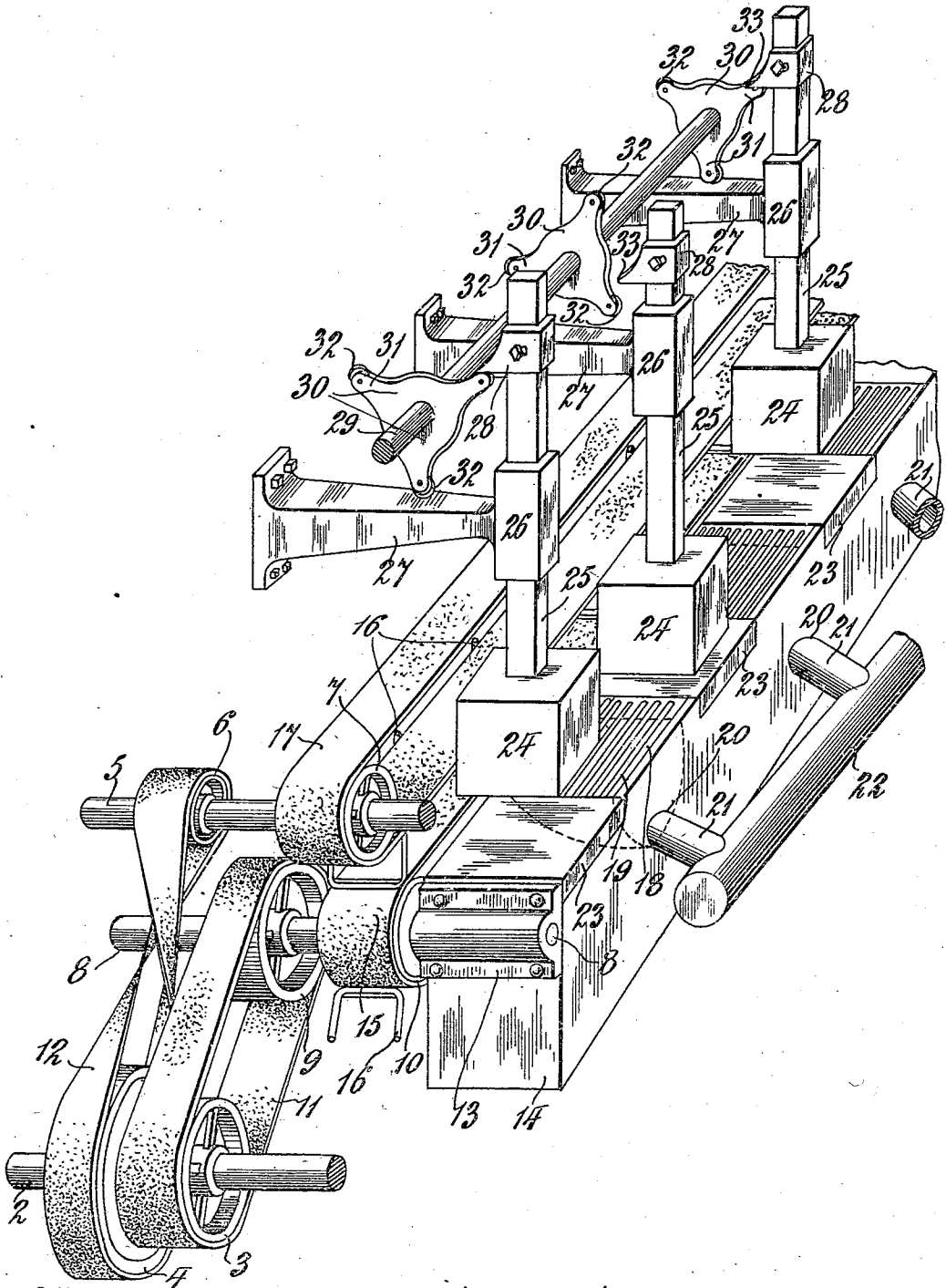


J. D. JEFFERSON.
 FLAX THRESHING MACHINE.
 APPLICATION FILED AUG. 21, 1909.

951,125.

Patented Mar. 8, 1910.



