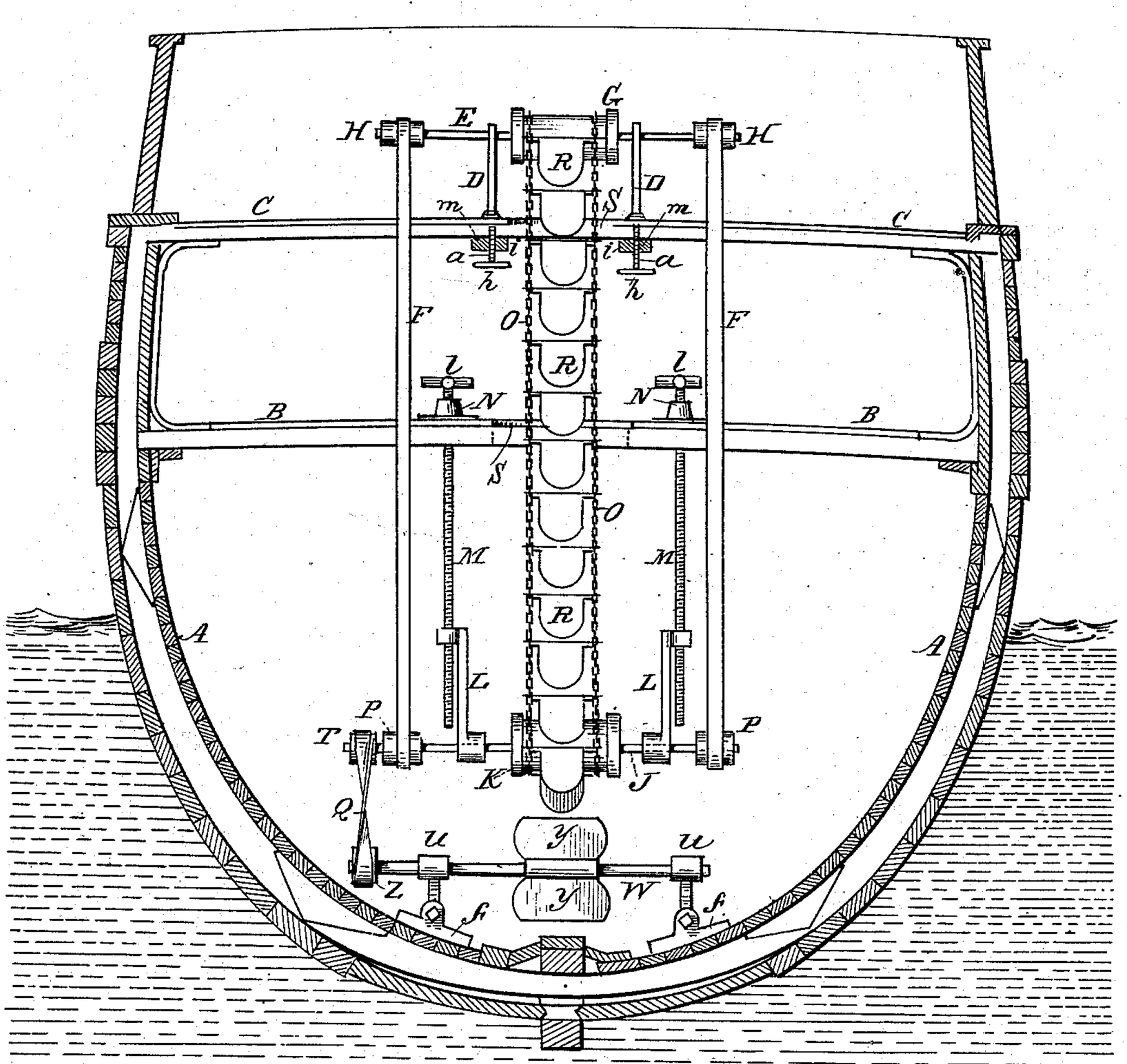
(No Model.)

A. BARDEEN.

GRAIN ELEVATOR.

No. 283,189. Patented Aug. 14, 1883.



Witnesses.
H. E. Wemick.
L. J. White.

