July 17, 1923.

1,462,289

J. KOSÁN

STACKER FOR THRASHING MACHINES

Filed Aug. 1, 1922

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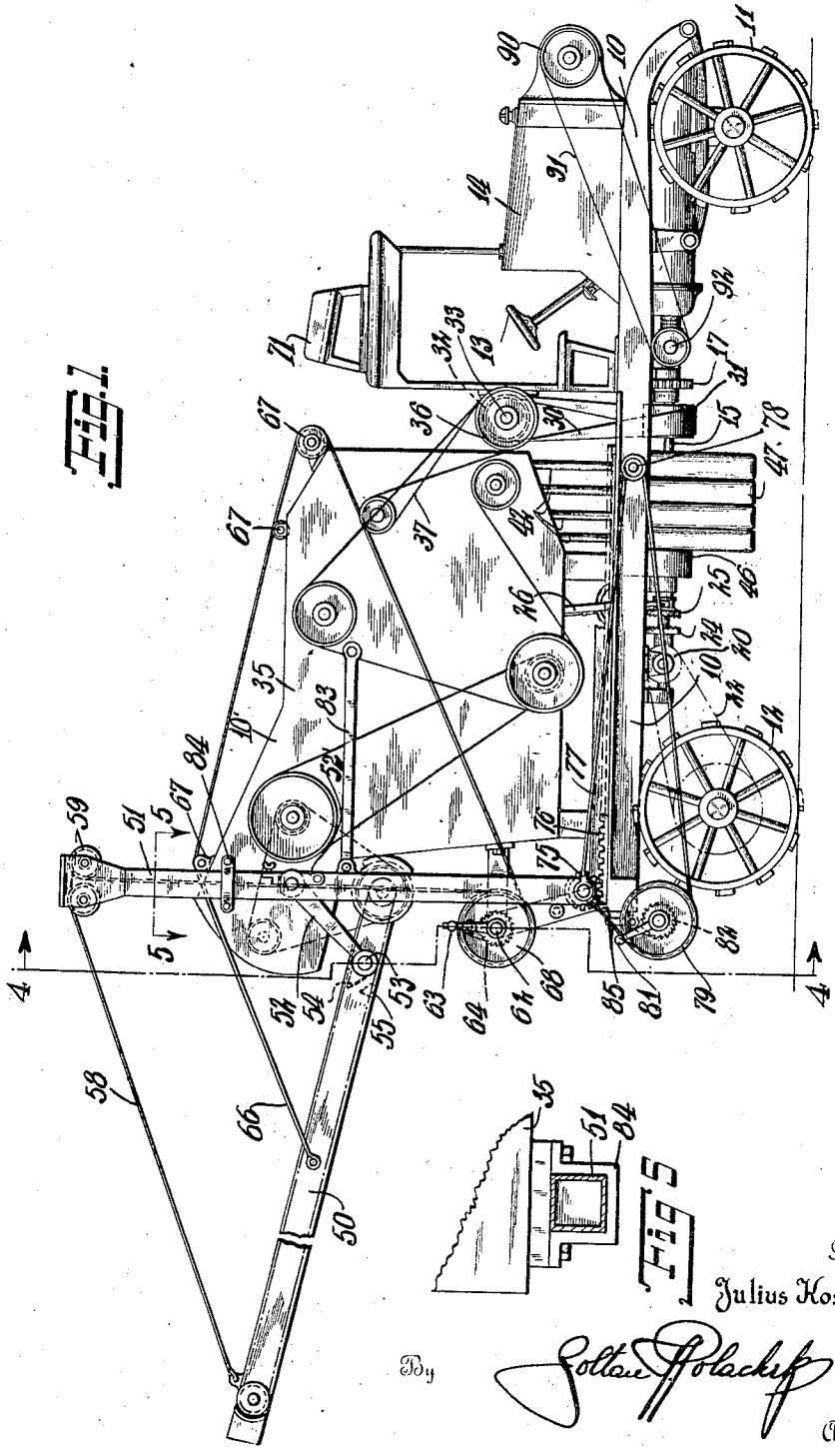


Fig. 1.