Witnesses:
 M. E. Campion
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UNITED STATES PATENT OFFICE.

JOHN D. JEFFERSON, OF PARKHILL, ONTARIO, CANADA.

FLAX-THRESHING MACHINE.

951,125.

Specification of Letters Patent.

Patented Mar. 8, 1910.

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To all whom it may concern:

Be it known that I, JOHN D. JEFFERSON, a subject of the King of Great Britain, and a resident of the town of Parkhill, in the county of Middlesex, Province of Ontario, and Dominion of Canada, have invented certain new and useful Improvements in Flax-Threshing Machines, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in threshing machines and particularly to improvements in machines for threshing flax and like material; and an object of my invention is to provide a machine of the character described which will be simple in construction, comparatively cheap in manufacture and most efficient in use.

Another object of my invention is to provide a threshing machine which will be automatic in character, which will increase the weight of flax threshed in a given time-interval, which will preserve intact the fiber of the flax and which will recover a greater percentage of the flaxseed than machines heretofore devised and known to me.

A third object of my invention is to provide a threshing machine which will result in the saving of labor and which will greatly reduce the cost of threshing.

In the drawings illustrating the principle of my invention and the best mode now known to me of applying that principle, the figure is a perspective view of my new threshing machine, certain of the supporting members being omitted for the sake of clearness.

Upon the main or driving shaft 2 are mounted fast the pulleys 3, 4; upon the turning-belt shaft 5 are mounted fast the pulleys 6, 7; and upon the carrier-belt shaft 8 are mounted fast the pulleys 9, 10. The shaft-bearings for the ends of the shafts 2, 5 are omitted for the sake of clearness. The pulleys 3, 9, are belt-connected by the belt 11; and the pulleys 4, 6 are belt-connected by the crossed-belt 12. From this arrangement of parts it follows that the shafts 5, 8 are rotated in opposite directions; but the belt 12 need not be crossed; and it may be even thrown off. In the latter case the turning-belt shaft 5 and pulleys 6, 7 would, of course, remain stationary. It will be observed that the ratio of the diameters of the pulleys 3 and 9 is different from the ratio of the diameters of the pulleys 4 and 6, from

which it results that the turning-belt shaft 5 rotates at a speed greater than the speed of rotation of the carrier-belt shaft 8; but the ratio of these pulleys may be reversed, as by placing the pulley 6 on the carrier-belt shaft 8 and the pulley 9 on the turning-belt shaft 5, so that the latter shaft will rotate at a slower speed than does the carrier-belt shaft 8. Or the ratios of the pulleys may be made the same, and the shafts, 5 8 rotated at the same angular speed in opposite directions.

One end of the carrier-belt shaft 8 is journaled in the pillow-block 13 fastened to one end of the threshing-table 14, near the rear face of which rotates the carrier-belt pulley 10. Over the latter passes the carrier-belt 15 which is suitably supported at the opposite end of the threshing-table 14 by a pulley similar to the pulley 15 but not shown in the drawings. To the carrier-belt or conveyer-belt 15 are fastened at suitable intervals therealong several forked or U-shaped carriers or conveyers 16. Above the carrier-belt 15 travels parallel therewith a turning-belt 17 which passes over the turning-belt pulley 7 and is supported at the opposite end of the threshing machine by a pulley similar to the turning-belt pulley 7 but not shown in the drawings.

In the table 14 are formed several seed-pockets 18 which serve as receptacles for the flaxseed and which are covered by screens or gratings 19. The lateral or side walls and rear wall of each side-pocket 18 converge downwardly so that the seed is guided to the opening 20 formed in the front wall of the pocket. In each of the holes 20 is fitted the inner end of a conveyer-pipe 21 the outer end of which empties into a chute 22. The latter conducts the seed to any suitable receptacle (not shown).

