No. 771,746. PATENTED OCT. 4, 1904.

W. PETERS.

FEEDER FOR CORN SHELLERS.

APPLICATION FILED JAN. 12, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

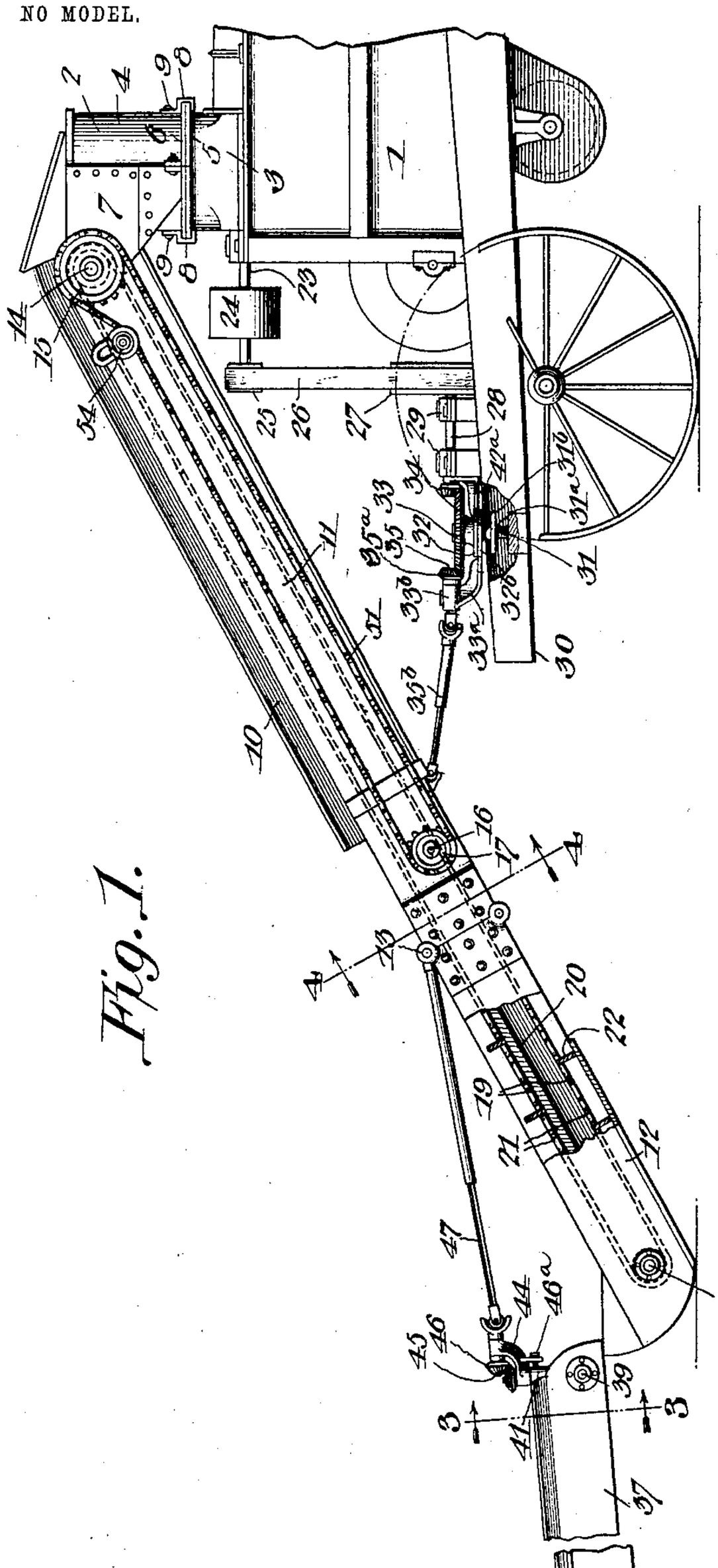
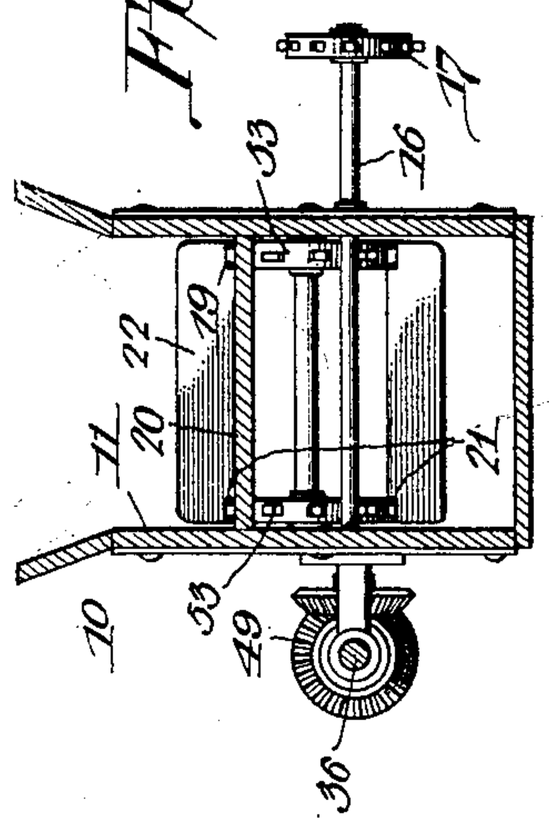


