

# J. T. Parlour, Grain Conveyer.

N<sup>o</sup> 54,822.

Patented May 15, 1866.

Fig. 3.

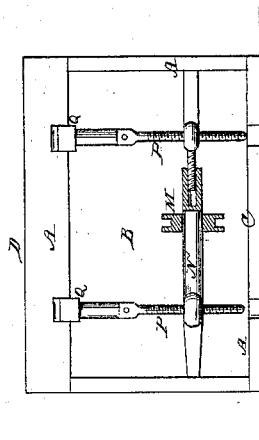


Fig. 1.

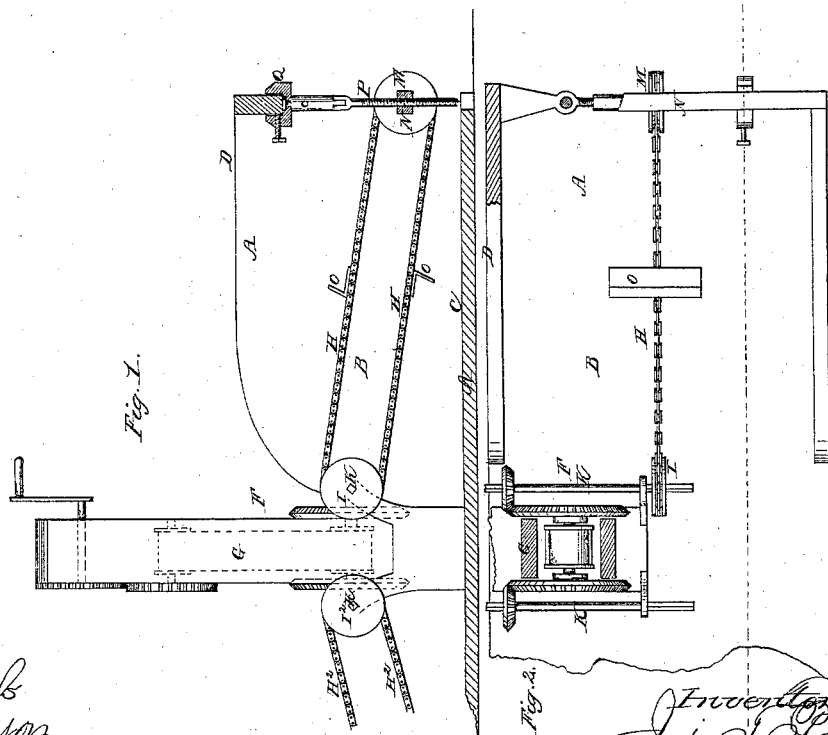


Fig. 2.

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JOSEPH T. PARLOUR, OF BUFFALO, NEW YORK, ASSIGNOR TO HIMSELF  
AND JAMES DEAN, OF SAME PLACE.

## IMPROVEMENT IN GRAIN-ELEVATORS.

Specification forming part of Letters Patent No. 54,822, dated May 15, 1866.

*To all whom it may concern:*

Be it known that I, JOSEPH T. PARLOUR, of Buffalo, in the county of Erie and State of New York, have invented a new and Improved Arrangement for Shoveling Grain; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same.

The present invention relates to a novel arrangement of parts especially intended to be used on vessels in which grain is packed for transportation, the object of which is to automatically convey or shovel, as it were, the grain from all parts of the hold to the hatchway in which the elevator is arranged for hoisting, and thus discharging the grain from the vessel.

In accompanying plate of drawings my improved grain-shoveler, in connection with a portion of the hold of a vessel and the leg of the grain-elevator, is illustrated, Figure 1 being a vertical section through a portion of the hold of a vessel, showing the grain-shoveling arrangement in side elevation; Fig. 2, a plan or top view, and Fig. 3 an elevation of the inner end of the shoveling arrangement.

In the drawings the portion of the several figures marked with the letter A is intended for a vessel to which my improvements are applied, the space marked by the letter B representing one portion of its hold, C being the floor, D the position of the deck, and F the hatchway of the same leading down into the hold. In this hold, when a vessel is to be laden with grain, the grain is placed, and from which it is taken, after the vessel has reached its destination, through the hatchway by means of any of the well-known "grain-elevators," so called, the leg G of which is shown in the drawings in elevation; and as the elevator may be of any of the ordinary constructions, it forming no part of the present invention, I do not deem it necessary to refer to it in any more particular manner than as above, my invention simply consisting in an arrangement for automatically conveying the grain from all parts of the hold to the hatchway, to be then taken by the elevator and discharged from the vessel, which arrangement and its connection with the elevator will be now described.

