No. 792,795. PATENTED JUNE 20, 1905.

C. H. SCHAUER.

BEAN THRESHER.

APPLICATION FILED OCT. 23, 1903.

2 SHEETS—SHEET 1.

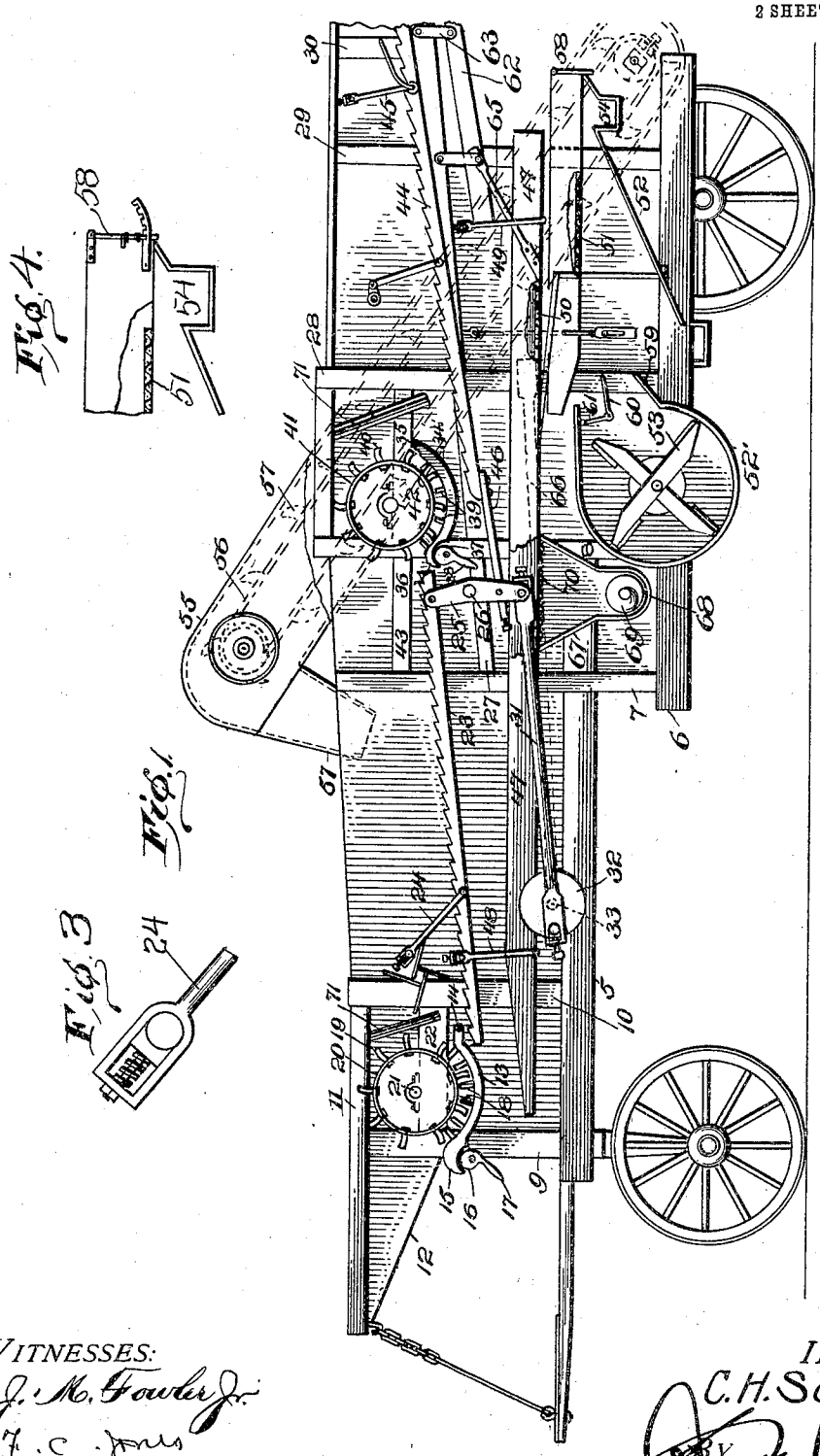


Fig. 4.