Fig. 4.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

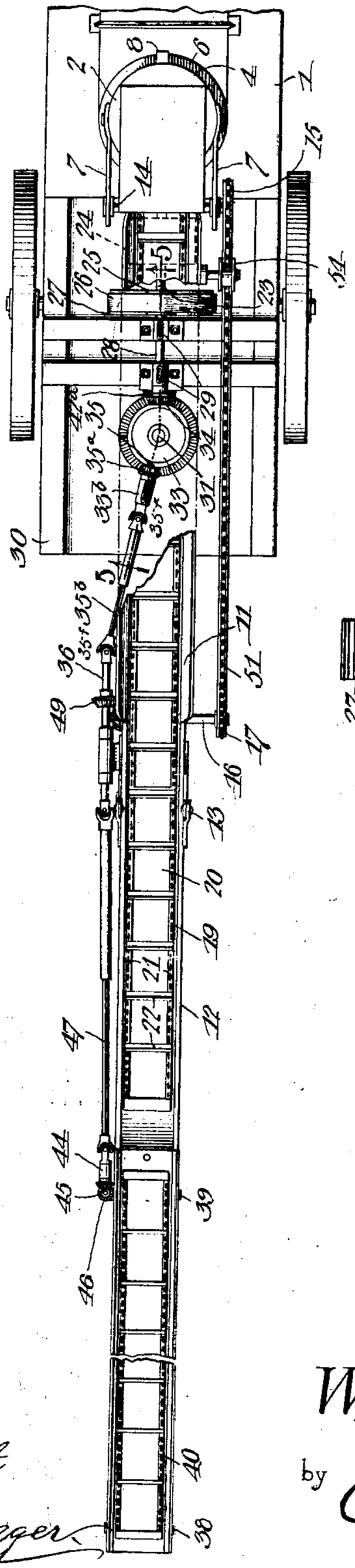


Fig. 3.