From the foot or lower end of the leg of the elevator, and extending therefrom in the direction of the length of the vessel, both aft and forward, or in only one of the two directions, and either upon one or both sides of the legs, but which, in the drawings, is shown in two directions, but upon the same side of the leg, are two endless belts or chains, H H<sup>2</sup>, each passing around, at one end, a separate pulley, I I<sup>2</sup>, respectively, of horizontal shafts K K<sup>2</sup>, turning in bearings of the foot of the elevator-leg, which shafts, through suitable gearing connecting them with the driving power of the grain-elevator, are made to revolve, the said chains H H<sup>2</sup>, at their other ends, (one of which, H, only is shown in the drawings, as a similar arrangement is used in each case,) passing around a loose pulley, M, of a fixed transverse shaft, N, of the vessel, properly supported therein. These chains H H<sup>2</sup> may be made of sufficient length to extend the entire distance from the hatchway, either fore or aft, as the case may be, to the farther end of the hold, or such portion of the same as contains the grain, or any desired portion of such distance, the number of links in the chains being, of course, more or less, according to the distance through which it passes, and there supported, passing over a suitable pulley, as before explained. At suitable points of these chains, and either equidistant or not from each other along their whole length, I secure a series of buckets, O O, that as the chains move the buckets will travel toward the elevator-leg in the position shown (and the direction of movement of the chains being as indicated by red arrows) in the drawings, the buckets being of such a shape that when so moved they will draw and carry along with them any article or articles (which, of course, in this case is the grain) in their plane of travel, whereby it is brought to the hatchway, or, in other words, to the elevator. By this means it is obvious that the grain is automatically conveyed to the elevator from any distance within the length of the endless bucket-chain, arranged and operating with regard to the elevator as above explained; and by having a series of these bucket-chains running in various directions in the hold of the vessel, (but arranged and operating as above ex-

plained for the chains H H<sup>2</sup>;) it is manifest the delivery of the grain from all parts of the hold can be accomplished with great rapidity and with great economy of manual labor, and consequently in the expense accompanying the same over the ordinary hand-shoveling as heretofore practiced. But, as is plain, the buckets of the chains must pass along and over the top surface of the grain in the vessel, consequently requiring the loose pulleys over which their outer ends pass (the elevator being the center point of the various chains) to be hung at the proper elevations in the hold. But, furthermore, as the height of the grain in the hold lowers its conveyance to the elevator through the bucket-chains, as explained, it is obvious, would soon cease unless the chains are so hung as to fall with or be susceptible of adjustment with regard to this lowering of the grain in the hold, and to render them thus adjustable I arrange the shaft N, upon which the pulley of the outer end of the chains turn, in such a manner that it can be raised or lowered according as may be desired, as plainly shown in Fig. 3, which consists in the use of two upright screw-shafts, P P, screwing through the said horizontal pulley-shaft turning in the floor of the hold at their lower ends, but at their upper ends in similar clamps Q Q, by which they are secured to any of the beams of the vessel, whereby, as is obvious, by properly turning the said screw-shafts the pulley-shaft will be raised or lowered. But in lieu of arranging this pulley-shaft N, placed with regard to the elevator as explained, so that it will be necessary to lower it as the height of the grain decreases, it can be arranged so as to play loosely upon the upright shafts P P, before referred to, and thus by its own weight

and the parts connected thereto fall with the grain, which, it is obvious, in many respects would be the most advantageous. But I do not intend to limit myself to either one or the other mode described of arranging such shaft, as both will answer the purpose, it being, of course, here understood that by the ordinary arrangement of the elevator-leg it falls with the grain in the hold, consequently carrying the chain-pulleys of its shafts K' and K<sup>2</sup>, hereinbefore referred to, down with it.

As the outer pulleys of the bucket-chains are loose upon their shafts, it is obvious they can be moved either to the right or left thereon, if so desired, and thus the movement of the buckets made to embrace the entire width of the hold, or any portion of the same, and the same may be also said of the chain-pulleys at the elevator; but in this case their shafts must be square shaped, or otherwise the pulleys would not turn with them.

It may be here remarked, in conclusion, that the chain-buckets may be made of various shapes other than that shown in the drawings, and yet accomplish the object of their use, and therefore I do not intend to limit myself to any one particular form of buckets.

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

The adjustable linged screw-clamps P, when used for the purpose of holding the endless bucket-chain, constructed and arranged as herein described.

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Witnesses:

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