Fig. 3.

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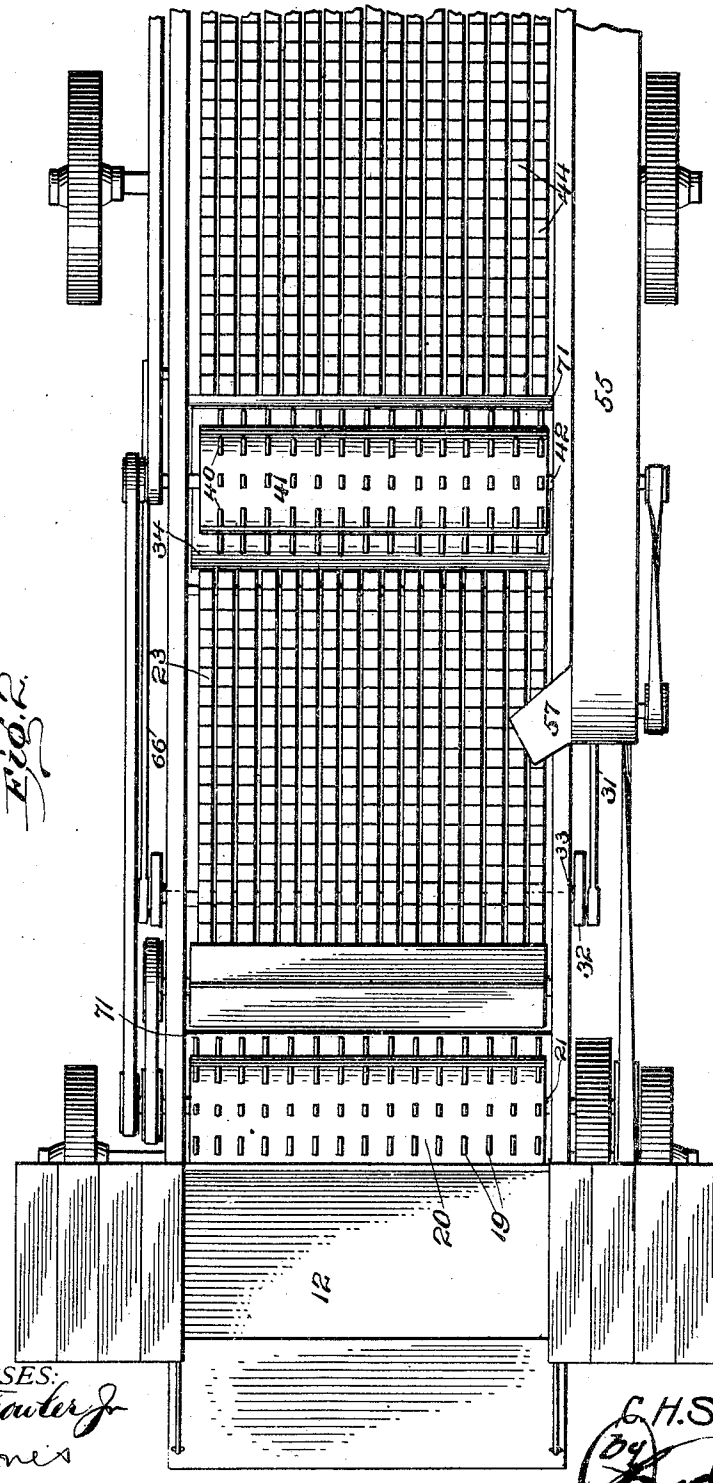


Fig. 2.

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No. 792,795. Patented June 20, 1905.

UNITED STATES PATENT OFFICE.

CHARLES H. SCHAUER, OF BUDSIN, WISCONSIN.

BEAN-THRESHER.

