

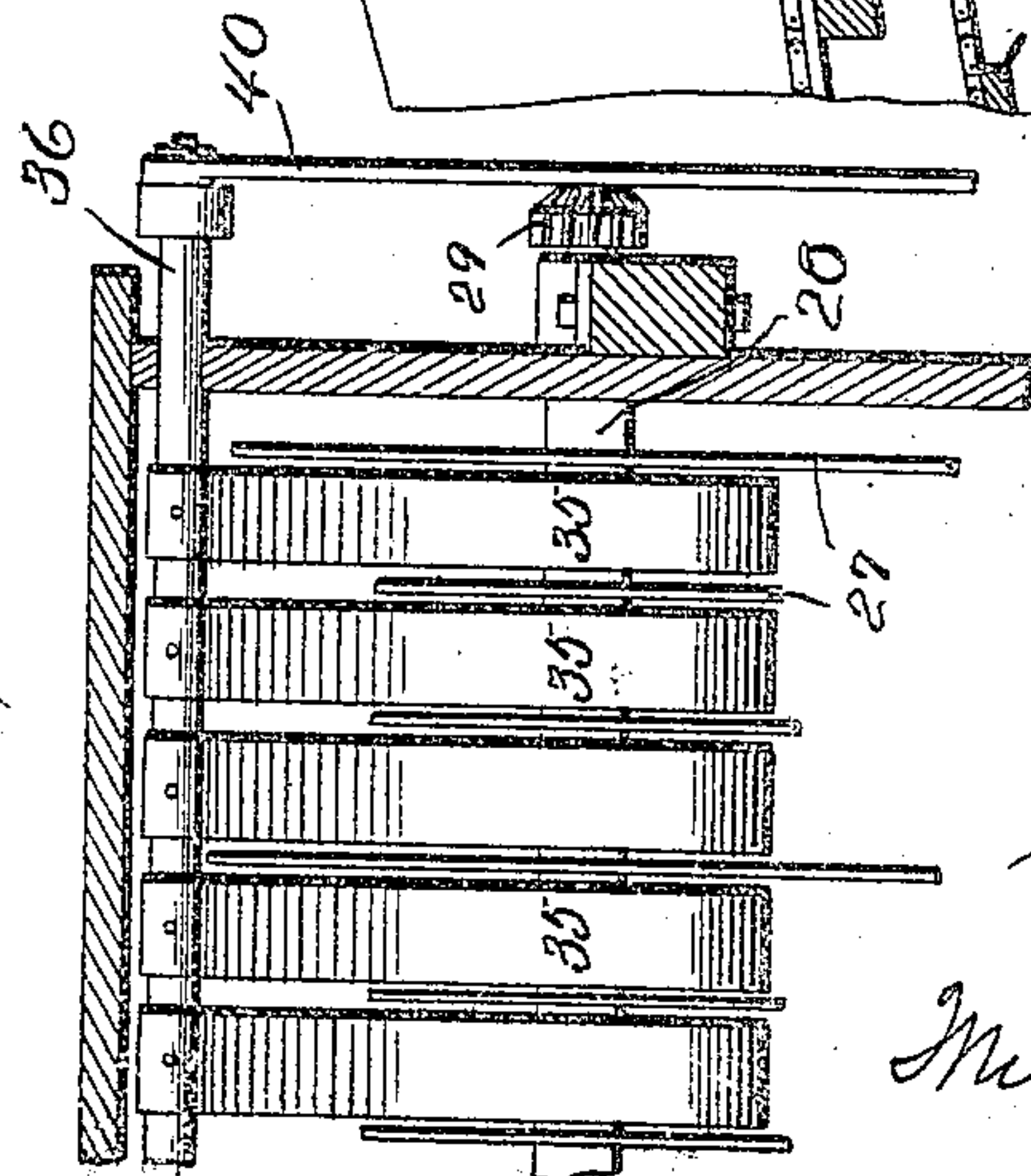
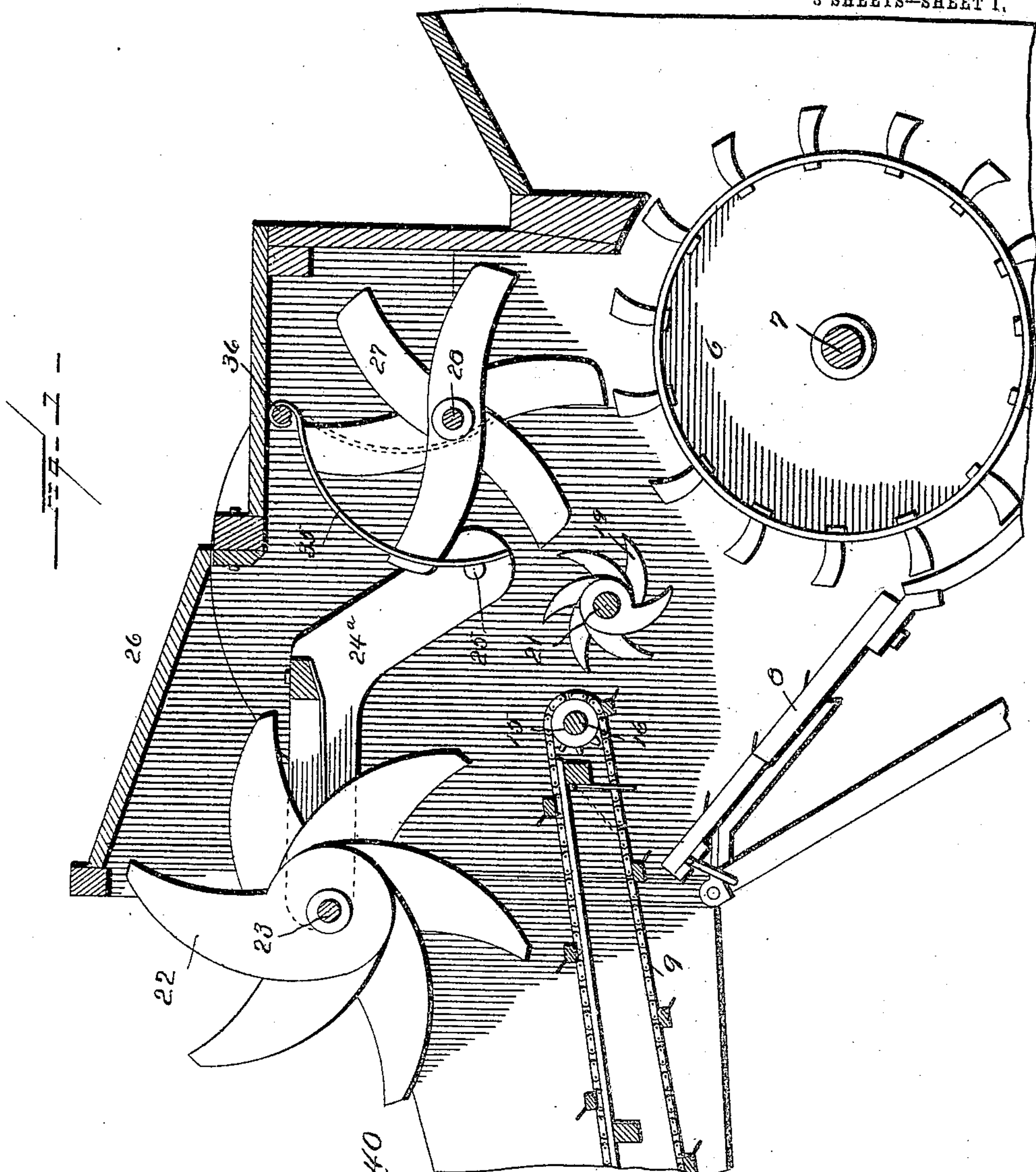
No. 808,173.

