No. 760,015. PATENTED MAY 17, 1904.

F. E. PARKER.

STOREHOUSE CONVEYER FOR GRAIN, &c.

APPLICATION FILED NOV. 27, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

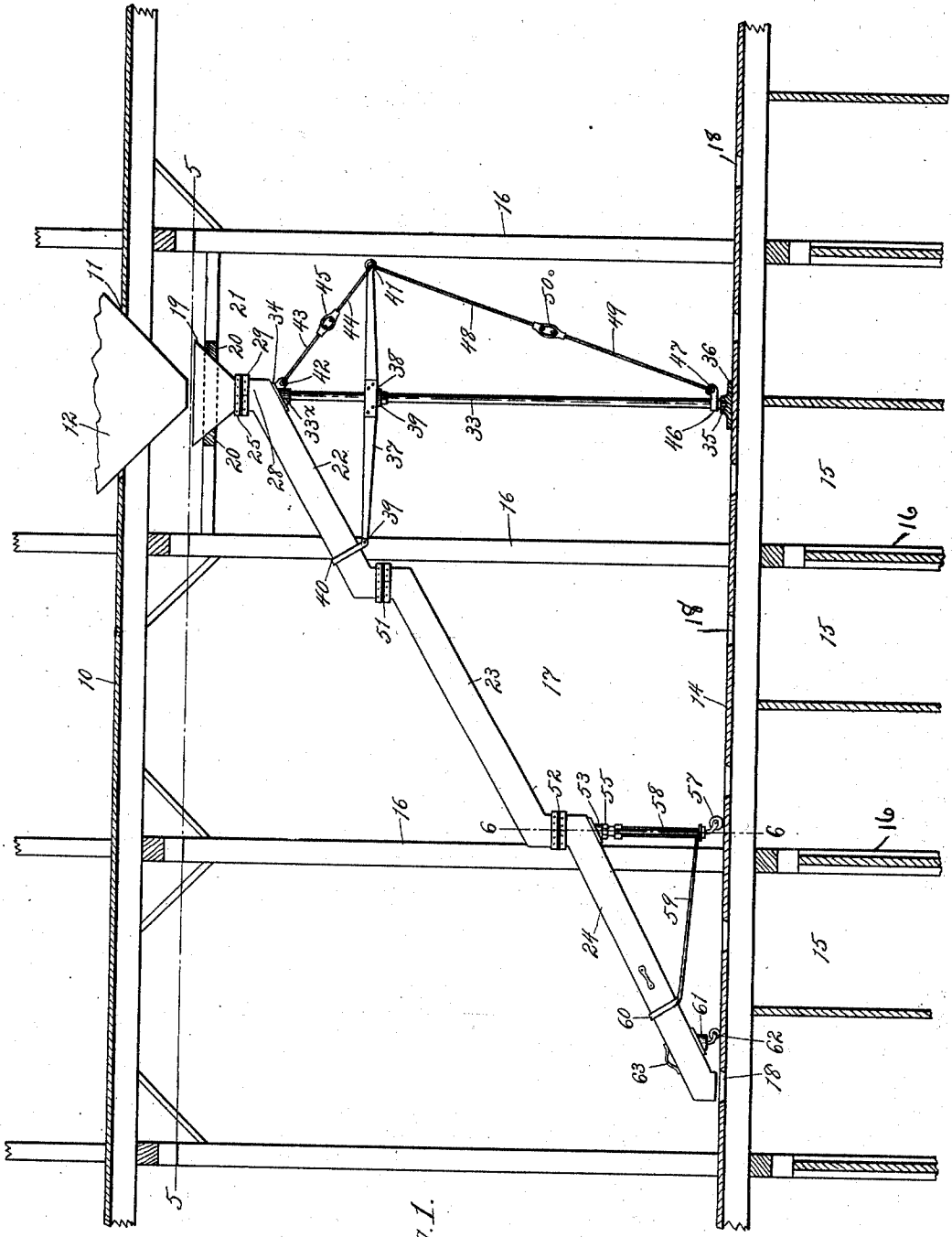


Fig. 1.

