters Patent—

1. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted over the hatch, with a beam having a bracket pivotally mounted upon said structure so as to swing laterally, said beam extending down into the hold and being provided at its lower end with a hoe or scraper, substantially as specified.

2. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted over the hatch, with a beam pivotally mounted upon said structure so as to swing laterally, said beam extending down into the hold and being provided at its lower end with a laterally-projecting arm having rigidly fixed to it a hoe or scraper, substantially as specified.

3. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted over the hatch, with a beam pivotally mounted upon said structure so as to swing laterally, said beam extending down into the hold and being provided at its lower end with a pivoted, vertically-swinging, and laterally-projecting arm having rigidly fixed to it a hoe or scraper, substantially as specified.

4. In a mechanism for gathering bulk cargoes beneath a hatch, the combination of a structure mounted over the hatch with a beam pivotally mounted upon said structure so as to swing laterally, means for raising and lowering the beam in said pivoted mount and a hoe or scraper having a device to which it is rigidly fixed and which is permanently carried by the lower end of the beam, substantially as described.

5. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted over the hatch, with a beam pivotally mounted upon said structure so as to swing laterally, and means for raising and lowering the beam in said pivoted mount, said beam projecting down into the hold and having at the lower end a laterally-projecting arm provided with a hoe or scraper, substantially as specified.

6. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted over the hatch, with a beam piv-

otally mounted upon said structure so as to swing laterally, and means for raising and lowering the beam in said pivoted mount, said beam projecting down into the hold and having at the lower end a pivoted, vertically-swinging, and laterally-projecting arm provided with a hoe or scraper, substantially as specified.

7. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and having a rotatable turn-table thereon, and a beam pivoted to said turn-table so as to swing laterally, said beam projecting down into the hold and being provided at its lower end with a hoe or scraper, substantially as specified.

8. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and having a rotatable turn-table thereon, and a beam pivoted to said turn-table so as to swing laterally, said beam projecting down into the hold and being provided at its lower end with a laterally-projecting arm carrying a hoe or scraper, substantially as specified.

9. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and having a rotatable turn-table thereon, and a beam pivoted to said turn-table so as to swing laterally, said beam projecting down into the hold and being provided at its lower end with a pivoted, vertically-swinging and laterally-projecting arm carrying a hoe or scraper, substantially as specified.

10. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and having a rotatable turn-table thereon, a beam pivotally mounted upon said turn-table so as to swing laterally, and means for raising and lowering said beam in its pivotal mount, said beam projecting down into the hold and having at its lower end a hoe or scraper, substantially as specified.

11. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and having a rotatable turn-table thereon, a beam pivotally mounted upon said turn-table so as to swing laterally, and means for raising and lowering said beam in its pivotal mount, said beam projecting down into the hold and having at its lower end a laterally-projecting arm provided with a hoe or scraper, substantially as specified.

12. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and having a rotatable turn-table thereon, a beam pivotally mounted upon said turn-table so as to swing laterally, and means for raising and lowering said beam in its pivotal mount, said beam projecting down into the hold and having at its lower end a pivoted, vertically-swinging, and

laterally-projecting arm provided with a hoe or scraper, substantially as specified.

13. In means for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and traversable along said hatch, and a beam pivotally mounted on said structure so as to swing laterally in respect thereto, said beam projecting down into the hold and being provided at its lower end with a hoe or scraper, substantially as specified.

14. In means for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and traversable along said hatch, and a beam pivotally mounted on said structure so as to swing laterally in respect thereto, said beam projecting down into the hold and being provided at its lower end with a laterally-projecting arm carrying a hoe or scraper, substantially as specified.

15. In means for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and traversable along said hatch, and a beam pivotally mounted on said structure so as to swing laterally in respect thereto, said beam projecting down into the hold and being provided at its lower end with a pivoted, vertically-swinging, and laterally-projecting arm provided with a hoe or scraper, substantially as specified.

16. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and traversable along the same, a beam pivotally mounted upon said structure so as to swing laterally in respect thereto, and means for raising and lowering the beam in such pivotal mount said beam extending down into the hold and being provided at its lower end with a hoe or scraper, substantially as specified.

17. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and traversable along the same, a beam pivotally mounted upon said structure so as to swing laterally in respect thereto, and means for raising and lowering the beam in such pivotal mount, said beam extending down into the hold and being provided at its lower end with a laterally-projecting arm carrying a hoe or scraper, substantially as specified.

18. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and traversable along the same, a beam pivotally mounted upon said structure so as to swing laterally in respect thereto, and means for raising and lowering the beam in such pivotal mount, said beam extending down into the hold and being provided at its lower end with a pivoted, vertically-swinging, and laterally-projecting arm provided with a hoe or scraper, substantially as specified.

19. In mechanism for gathering bulk cargo beneath a hatch, the combination of a struc-

ture mounted above the hatch and traversable along the same, a turn-table mounted in said structure so as to be rotatable about a vertical axis, and a beam pivotally mounted upon said turn-table so as to swing laterally in respect thereto, said beam extending down into the hold and being provided at its lower end with a hoe or scraper, substantially as specified.

20. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and traversable along the same, a turn-table mounted in said structure so as to be rotatable about a vertical axis, and a beam pivotally mounted upon said turn-table so as to swing laterally in respect thereto, said beam extending down into the hold and being provided at its lower end with a laterally-projecting arm carrying a hoe or scraper, substantially as specified.

21. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and traversable along the same, a turn-table mounted in said structure so as to be rotatable about a vertical axis, and a beam pivotally mounted upon said turn-table so as to swing laterally in respect thereto, said beam extending down into the hold and being provided at its lower end with a pivoted, vertically-swinging, and laterally-projecting arm provided with a hoe or scraper, substantially as specified.

22. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and traversable along the same, a turn-table mounted on said structure so as to be rotatable about a vertical axis, a beam pivotally mounted upon said turn-table so as to swing laterally in respect thereto, and means for raising and lowering the beam in its pivotal mount, said beam projecting down into the hold and being provided at its lower end with a hoe or scraper, substantially as specified.

23. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and traversable along the same, a turn-table mounted on said structure so as to be rotatable about a vertical axis, a beam pivotally mounted upon said turn-table so as to swing laterally in respect thereto, and means for raising and lowering the beam in its pivotal mount, said beam projecting down into the hold and being provided at its lower end with a laterally-projecting arm carrying a hoe or scraper, substantially as specified.

24. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch and traversable along the same, a turn-table mounted on said structure so as to be rotatable about a vertical axis, a beam pivotally mounted upon said turn-table so as to swing laterally in respect thereto, and means for raising and lowering the beam in its pivotal mount, said beam

projecting down into the hold and being provided at its lower end with a pivoted, vertically-swinging, and laterally-projecting arm provided with a hoe or scraper, substantially as specified.

25. In mechanism for gathering bulk cargo beneath a hatch, the combination of a beam projecting down into the hold and movable laterally in respect to the hatch, and a pivoted, vertically-swinging, and laterally-projecting arm mounted upon the lower end of said beam and carrying rigidly fixed to it a hoe or scraper, substantially as specified.

26. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch, a turn-table mounted on said structure so as to be rotatable about a vertical axis, a beam mounted upon said turn-table and projecting down into the hold, means for raising and lowering the beam, and a pivoted, vertically-swinging, and laterally-projecting arm mounted upon the

lower end of the beam, and carrying a hoe or scraper, substantially as specified.

27. In mechanism for gathering bulk cargo beneath a hatch, the combination of a structure mounted above the hatch, and traversable along the same, a turn-table mounted on said structure so as to be rotatable about a vertical axis, a beam mounted upon said turn-table and projecting down into the hold, means for raising and lowering said beam, and a pivoted, vertically-swinging, and laterally-projecting arm mounted upon the lower end of the beam and carrying a hoe or scraper, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHARLES H. WELLMAN.
JAMES E. A. MOORE.

Witnesses:

C. W. COMSTOCK,
GEO. HEER.