PATENTED DEC. 26, 1905.

C. S. SHERWOOD.
FEEDER FOR THRESHING MACHINES.

APPLICATION FILED APR. 19, 1905.

3 SHEETS—SHEET 1.



WITNESSES:

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Geo. E. Tew

INVENTOR

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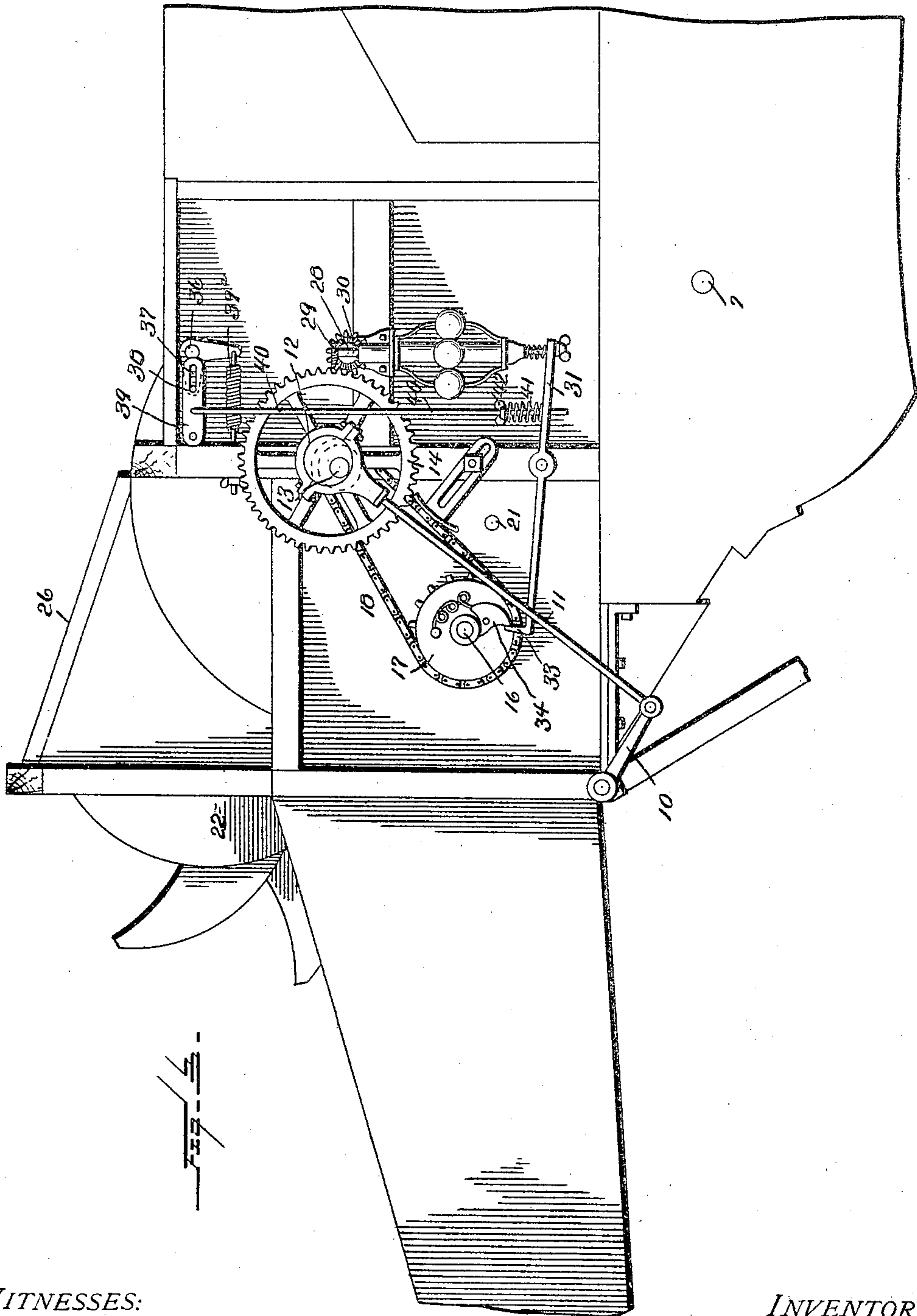
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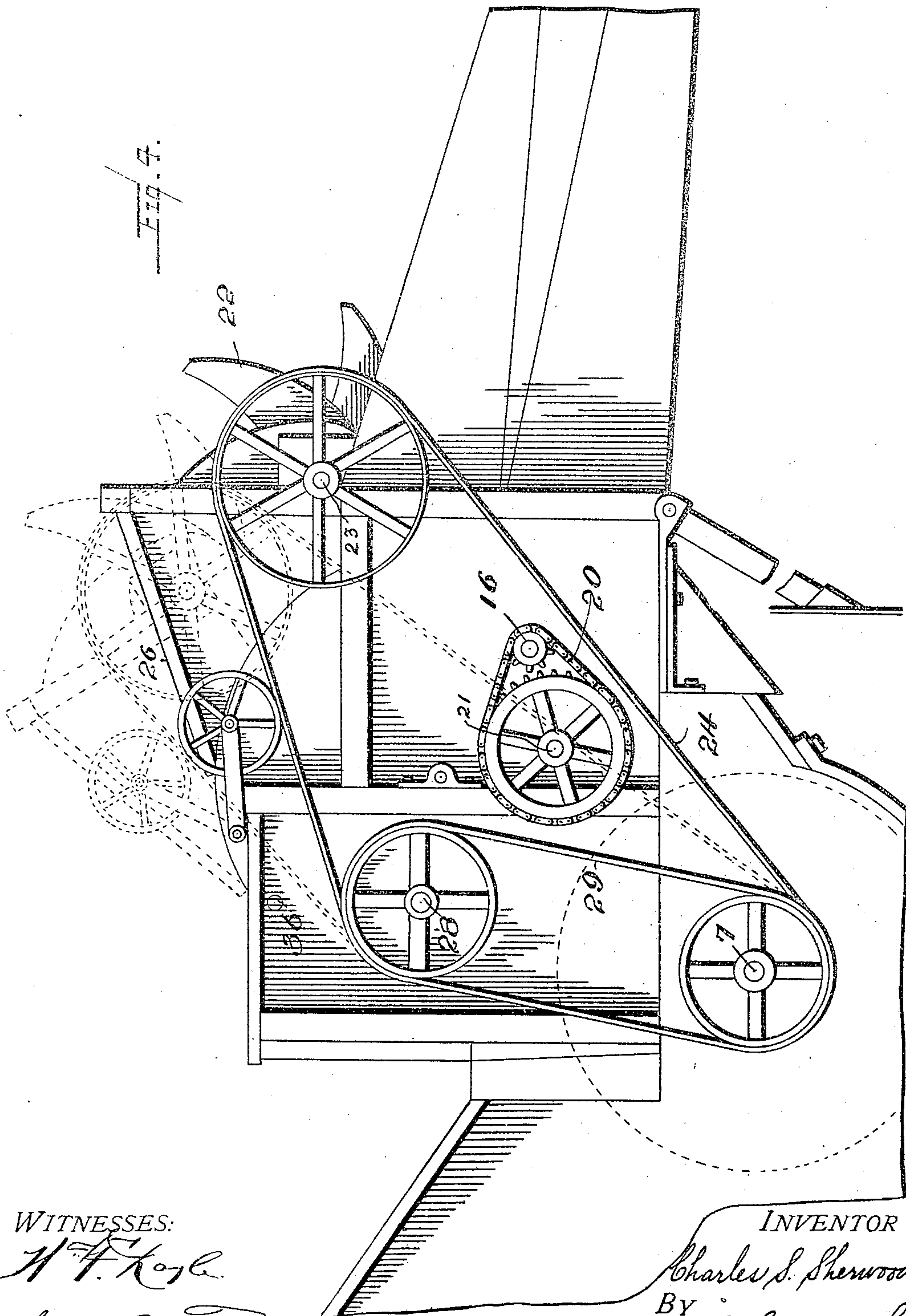
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