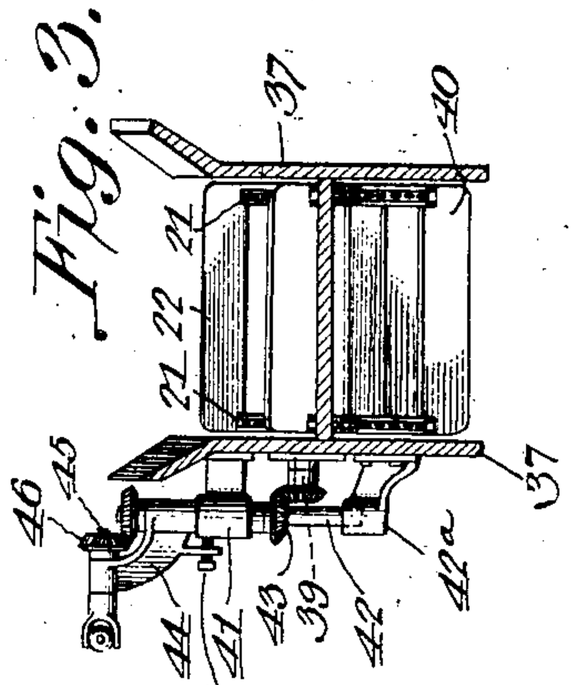
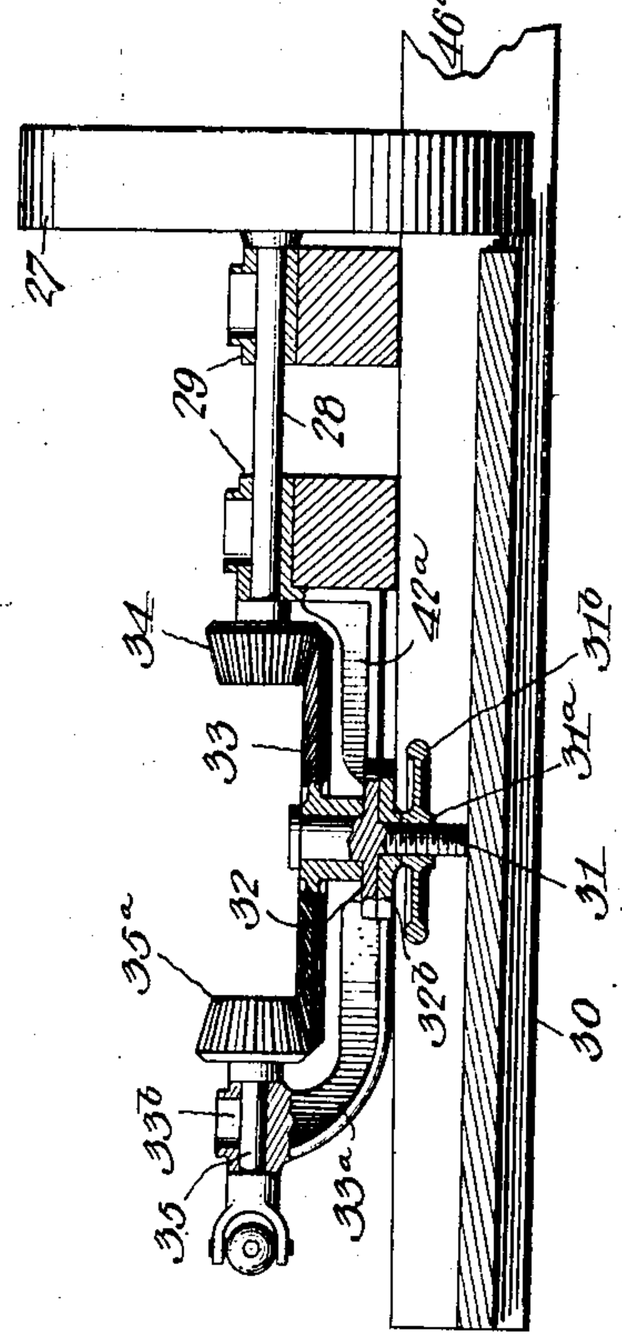


Fig. 5.



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No. 771,746. Patented October 4, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM PETERS, OF MELVIN, ILLINOIS.

FEEDER FOR CORN-SHELLERS.

SPECIFICATION forming part of Letters Patent No. 771,746, dated October 4, 1904.