SPECIFICATION forming part of Letters Patent No. 792,795, dated June 20, 1905.

Application filed October 23, 1903. Serial No. 178,229.

To all whom it may concern:

Be it known that I, CHARLES H. SCHAUER, a citizen of the United States, residing at Budsin, in the county of Marquette, State of Wisconsin, have invented certain new and useful Improvements in Bean-Threshers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to bean-threshers; and it has for its object to provide a construction wherein after the initial threshing the old straw will be again threshed, the parts being so constructed and arranged as to require a minimum of mechanism, and in which the parts may be accurately adjusted to secure the most efficient results under different conditions.

Other objects and advantages of the invention will be understood from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of the complete machine, one side of the frame or casing being removed. Fig. 2 is a top plan view of the mechanism. Fig. 3 is a detail view of one of the adjustable hangers. Fig. 4 is an elevation showing a portion of the side of the shoe with its rear end closure and the means for holding the latter in different positions.

Referring now to the drawings, the present machine comprises a frame formed of a convenient arrangement of sills, uprights, and braces, which support the casing and the mechanism of the machine.

At the sides of the front portion of the machine are the longitudinal sills 5, which overlap and lie above the longitudinal sills 6 of the rear portion of the machine, these sills being connected by the uprights 8 and 9 at each side of the machine, which are continued above the sills 5. At the front portions of the sills 5 are arranged the spaced uprights 9 and 10, at the upper end of which are the longitudinal beams 11, which project beyond the front uprights 9, and have attached to their outer ends the bottom 12 of the feeding-hopper, the opposite end of which is attached to the uprights 9 and leads to the concave 13.

The concave 13 is disposed in substantially horizontal position and has its discharge end continued straight for a short distance and pivoted upon a transverse bar 14, the opposite end or intake end of the concave having a transverse concavity 15 in its under face, which receives an eccentrically-mounted roller 16, which is provided with a handle 17 for oscillating it. As the roller is oscillated the adjacent end of the concave is raised and lowered, as will be understood. The intake end of the concave is disposed to receive from the hopper. The concave is provided with the usual threshing-teeth 18, which coöperate with the teeth 19 of the cylinder 20, the shaft 21 of which is mounted in suitable bearings on the beams 22, that are supported by the uprights 9 and 10.

Disposed to receive from the concave is a straw-rack 23, which at its intake end is suspended by hangers 24, pivoted thereto and to the sides of the casing, these hangers being adjustable in length so that the end of the rack may be raised and lowered, as may be desired. The opposite end of the rack is pivoted to rockers 25, which are mounted upon a rock-shaft 26, mounted in bearings upon the longitudinal supports 27, which are secured to the uprights 7 and 8, as also to additional uprights 28 and 29, mounted upon the sills 6, the supports 27 extending beyond the uprights 29 and beyond the rear end of the sills 6, where they support additional short uprights 30. To operate the rockers 25, the rocker at one side of the machine is extended below the shaft 26 and is connected to a pitman 31, which is connected in turn to the crank-disk 32, mounted upon a drive-shaft 33, held in bearings upon the sills 5.

At the discharge end of the straw-rack 23 is a second concave 34, having the same general shape as the concave 13, excepting that its discharge end is continued upwardly instead of horizontally. The discharge end of the concave is mounted upon the transverse bar 35 and in the under side of its intake end is the concavity 36, in which operates the eccentric 37, having a handle 38 for rocking it

to raise and lower the adjacent end of the concave. The concave 34 is provided with threshing-teeth 39, which coöperate with the teeth 40 on the cylinder 41, the shaft 42 of which is mounted in bearings on the beams 43, that are supported by uprights 7, 8, and 28.

From beneath the discharge end of the concave 34 there extends a second straw-rack 44, which is continued upwardly and rearwardly of the machine to discharge from the rear end of the latter, said rack at its rear end being suspended by means of adjustable hangers 45, while its forward end is provided with arms 46, which are continued beneath and beyond the concave, where they are pivotally connected with the rockers 25 at points between the pitman 31 and the shaft 26 of the rockers, so that both straw-racks are operated from the rockers.