CHARLES SEYMORE SHERWOOD, OF WICHITA, KANSAS.

FEEDER FOR THRESHING-MACHINES.

No. 808,173.

Specification of Letters Patent.

Patented Dec. 26, 1905.

Application filed April 19, 1905. Serial No. 256,338.

To all whom it may concern:

Be it known that I, CHARLES SEYMORE SHERWOOD, a citizen of the United States, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented new and useful Improvements in Feeders for Threshing-Machines, of which the following is a specification.

This invention is a feeding mechanism for threshing-machines, comprising particularly a novel arrangement of whipper-knives working in combination with a retarder and a carrier, as well as the usual band-cutter; also, a governing device which controls the carrier and regulates the volume of grain that passes to the threshing-cylinder, the governing device being operated by the pressure of straw thereon and also by the speed of the cylinder.

The straw-governor works in between the knives or whippers just above and near to the threshing-cylinder, and said knives or whippers work in connection with a retarder which holds the under side of the bundle of grain while the knives comb off the top of the material and at the same time cut and tear apart any bunches or bundles that may pass through the first band-knives without being cut or separated.

The governing device consists of a series of bars or fingers fastened to a rock-shaft which extends across the casing, and these bars or fingers depend between the whipper-knives, and whenever too great a volume of grain is delivered thereto the pressure causes the fingers to swing back, which through suitable connections operate a clutch which stops the feed, and thereby prevents the choking of the threshing-cylinder, and when the excessive volume is worked off the said fingers swing forwardly and release the stop on the feeding devices. The governing devices are adjustable, so that the clutch will act at the proper time or condition.

A further object of the invention is to provide an improved construction for raising and lowering the band-cutter shaft and its cover to suit the various conditions of grain.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of the machine. Fig. 2 is a detail in cross-section, showing the whipper-knives and governor-fingers. Fig. 3 is a side elevation of the right side of the machine. Fig. 4 is a similar elevation of the left side.

Referring specifically to the drawings, 6

indicates the threshing-cylinder, and 7 the shaft thereof.

8 is a shake-pan located before the cylinder and under the rear end of the endless-belt carrier 9. The shake-pan is operated by a connection 10 with the eccentric-rod 11, the eccentric 12 being located upon the stub-shaft 13 of the reducing-gear 14. The carrier-belt 9 passes at the rear end around sprockets 15 on a shaft 16 and is driven from the shaft 13 by means of sprockets 17 and chain 18.