Fig. 5

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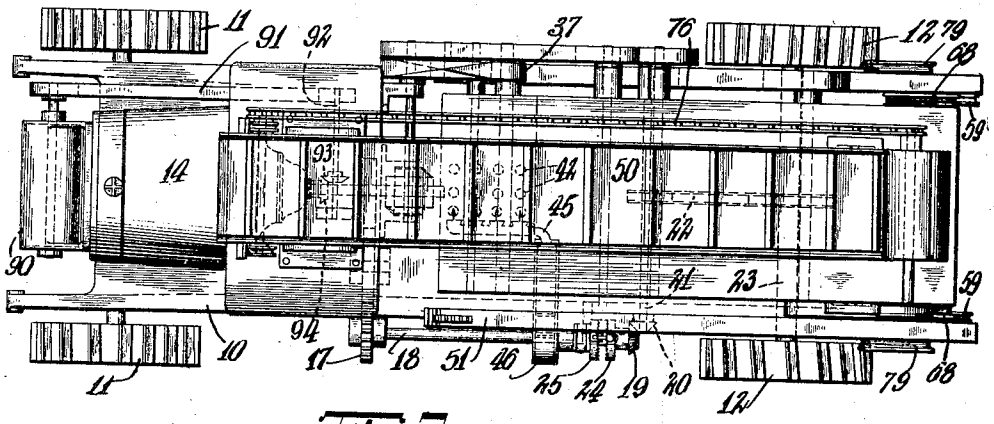


Fig. 2.

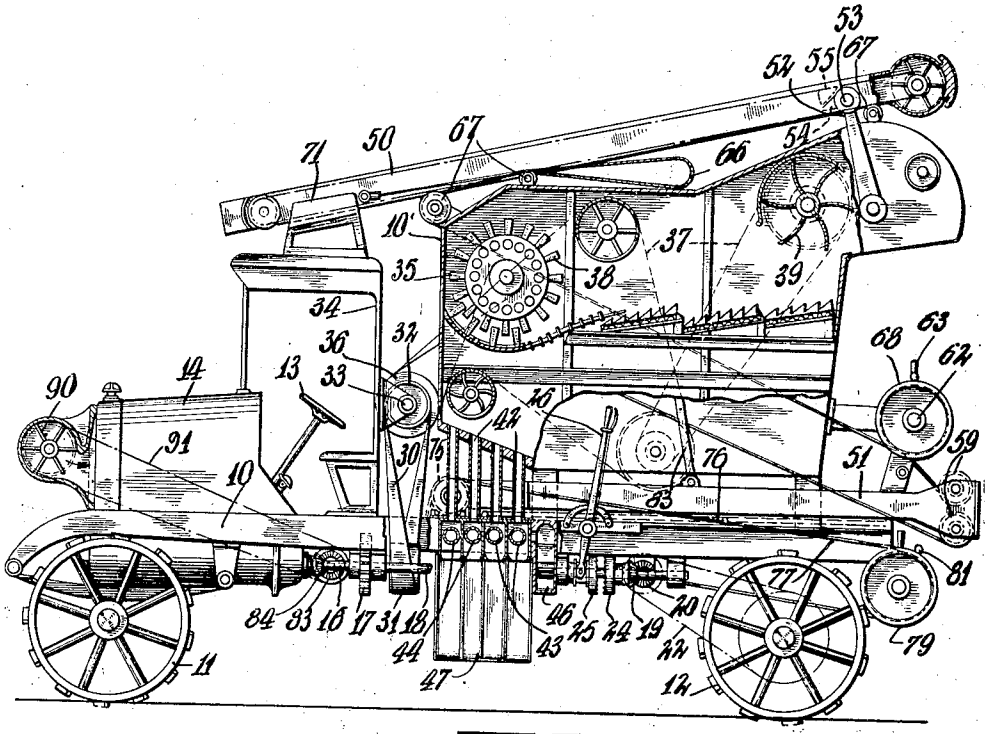


Fig. 3.