Application filed January 12, 1904. Serial No. 188,716. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PETERS, a citizen of the United States, residing at Melvin, in the county of Ford and State of Illinois, have invented a new and useful Feeder for Corn-Shellers, of which the following is a specification.

This invention relates to feeders for corn-shellers and kindred machinery; and it has for its object to provide a feed mechanism which shall be capable of being adjusted with relation to the source of supply either laterally or vertically in such a manner that the most convenient adjustment may at all times be attained in the simplest and easiest manner.

With these and other ends in view my invention consists in the improved construction, arrangement, and combination of parts to be hereinafter described, whereby a feed mechanism shall be produced possessing superior advantages in point of simplicity, durability, and general efficiency.

In the accompanying drawings I have shown a simple and preferred construction of my invention, it being understood that changes may be made as to size, proportion, and exact manner of assemblage of the component parts without departing from the scope of my invention.

In said drawings, Figure 1 is a side elevation, partly in section, showing the front end of a corn-shelling machine to which my invention has been applied in operative position. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical sectional view taken on the line 3 3 in Fig. 1. Fig. 4 is a transverse sectional view taken on the line 4 4 in Fig. 1. Fig. 5 is a sectional view taken on the line 5 5 in Fig. 2.

Corresponding parts in the several figures are indicated by similar numerals.

The front portion of the corn-shelling machine, which is designated 1, supports a hopper 2, which is composed of a lower and an upper member, (designated, respectively, 3 and 4.) The lower member 3 is fitted to the deck of the machine above the shelling-cylinder and is provided at its upper edge with an annular flange 5, coöperating with a similar flange 6 at the lower edge of the upper portion of the hopper, the body of which is mainly cylindrical, but is provided at its receiving end with forwardly-extending side walls 7. The flanges 5 and 6 of the members 3 and 4 are connected revolubly by means of clamps 8, which may be of any desired construction. In the drawings these clamps have been shown as being connected with the upper hopper-section by means of bolts or screws 9, said clamping member being extended below the flange 5 of the lower member of the hopper; but I desire it to be understood that the sections or members constituting the hopper may be constructed and connected together in any suitable manner which shall admit of the upper member being rotated upon a vertical axis with relation to the lower member.

The invention includes an elevator 10, the trough of which is composed of two members 11 and 12, hingedly connected at 13, so that the lower member 12 when the machine is in transit or not in use may be folded upon the upper member, as will be readily understood. The upper end of the elevator trough or casing is connected with the rotary member 4 of the hopper by means of a transverse shaft 14, one end of which has a sprocket-wheel 15. The lower end of the upper member of the elevator-casing is provided with bearings for a shaft 16, carrying a sprocket-wheel 17. An additional shaft 18 is journaled in the sides of the lower member 12 of the elevator-casing at the lower or outer end of the latter. The shafts 14, 16, and 18 support an endless carrier 19, the upper and lower leads of which are separated by a partition 20, forming the floor of the trough. This endless carrier may be of any approved construction. In the drawings I have shown the same as consisting of chains 21, connected at intervals by cross pieces or slats 22. I desire it to be understood that any well-known form of endless carrier may be used in connection with my invention without departing from the spirit of the same, provided that the same shall be capable of being driven in the manner which will be presently described.

23 designates the cylinder-shaft or some other suitable shaft or the corn-sheller, which is provided with a driving-pulley 24, adapted