The retarder is indicated at 19, located between the end of the carrier and the threshing-cylinder. The retarder is driven from the carrier-shaft 16 by means of sprocket-and-belt connections 20 with the retarder-shaft 21.

The first band-cutter is indicated at 22, comprising knives carried upon a shaft 23, which is driven by a belt 24 from the cylinder-shaft. The band-cutter shaft 23 is carried by iron arms 24, which are pivoted at 25 in supports secured to the frame of the machine, and the cover 26 and the side casing connected thereto are also carried by said arms 24. This permits the band-cutter and its hood or casing to be lifted up and back, as indicated in dotted lines in Fig. 4, thus allowing an adjustment to suit the various conditions of grain.

The whipper-knives are indicated at 27, located directly above and rather close to the cylinder and retarder and mounted upon a shaft 28, driven by a belt 29 from the cylinder. These whipper-knives act to cut any uncut bands of bundles and to comb out the grain and feed it evenly to the threshing-cylinder.

Mounted upon the end of the whipper-shaft 28 is a pinion 29, meshing with the reducing-gear 14, which drives the carrier and the retarder. Said pinion 29 also meshes with a pinion on the governor-shaft 30 of known construction. This governor is connected to and vibrates a lever 31, which is fulcrumed at 32 and has at the end a dog 33, arranged to engage a clutch 34, which acts to couple the carrier-shaft 16 and the sprocket 17, which latter otherwise runs loose on the shaft. When the threshing-cylinder is running with speed, the governor lifts the end of the lever and disengages the dog 33, which releases the clutch 34 and allows the same to operate to clutch the shaft 16 and cause the carrier and retarder to run. When the cylinder runs slow from any cause, the end of the lever to which the governor is connected

drops, lifting the dog to catch the clutch and stop the carrier and retarder. This provides a speed-governor for the carrier and retarder operating the same according to the rapidity of the rotation of the threshing-cylinder.

The straw or volume governor comprises a set of fingers 35, depending from a rock-shaft 36 between the whipper - knives 27. The shaft 36 of the straw-governor has an arm 37, which is connected by slot and pin at 38 to a lever 39, which has a rod 40, extending to the lever 31. A spring 39^a tends to turn the shaft 36 to lift the fingers 35 and rod 40. A spring 41 in compression between the lever and a nut 42 on the rod 40 serves to allow the speed-governor to work independent of the straw-governor and also provides means of adjustment to regulate the action of the lever 31 and the clutch which it controls.

The grain fed into the machine by the carrier tends to swing back the fingers 35, as indicated in dotted lines in Fig. 1, and when in consequence of the large volume or mass of grain there is danger of choking the threshing-cylinder the pressure downward on the rod 40 forces the dog 33 in engagement with the clutch 34, thereby disengaging said clutch from the shaft, and consequently stopping the carrier and retarder. When the bunch or mass is worked off, the fingers 35 swing out and the rod 40 lifts, and the speed-governor at once disengages the hook 33 from the clutch and the carrier and retarder run again. There is thus a speed and a straw governor working in combination with each other to control the feed carrier and retarder, and consequently the feed to the threshing-cylinder.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a feeder for threshing-machines, the combination with the threshing-cylinder, of a rotary whipper having blades located directly above the cylinder and in close prox-

imity thereto, a carrier leading to the whipper and cylinder, a retarder between the end of the carrier and the cylinder, and a volume-of-grain governor comprising swinging fingers operatively connected to and controlling the driving mechanism of the carrier, said fingers being located between the blades of the whipper and beyond the end of the carrier and also beyond the retarder, so that it is controlled by the volume of grain being immediately acted upon by the cylinder.

2. In a feeder for threshing-machines, the combination with a rotary feeding-whipper having blades, of a carrier-shaft having driving connections therewith including a clutch, a lever having on one arm a dog arranged to engage the clutch, a speed-governor geared to the whipper and connected to the other arm of the lever, and a volume-of-grain governor having swinging fingers depending between the blades of the whipper, and also having a connection to the said other arm of the lever.

3. In a feeder for threshing-machines, the combination with a carrier-shaft and a rotary retarder geared thereto and driven thereby, of a driving-wheel on the said shaft, a clutch normally connecting the wheel and shaft, a rotary whipper having driving connections with said wheel, a lever having a dog arranged to engage the clutch and disconnect the wheel and shaft, a speed-governor geared to the whipper, a volume-governor associated with the whipper and arranged to be acted on by the same grain at the same time, and independent connections between the said governors, respectively, and the lever.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES SEYMORE SHERWOOD.

Witnesses:

GEO. D. SHIELDS,
JOHN SHEPHERD.