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3 Sheets-Sheet 3

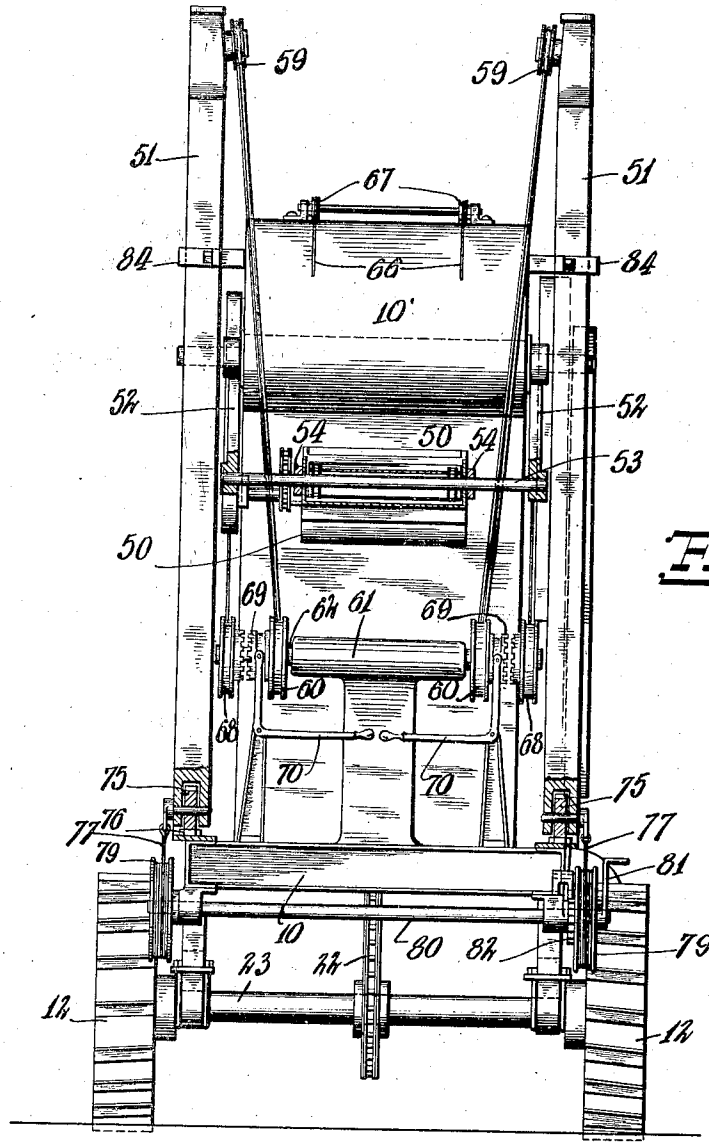


Fig. 4.

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UNITED STATES PATENT OFFICE.

JULIUS KOSÁN, OF CLEVELAND, OHIO.

STACKER FOR THRASHING MACHINES.

Application filed August 1, 1922. Serial No. 578,912.

To all whom it may concern:

Be it known that I, JULIUS KOSÁN, a citizen of Hungary, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Stackers for Thrashing Machines, of which the following is a specification.

This invention relates to thrashing machines such as are used for thrashing wheat, or other grains having particular reference to an arrangement of parts to facilitate transportation of the machine from one place to another.

The invention has for an object to provide a thrashing machine capable of traveling from place to place under its own power, the motor or engine being adapted to drive the running wheels or the thrashing machinery, as may be desired.

A further object relates to the mounting of the stacker on the machine whereby said stacker may be extended to operative position when the machine is operating, or folded upon the top of the machine when the latter is traveling from one place to another.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Fig. 1 of the drawings is a side view of my improved thrashing machine.

Fig. 2 is a plan view thereof.

Fig. 3 is a part side elevation and part longitudinal vertical section, looking in the opposite direction to Fig. 1 and showing the conveyor folded over upon the top of the machine.

Fig. 4 is a transverse vertical sectional view taken on the line 4—4 of Fig. 1.

Fig. 5 is a fragmentary plan view showing the means for bracing the suporting posts in upright position.