to receive motion from any suitable source of power. The shaft 23 also carries a pulley 25, which is connected, by means of a belt 26, with a pulley 27, mounted upon the front end of a shaft 28, which is journaled in bearings 29 upon a platform 30, which extends in front of the casing of the sheller. The platform 30 supports a stud 31, which is screw-threaded at its lower end and which is provided near its upper end with an annular flange or collar 32, above which a gear-wheel 33 is revolubly supported upon the said stud, which latter is disposed in front of and in alinement with the bearings 29 of the shaft 28, which latter carries a pinion 34, meshing with the said gear-wheel. The flange or collar 32 is fast upon the stud 31, and it is connected, by means of a brace 42^a, with one of the bearings 29. The screw-threaded portion of the stud 31 carries a clamping-nut 31^a, operable by a hand-wheel 31^b and bearing against the under side of a clamping-disk 32^b, which rotatively engages the stud below the fixed flange or collar 32, against which it may be clamped by means of the clamping-nut. The clamping-disk 32^b is provided with a laterally-extending arm 33^a, having a bearing 33^b, in which is journaled a short shaft-section 35, having a pinion 35^a, meshing with the gear-wheel 33, from which it receives motion. It will be seen that by loosening the clamping-nut the collar 32^b may be adjusted axially upon the supporting-stud, so as to cause the shaft 35, supported upon the arm extending from said collar, to radiate in any desired direction from the gear-wheel 33, it being secured at any desired adjustment by simply tightening the clamping-nut. The rear end of the shaft 35 is connected by knuckle-joints 35^f and a telescoping tumbling-rod 35^b with a short shaft-section 36, which is journaled in suitable bearings upon one side of the upper section of the elevator-trough near the lower end of said upper section. The shaft-section 36 is so disposed that its rear end shall be practically in axial alinement with the hinge-joint, which connects the members 11 and 12 of the elevator trough or casing.

37 designates a conveyer consisting of a suitable trough or casing provided at its ends with shafts 38 and 39, supporting an endless carrier 40, similar to the one in the elevator-casing. The shaft 39, which is at the front end of the conveyer, is extended at one side, and above it upon the side of the conveyer-casing is mounted a bracket 41, affording a bearing for a shaft 42, which is at right angles to the shaft 39, with which it is connected by bevel-gearing 43. A bracket 42^a, affording an additional bearing for the lower end of the shaft 42, is suitably secured upon the side of the conveyer-casing. Upon the shaft 42 above the bracket 41 is swiveled a movable bracket 44, in which is journaled another short shaft 45, which occupies a position at a suitable angle with relation to the shaft 42, with which it is connected by bevel-gearing 46. Clamping means 46^a are provided for the purpose of securing the swiveled bracket 44 in any position to which it may be adjusted with relation to the supporting-bracket 41. A telescoping tumbling-rod 47 connects the upper end of the shaft 45 with the rear end of the shaft-section 36. Motion is communicated to the shaft 16 from the shaft-section 36 by means of bevel-gearing 49. The front end of the conveyer 37 is in operation rested or supported upon the lower end of the lower elevator-section 12, as shown in the drawings, suitable means for connecting the parts being employed when desired.

The shaft 16 carries at one end thereof the sprocket-wheel 17, which is connected, by means of a chain 51, with the sprocket-wheel 15 upon the shaft 14 at the upper end of the elevator-casing and which connects said casing with the upper member 4 of the upper casing. The shaft 14 is provided with sprockets 53, engaging the chain of the endless carrier in the elevator-casing, to which motion is thus transmitted. A chain-tightener in the form of an adjustably-mounted pulley 54 is provided.

The operation of this invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. The elevator, as has been already described, is capable of swinging in a horizontal plane, and said elevator, having been adjusted to the most convenient point for feeding the conveyer, is placed in position to receive the material that is to be fed. This material may be transferred to the conveyer by means of a chute or dump, or it may be shoveled into or otherwise placed in the trough of the conveyer. When power is applied to the drive-shaft 23, motion will be transmitted, by means of the belt 26, to the shaft 28, which will be thereby rotated at the desired rate of speed. The tumbling-rods 35^b and 47 are made telescopic or extensible, as will be readily understood, to enable proper adjustment of the parts to be affected.

It will be seen that the shafts or shaft-sections 28, 33^b, 35^b, 36, 47, 45, and 42 coöperate to constitute a line-shaft which, owing to the presence of the numerous joints therein, may be flexed or bent in any direction, thus admitting of the adjustment, independently of each other or simultaneously, of the elevator-sections 11 and 12 in the conveyer 37. The conveyer 37, owing to the presence of the shaft 42, which is swiveled in the bracket 41, is capable of being adjusted horizontally independently of the elevator.