The beans that drop from the straw-rack 23 are caught in a pan 47, which is suspended by means of hangers 48 and 49 at its ends, said pan slanting gradually downwardly toward the rear end of the machine and having at its rear end the spaced transverse slats 50, between which the beans pass to the screen 51 in the upper portion of the shoe 52. In advance of the shoe is the fan-casing 52′, in which is disposed the rotary fan 53, the discharge-opening of the casing being disposed for passage of the air-blast therefrom at an angle against the bottom of the sieve 51. At the rear end of the shoe is a transverse tailings-spout 54, which receives the tailings and conducts them transversely of the machine to the tailings-elevator 55, which comprises the ordinary endless belt 56, having buckets 57, the tailings being raised and conducted forwardly of the machine and finally discharged through the spout 57 onto the straw-rack 23 for retreatment in the usual manner.

The sieve 51 terminates slightly short of the tailings-spout and is spaced from the adjacent edge thereof to such an extent as to permit of passage of the air-blast beneath the rear end of the sieve, so that chaff may be blown out through the rear end of the shoe, the opening at the rear end of the shoe being governed by the adjustable gate 58. The casing 52′ of the fan 53 has a wind-board 59 at the lower side of its wind-outlet opening, and a second wind-board 60 is hinged at the upper side of said opening and is provided with a lever 61 for shifting it with its free edge toward and away from the board 59 to direct the discharge of air from the casing.

Beneath the rear end portion of the straw-rack 44 is disposed a return-bottom 62, which is suspended at its rear end by hangers 63, which extend forwardly and downwardly, and which return-bottom is connected at its front end with the bean-pan by means of the arms 65, so that it is reciprocated with the bean-pan, said bean-pan being reciprocated by means of the pitman 66, which is connected with the bean-pan and the crank-disk 32′, at the opposite end of the shaft 33 from the disk 32.

Beneath the bean-pan 47 at a point below the rockers 25 is a transverse hopper 67, at the bottom of which is a dirt-spout 68, having an auger 69 for moving the dirt longitudinally of the spout and discharging it at the side of the machine, the pan having a screen 70 in its under side above the hopper 67 for passage of dust from the pan into the hopper.

At the rear side of each of the concaves and slightly beyond the adjacent extremities of the straw-racks are disposed canvas aprons 71, which prevent the straw and beans from the concave being thrown excessively far by the action of the teeth of the cylinders.

What is claimed is—

1. A bean-thresher comprising a plurality of concaves and their coöperating cylinders, a straw-rack for each concave disposed to receive therefrom, a bean-pan arranged to receive from both racks and adapted to discharge from its rear end, a dust-screen for the pan between the points of receipt from the racks, a hopper disposed to receive from the dust-screen and a tailings-spout disposed to receive from the discharge end of the pan.

2. A bean-thresher comprising a pair of spaced concaves and coöperating cylinders adapted to successively receive the material to be operated upon, a rack extending from the first concave to the second concave and adapted to convey the material from the former to the latter, hangers for the receiving end of the rack, rockers mounted upon a common shaft and to which the discharge end of the rack is pivoted, a second rack disposed to receive from the second concave and having a hanger at its discharge end, arms projecting forwardly from the receiving end of the second rack and pivoted to the rockers at the opposite side of their shaft from the first rack, a shaft provided with a crank-disk having a crank-pin, a pitman connecting the crank-pin and a rocker, a bean-pan disposed to receive from both racks and adapted to discharge at one end, a dust-screen for the pan between the points of receipt from the racks, a shoe disposed to receive from the pan, a fan disposed to discharge beneath and through the shoe, and a gate at the outer end of the shoe and adapted when adjusted, to vary the air-blast through the shoe.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. SCHAUER.

Witnesses:

T. O. CONNER,

T. MCDONOUGH.