WITNESSES:

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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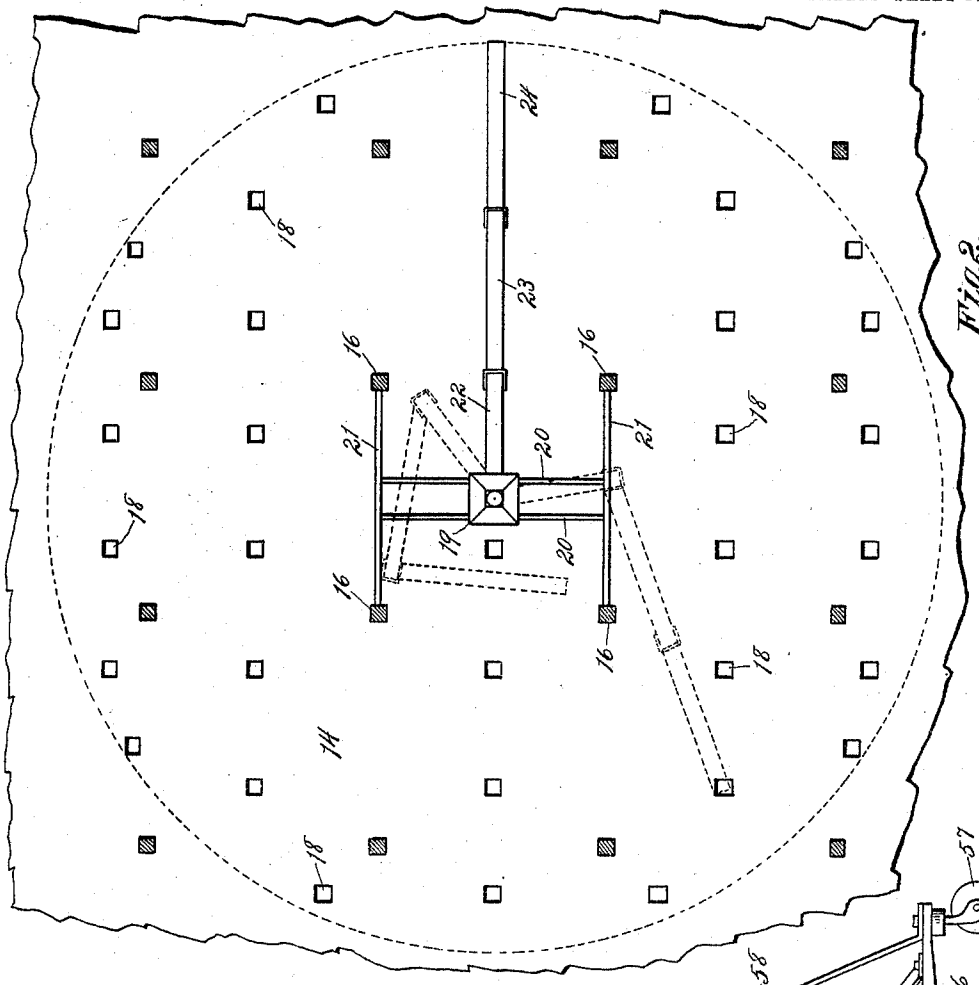


Fig. 2.

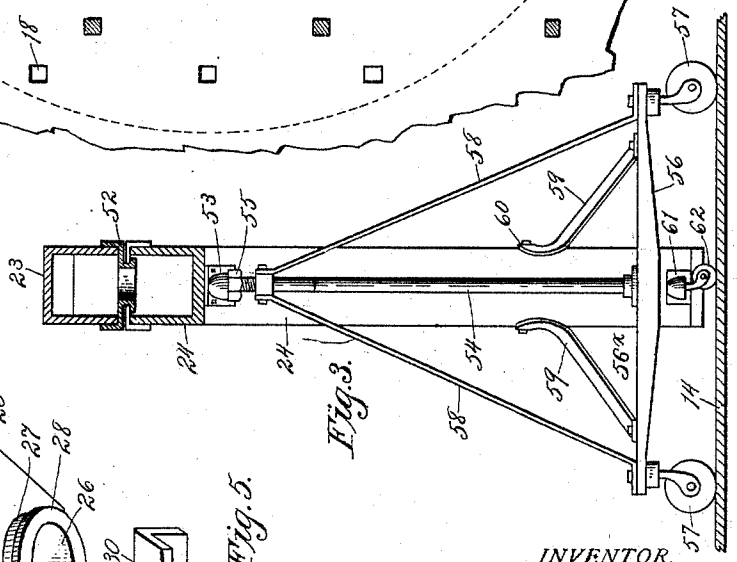


Fig. 3.

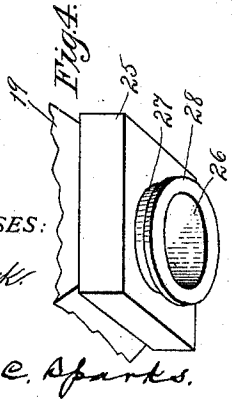


Fig. 4.

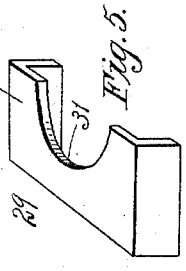


Fig. 5.

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No. 760,015. Patented May 17, 1904.

UNITED STATES PATENT OFFICE.