In the event of any obstruction either to the feeding mechanism or to the mechanism of the sheller or other machine to which my improved feeding mechanism is attached no breakage of any part is liable to occur, owing to the use of a belt 26 instead of a chain for

transmitting power from the shaft 23 to the shaft 28.

It will be readily understood that when the machine is at rest or in transit the various parts of my improved feeding mechanism may be readily folded together and the tumbling-rods 35[b] and 47, which form sections of the line-shaft, may be disconnected, so as to enable the members of the elevator-casing and the conveyer to be compactly folded.

Having thus described my invention, I claim—

1. In a device of the class described, an axially-movable hopper-casing, an elevator-casing connected hingedly with the same, a driven shaft including a plurality of flexibly and extensibly connected sections, a driven bevel-gear, a bracket mounted rotatably upon the axis of said bevel-gear and supporting a section of the driven shaft, a pinion upon said shaft-section meshing with the driven gear, supports upon the elevator-casing for one section of the flexible and extensible driven shaft, and means for transmitting motion from said supported shaft-section to the endless carrier constituting a part of the elevator.

2. In a device of the class described, an axially-movable hopper-casing, an elevator-casing connected hingedly with the same, a driven shaft comprising a plurality of flexibly-connected sections, permanent supports for the shaft-section which receives motion from the source of power, a gear-wheel mounted revolubly upon a stationary support meshing with a pinion upon the shaft-section which receives motion from the source of power, a support mounted rotatably upon the support of said gear-wheel and having a bearing, a shaft journaled in said bearing and having at one end a pinion meshing with said gear-wheel, said shaft constituting a member of the driven sectional shaft, and means for transmitting motion from one of the sections of said shaft to the endless carrier constituting a part of the elevator.

3. In a device of the class described, an axially-movable hopper-casing, an elevator connected hingedly with said hopper-casing and comprising a plurality of hingedly-connected sections, a driven shaft, comprising a plurality of flexibly-connected sections including telescoping tumbling-rods, a pinion upon the end of the section of the driven shaft nearest the source of power, a boxing for said shaft-section having a supporting-arm, a post revolubly supporting said arm, means for securing the latter in adjusted position, a gear-wheel journaled upon said post and meshing with the pinion upon the shaft-section mounted in the adjustable boxing, a counter-shaft deriving motion from the source of power, and a pinion upon said shaft meshing with the gear-wheel.

4. In a device of the class described, an axially-movable hopper, an elevator connected hingedly with the same, a post having a flange, a gear-wheel journaled upon the post above said flange, a collar mounted loosely upon the post below said flange and having a laterally-extending arm provided with a boxing or bearing, a shaft-section journaled in said bearing and having a pinion meshing with the gear-wheel, means for transmitting motion from said shaft to the elevator, means for clamping the collar against the flange upon the post, and means for transmitting motion to the gear-wheel from the source of power.

5. In a device of the class described, an axially-movable hopper, an elevator connected hingedly with the same, a post having a screw-threaded portion, a nut engaging said screw-threaded portion, a flange mounted upon the post above the screw-threaded portion, a collar adjustable upon the post between said flange and nut, a shaft-carrying arm extending from the adjustable collar, a brace connecting the flange with a stationary bearing, shaft-sections journaled in said stationary bearing and in the arm extending from the adjustable collar, pinions upon said shaft-sections, a gear-wheel journaled upon the post above the fixed flange and meshing with said pinions, means for transmitting motion from the shaft-section journaled in the arm extending from the adjustable collar to the elevator, and means for transmitting motion from the source of power to the shaft-section journaled in the stationary bearing.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM PETERS.

Witnesses:
WILLIAM J. ANDERSON,
THOS. UNDERWOOD.