As here shown my improved thresher comprises a truck frame 10 made in the usual manner of steel beams and mounted on front wheels 11 and rear wheels 12, the front wheels being dirigible by the usual steering wheel 13. Upon the front end of the frame is a gasoline motor, indicated generally at 14. This motor drives a longitudinal shaft 16 which is connected by a train of spur gears 17 with another longitudinal shaft 18 located at one side of the frame 10. Rotatively mounted on the rear end of shaft 18 is a bevel gear 19 meshing with a like gear 20 on a transverse shaft 21 connected, by a chain 22 looped over suitable sprocket wheels, with the rear axle 23. Fixed to gear 19 is a clutch element 24 adapted to be engaged by a second clutch element 25 feathered on the shaft 18 and adapted to be moved into and out of engagement with the clutch member 24 by a lever 26 provided with the usual means for locking it in adjusted positions.

The various elements of the thrashing machine are driven from the shaft 16 by a belt 30 looped over a pulley 31 fixed on the shaft 18 and over a second pulley 32 fixed on a shaft 33 mounted on a vertical frame 34 projected upwardly from the frame 10 in front of the body 35 of the machine. This shaft 33 has also fixed thereon other pulleys such as 36 from which a suitable system of belting, indicated generally at 37, drives the cylinder 38, fan 39, and other operating elements which are of usual construction.

The threshed grain, comprising chaff and hulls, falls downward through a series of vertical tubes 42, passing through chambers 43 into which a series of nozzles 44, on a pipe 45 leading from a blower 46, enter. This blower is of the rotary type and its fan is mounted on, and driven by, the shaft 18. The chaff is separated from the grain by the blast from the blower 46, the grain falling into bags or receptacles such as 47 under the chambers 43.

At 50 I have indicated a stacker which is of the usual detail construction and operation, and which may be operated by a belt which is removed when the stacker is to rest on the thresher body. As a feature of the invention this stacker, when not in use and when the machine is traveling from one place to another, is adapted to be swung over the top of the machine and rest thereon, as indicated in Figure 3. The stacker, when in use is supported by a pair of posts 51 located one at each side of the rear of the machine, being suspended therefrom by a pair of arms 52 pivoted to the posts, the arms assuming the inclined position shown in Fig. 1 which, as will be apparent causes the weight of the stacker to press its forward end against the body of the thresher and in proper operative relation to the mech-

anism therein. The arms 52 are held on the posts by removable hinged bars 52'. The arms 52 are connected to the stacker at their lower ends by means of a transverse rod 53 (see Fig. 4) which extends freely through the stacker and is fixed at its ends to the arms. On this rod are a pair of rigid fingers 54 which project over studs or lugs such as 55 on the sides of the stacker for a purpose which will later be set forth.

To swing the stacker to the position shown in Fig. 3 a pair of ropes 58 are connected at one end to the rear end of the stacker, and lead forwardly to pass down between pairs of flanged pulleys 59 mounted in the upper end of each of the posts 51 with their flanges in close adjacence, the ropes finally passing downward onto drums 60 supported by brackets 61 projecting upwardly from the truck frame 10. These drums are fixed on a shaft 62 on one end of which is a removable crank handle 63 suitable ratchet locking means 64 being provided. When the drums 60 are rotated, and the ropes 58 wound thereon, the rear end of the stacker is swung upwardly and forwardly, as will be apparent. As this movement takes place the stacker 50 and arms 52 fold upon one another, jack-knife fashion, allowing the front end of the stacker to sink, until the fingers 54 engage the lugs 55, the arms 52 and then swinging as a unit around the projecting top rear portion of the thresher body 35. Connected to the stacker about midway of its length, is a second pair of ropes such as 66 which lead forwardly over suitable pulleys 67 on the deck 10' then rearwardly to a second pair of drums 68, smaller than the drums 60 and normally loose on the shaft 62 and which may be rotatively connected therewith by clutches 69 operated by levers 70. When the stacker reaches an approximately vertical position, the drums 68 are momentarily clutched in, the ropes 66 then acting on the stacker to move it forward past dead centre position. As the stacker swings forward the ropes 58 are transferred to the forward ones of the pulleys 59, and the drums 60 are then rotated to allow the stacker to swing downward and forward until it rests on top of the thresher, a suitable support 71 being provided on top of the frame element 34 to receive the forward end of the stacker. As will be apparent, the shaft 62 and crank handle 63 provide driving means for the drums 60, while the clutches 69 constitute releasable means for operatively connecting this drive means with the drums 68.