FRANCIS E. PARKER, OF KANSAS CITY, MISSOURI, ASSIGNOR OF ONE-HALF TO JAMES C. MURPHY, OF KANSAS CITY, MISSOURI.

STOREHOUSE-CONVEYER FOR GRAIN, &c.

SPECIFICATION forming part of Letters Patent No. 760,015, dated May 17, 1904.

Application filed November 27, 1903. Serial No. 182,855. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS E. PARKER, a citizen of the United States of America, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Storehouse-Conveyers for Grain, &c.; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of my invention is to distribute by gravity the stored grain from the garner-floor of a storehouse to the various bins below and deploy the discharging end of the distributer within circles in the bays of the storehouse and from any point in the radius of a circle from its receiving end to support and adjust the separate portions of the distributer in position.

The invention consists in the novel construction and combination of parts, such as will be first fully described and then specifically pointed out in the claims.

In the drawings, Figure 1 is a view in vertical section of a portion of a storehouse for grain, showing separate garner and distributing floors, the hopper leading from the stored grain in the upper floor, the novel grain-distributer and its discharging end above the openings in the lower floor leading to one of the various bins. Fig. 2 is a horizontal sectional view taken upon the line 5 5 of Fig. 1. Fig. 3 is a rear view of the carriage supporting the lower discharging-section of the distributer, showing the adjusting devices, also showing a vertical section of the distributer through the joint of the connected parts, taken on the line 6 6 of Fig. 1. Figs. 4 and 5 are detail views of the castings forming the rotative joint at the ends of the spout-sections.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

Referring to the drawings, 10 represents the upper or garner floor of the storehouse from which the grain is distributed. In the floor 10 is an opening 11, through which extends a short distance the lower end of a hopper 12. Beneath the floor 10 is a floor 14, and beneath the floor 14 are the series of bins 15. The floors 10 and 14 are supported by columns or standards 16, arranged in a vertical position one above another and at equal distances apart in the longitudinal and transverse directions of the storehouse, the rectangular spaces or bays 17 between the columns being directly above two or more bins below the floor 14, and in the floor 14 within each bay 17 are separate openings 18 18, each above and leading to a bin 15.

Near the under side of the floor 10 and beneath the lower end of the hopper 12 is a hopper 19. This hopper is supported by the horizontal bars 20 20, which extend upon opposite sides and retain the hopper in a fixed position, the ends of the bars 20 20 being connected rigidly with the bars 21 21 extending at right angles thereto and secured to the standards 16 16.

The novel grain-distributer comprises the jointed sections or spouts 22, 23, and 24, which have rotative and pivotal bearings, as hereinafter described, and each spout is rectangular in cross-section. The spout-section 22, which is directly beneath the hopper 19, is preferably short in length, so as to permit of a movement in a circle at its lower end within the space or bay between the column 16, supporting the hopper 19, and from which the hopper is equidistant. At the lower end of the hopper 19 is secured a rectangular-shaped casting or box 25, extending around the lower end of the spout, in which is an opening 26, as seen in Fig. 4. Upon the under side of the casting and extending around the opening 26 is a collar 27, upon the lower edge of which is an annular outwardly-extending flange 28, which forms the upper portion of the spout-joint. The upper end of the spout-section 22 is bent upwardly at an angle thereto, as at 28, and upon the outer side of said portion 28 is secured a casting or box 29, divided transversely into two parts, one of which parts is seen in Fig. 5, the top 30 being provided with a semi-circular opening 31, which fits part way around

the collar 27 of the box 25 and forms the rotative suspension-joint for the upper end of the spout-section. Supporting the under side of the upper end of the spout-section 22 is a vertical rod 33, the upper end of which is square and extends within a socket 33× upon a cap-plate 34, secured to the spout. The lower end of the rod is reduced circumferentially in size to form a pivot 35, which is stepped in the bearing 36 upon the upper surface of the floor 14.

Upon the rod 33 a short distance below the upper end of rod 33 is a horizontal cantaliver 37, which is clamped to the rod by a strap 38 on the side of the beam extending over the rod. The cantaliver is supported by a fixed collar 39 on the rod beneath the strap 38. The longer arm of the cantaliver extends in the direction of the lower end of the spout-section 22 and is secured by a rivet 39 to the connected ends of a band 40, extending around said spout-section. The shorter end of the cantaliver extending from the rod is provided with an eye 41. Upon the cap-plate 34 is cast an eye 42. With the eyes 41 and 42 are connected the outer ends of separate adjusting truss-rods 43 44, the inner ends of which are provided with right and left hand screw-threads, which extend within a threaded link 45. Upon the lower end of the rod 33 is a clasp 46, in which is an eye 47. With the eye 41 on the cantaliver and the eye 47 is connected the outer ends of the separate truss-rods 48 and 49, the inner ends being connected with the adjusting-link 50, which is the same as link 45.