Inventor.
Amy Bardeen,
Per C. C. Shaw.
Atty.

UNITED STATES PATENT OFFICE.

AMY BARDEEN, OF BLACKSTONE, MASSACHUSETTS.

GRAIN-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 283,189, dated August 14, 1883.

Application filed June 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, AMY BARDEEN, of Blackstone, in the county of Worcester, State of Massachusetts, have invented a certain new and useful Improvement in Grain-Elevators, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawing, forming a part of this specification, in which the figure is a vertical transverse section representing a ship or vessel provided with my improvement.

My invention relates more especially to that class of grain-elevators which are used on shipboard for removing grain from the hold of the vessel; and it consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a more effective device of this character is produced than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation, its extreme simplicity rendering an elaborate description unnecessary.

In the drawing, A represents the hold; B, the lower and C the upper deck of the vessel. Journaled horizontally in the standards D D on the deck C there is a shaft, E, provided with the centrally-arranged pulley G, and a pulley, H, at either end. A shaft, J, provided with a centrally-arranged pulley, K, and the pulleys P P, is journaled horizontally beneath the deck B in the lugs or arms L L, these arms being connected at their upper ends with the vertically-arranged screws M M, which work in corresponding nuts, N N, in the deck B. An endless belt, O, provided with buckets R, passes around the pulleys G K, being arranged to work through the openings S S in the decks B C. Disposed on the outer end of the shaft J there is a pulley, T, and journaled horizontally in the bearings U U there is a shaft, W, provided with a rotary shovel, Y, and pulley Z, said pulley being connected with the pulley T by the belt Q.

In the use of my improvement power is applied to the shaft E in the ordinary manner by means of an engine and pulley, (not shown,) causing said shaft to rotate and communicate motion through the belts F to the shaft J, and through the belt Q to the shaft W, causing the belt O and buckets R to traverse and elevate the grain from the hold of the vessel, in a manner which will be readily obvious without a more explicit description.

The object of the rotary shovel Y is to bring the grain into such a position in the hold of the vessel as to be readily taken up by the buckets R, and for that purpose it may be moved therein of the slides *f*, as desired, the belt Q being lengthened or shortened accordingly.

The standards D are provided beneath the deck C with screws *a*, which work in correspondingly-threaded holes in the interior of said standard. These screws are provided with fixed collets *m m*, secured on the deck-timbers *i i*, to prevent the screws from slipping vertically, so that when they are turned in or out by the wheels *h h*, secured to their lower ends, the standards D D will be depressed or raised accordingly.

At the commencement of the operation of discharging the vessel it will not be required to have the buckets R R enter the hold A to a great depth below the deck B, and therefore the wheels *h* on the lower ends of the screws *a* are turned to elevate the standards D and the wheels *l* on the upper ends of the screws M to elevate the tugs L to bring the buckets into the desired position.

Instead of one of the rotary shovels Y, the shaft J may be provided with other pulleys and belts, and several of said shovels operated at the same time in different parts of the hold to bring the grain into proper position to be taken up by the buckets R.

It will be obvious that by means of the screws M *a* the elevator may be vertically adjusted to any desired height. It will also be understood that proper hatchways or apertures are to be provided in the decks to enable the belts F O to be properly worked.

Having thus explained my invention, what I claim is—

1. The improved grain-elevator herein described, the same consisting of the shaft E, provided with the pulleys H G, the shaft J, provided with the pulleys K P, the lugs L, provided with the screws M and wheels *l*, the standards D, provided with the screws *a* and

wheels *h*, the belt O, provided with the buckets R, and the belts F, constructed, combined, and arranged to operate substantially as set forth.

2. In a device for removing grain from the hold of a vessel, the shaft E, provided with the pulleys H G, the shaft J, provided with the pulleys K P, the lugs L, provided with the screws M and wheels *l*, the standards D, provided with the screws *a* and wheels *h*, the belt O, provided with the buckets R, the shaft W, standards U, slides *f*, shovel Y, pulley Z, and belts Q F, all constructed, combined, and arranged to operate substantially as and for the purpose specified.

AMY BARDEEN.

Witnesses:
JOHN CUSICK,
JOHN FENTON.