The posts 51 are also adapted to be lowered to a position resting on the truck frame 10 and to this end each post is mounted on a spur gear 75 which rests on a rack 76 extending along the frame 10. Connected to the lower end of each post is an endless band 77 which engages over front and rear drums 78 and 79 the latter being fixed on a transverse shaft 80 on which is a crank handle 81 and to which ratchet locking means 82 is applied. Pivotally connected at one end to the body 35, at the sides thereof, are a pair of rigid links such as 83 which are pivotally attached at their opposite ends to the posts 51 as shown. When in upright position, the posts are braced to the body 35 by means of removable U-brackets 84 which straddle the posts.

At its lower end each post 51 is held by its band 77 which pulls it tightly against an abutment 85 on the end of the frame 10. When the posts are to be lowered the ratchet locking means 82 is released, the U-brackets 84 removed, and the drums 79 rotated to move the lower ends of the posts forwardly along the racks 76, the posts swinging on the links 83 until they assume the position shown in Fig. 3. It will be understood of course that the ropes 58 will be sufficiently loosened to allow the posts to assume this position. When the posts are to be raised, the above operation is reversed.

To cool the motor 14, when it is running to operate the thresher, a fan 90 is mounted in front of the motor and directs a blast of air through the radiator thereof, this fan being shown as driven by a belt 91 from a countershaft 92 connected by bevel gears 93 and 94 with the engine shaft 16.

When the machine is to travel from one place to another, the stacker 50 and posts 51 are moved to the position shown in Fig. 3, the belt 30 is thrown off and the clutch 25, 24 engaged to operatively connect the motor to the rear wheels.

Having thus described my invention what I claim as new and desire to protect by Letters Patent of the United States is as follows:—

1. In a thresher, a main body, a horizontal frame, a stacker normally extending from one end of said body, means for moving the stacker to a position resting on the top of the main body, a pair of collapsible posts supporting said stacker, and means for moving the lower ends of said posts along said frame to collapse the posts, said last means comprising gear pinions mounted on the lower ends of said posts, racks extending along said frame, a band engaged with the lower end of each post, and means for moving said band.

2. A thresher comprising a truck frame, a main body mounted thereon, a pair of posts extending upward from said truck frame, a pair of arms suspended from said frame, a stacker supported at one end by said arms, ropes connected to the other end of said stacker to support the same, pulleys on the upper ends of said posts around which said ropes pass and winding drums to which said ropes are connected.

3. A thresher comprising a truck frame, a main body mounted thereon, a pair of posts extending upward from said truck frame, a pair of arms suspended from said frame, a stacker supported at one end by said arms, ropes connected to the other end of said stacker to support the same, pulleys on the upper ends of said posts around which said ropes pass and winding drums to which said ropes are connected, other ropes connected to said stacker pulleys on said body around which said last ropes pass, other winding drums to which said last ropes connect, drive means for said first drums and releasable means operatively connecting said drive means with said last drums.

4. A thresher comprising a truck frame, a main body mounted thereon, a pair of posts extending upward from said truck frame, a pair of arms suspended from said frame, a stacker supported at one end by said arms, ropes connected to the other end of said stacker to support the same, pulleys on the upper ends of said posts around which said ropes pass and winding drums to which said ropes are connected, other ropes connected to said stacker pulleys on said body around which said last ropes pass, other winding drums to which said last ropes connect, drive means for said first drums and releasable means operatively connecting said drive means with said last drums, endless traveling bands to which the lower ends of said posts are connected, and a pair of swinging links pivotally connected at one end to the said main body and at their other ends to the said posts.

In testimony whereof I have affixed my signature.

JULIUS KOSÁN.