The lower end of spout-section 22 is bent downwardly and the upper end of the intermediate spout-section 23 bent upwardly, and these ends are connected by rotative joint 51, which is precisely the same as the joints 25 and 29. The lower end of spout-section 23 is bent downwardly, and with this end is connected the upwardly-bent upper end of the lower spout-section 24 by means of a rotative suspension-joint 52, which is the same in construction as the joints 51.

Upon the under side of the rear end of the spout-section 24 is secured a socket-plate 53, within which extends loosely the screw-threaded upper end of a supporting-rod 54. Upon the screw-threaded end of said rod is an adjusting-nut 55. The lower end of the rod 54 extends downwardly and is connected rigidly with the horizontal beam 56 of the carriage 56*, at each end of which beam are the rotatable caster-wheels 57 57, which are movable over the floor 14. With the outer ends of the beam 56 are connected the lower ends of the brace-rods 58, the upper ends of which rods are rigidly connected with the upper end of the rod 54 below the screw-threaded portion. With the beam 56 are connected the rear ends of brace-bars 59, the forward ends of which bars extend in the direction of the lower end of the spout-section 24 and are connected with the ends of a strap 60, which extends over the upper side of the spout-section.

Upon the under side and near the forward end of the spout-section 24 is a socket-plate and socket 61, in which the caster-wheel 62 is mounted and which retains the downwardly-bent lower end of the spout-section the requisite distance above the surface of the floor. Upon the said section of the spout are handles 63.

The grain in the hopper upon the garner-floor 10 is fed from the hopper 12 and thence to the hopper 19. The distribution of the grain to any one of the bins 15 through the spout-sections 22 23 24 and any of the openings 18 in the floor 14 is obviously within the reach of the discharging end of the lower spout-section 24 without any inconvenience from the columns 16 within the circuit of the distributer. This result is obtained by the carriage 56× acting as the pivot for the jointed ends of the spout-sections 23 and 24 to effect rotation and also effecting the withdrawal of the spout-sections within the space or bay in which the hopper is located, and thence deploying the spout-section forward in any direction in the circle to effect conjunction with either end of the openings in the floor 14. In these movements the intermediate spout-section 23 affords a capability of movement independent of the other spout-sections, which conduces to rapid change of positions and obviously as suspended so admit of freedom of movement. The rapid passage of the grain through the spout-sections, which has a tendency to cause vibration, is counteracted by the cantaliver 37, and any slight inaccuracy in position of the spout-section is readily corrected by the adjusting-links 45 and 50 on the truss-rods 44 and 48, which latter rods prevent buckling of the vertical rod 33. Should the position of the rear end of the spout-section 24 require adjustment, to prevent binding of the joint 52 the nut 55 may be turned so as to effect the adjustment the nut ordinarily supporting the weight of the jointed spout-sections 23 and 24.

The invention is applicable to the distribution of material of various kinds, it being observed that in large storehouses one distributer accomplishes the spouting of large quantities of cereals of various kinds into separate and distinct bins in an expeditious manner.

Such modifications may be employed as are within the scope of the invention.

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

1. In a distributer for grain, &c., the combination with a hopper, of a distributing-spout and a rotative joint connecting the spout with the hopper, a pivoted supporting-rod beneath the upper end of the spout, a cantaliver on the said rod supporting at one end the forward end of the spout and adjustable truss-rods on

said supporting-rod connected with the other end of the cantaliver.

2. The combination with an elevated hopper, of a distributing-spout for grain, &c., having upper and lower and intermediate sectional parts, rotative suspension-joints connecting the contiguous ends of the separate parts of the spout with each other and also with the said hopper, a traveling support for the jointed ends of the lower and intermediate sectional parts of the spout, and means for raising and lowering said parts upon said support.

3. The combination with an elevated hopper, of a distributing-spout having upper and lower and intermediate sectional parts, rotative suspension-joints connecting the contiguous ends of the separate parts of the spout with each other and also with said hopper, a carriage beneath the jointed ends of the lower and intermediate sectional parts of the spout, a rod connected with the carriage and supporting said jointed ends of the spout, and a traveling support for the lower discharging end of the lower sectional part of the distributing-spout.

4. The combination with a distributing-spout for grain, &c., having sectional distributing parts, and the ends of each sectional part bent in opposite directions, of a boxing for each bent portion of the ends of said part, and rotative suspension-joints upon the boxing connecting the ends of the sectional parts of the spout.

FRANCIS E. PARKER.

Witnesses:

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ALBERT C. STOWELL.