The top of the threshing table 14 at its ends and between the seed-pockets 18 is provided with face-plates 23 which are designed to withstand, anvil-like, the blows of the stamping-blocks 24. Each of the latter is carried by the lower end of a reciprocating guide-bar or shank 25 slidably mounted in the guide-sleeve or bearing 26 formed integral with the free end of the bracket-arm 27, the other or base end of which is fastened to any suitable support (not shown). The upper end of each of the guide-bars 25 is provided with an adjustable collar 28. Above the bracket-arms 27 and parallel with

the belts 15, 17, extends a cam-shaft 29, upon which are mounted the cams 30, the fingers 31 of which are provided with the cam-rollers 32 adapted and designed to engage the projecting part or lip 33 of the collar 28, which is fastened on the upper end of the opposed guide-bar 25.

The operation of my new threshing machine will be readily understood from the foregoing description and an inspection of the drawings in connection therewith. The flax is gathered preferably in sheaves and one sheaf is placed between each pair of U-shaped conveyers 16. The face-plates 23 and the gratings 19 form a level bed over which the flax is carried along in such a way that the heads of the plants pass under the stamping-blocks 24. The latter are raised by the action of the rotary-cams 30 and fall by force of gravity. The blows of the stamping-blocks 24 force the seeds out of the pods; and the loosened seeds fall into the pockets 18, as the flax is carried along over the gratings 19 by the conveyer-belt 15. Since the turning-belt 17 travels at a linear speed different from the linear speed of the carrier-belt 15, the sheaves of flax are turned constantly during their travel over the top of the threshing table 14; and from this it results that every stalk of the flax is exposed to the blows of the stamping-blocks 24. This turning action of the belt 17 will take place, even if that belt be stationary, while the carrier-belt 15 travels; and the same action results, if the linear speed of the turning-belt 17 be greater or less than the linear speed of the latter in the same or in an opposite direction, or if the linear speed of the two belts be the same but in opposite directions. Hence, as before stated, the belts 15, 17 may be driven in the same or in an opposite direction; or a stationary member suitably supported may be substituted for the turning-belt 17.

The particular form of threshing table herein shown and described need not be adhered to.

Of course, any number of stamping-blocks 24 may be used without departing from the spirit of my invention and any suitable means for operating the stamping-blocks may be provided, instead of the particular devices herein shown and described for that purpose. Indeed, any suitable seed-separating device may be used without departing from the spirit of my invention, the essential feature of which consists in carrying the material to be threshed continuously in operative relation to threshing members and constantly turning it during the process of threshing.

My new machine is substantially automatic in action, it being necessary only to feed the sheaves into the endless carrier or conveyer 15, which presents them to the

threshing members in rapid succession, during their travel along the threshing table.

By my new machine the fiber of the flax is kept intact and is not torn or broken, from which it results that the waste is reduced to a minimum. Further, the percentage of seed separated and recovered is greatly increased by my new machine, from which it follows that the money return or proceeds from a given weight of unthreshed flax is greatly increased.

I claim:

1. A threshing machine consisting of threshing mechanism; a conveyer adapted and designed to carry the material past the latter; and a turning device which is mounted in close proximity to said conveyer and which so acts therewith to turn the material during the time it is being operated upon by said threshing mechanism; said conveyer moving relatively to said turning device, whereby said conveyer and device serve to turn the material while it is being threshed.

2. A threshing machine consisting of threshing mechanism; an endless carrier which is provided with carrier devices and which carries the material past said threshing mechanism; and a turning-belt which is mounted in close proximity to said carrier and which co-acts therewith to turn the material during the time it is being operated upon by said threshing mechanism; said carrier and belt having relative movement, whereby said belt and carrier serve to turn the material while it is being threshed.

3. A threshing machine consisting of a threshing table formed with seed-pockets; stamping devices mounted above those portions of the threshing table between which said seed-pockets are formed; mechanism for actuating said stamping devices; feeding devices for carrying the material under the latter and over said seed-pockets; and means for turning the material during its passage.

4. A threshing machine consisting of a threshing table formed with receptacles for the seed, said receptacles having grate-like coverings; gravity-controlled stamping devices mounted above those portions of the threshing table between which said receptacles are formed; mechanism for lifting said stamping devices; feeding devices for carrying the material under the latter and over said grate-like coverings; and means for turning the material during its passage.

5. A threshing machine consisting of a threshing table formed with receptacles for the seed, said receptacles having downwardly-converging walls and being provided with grate-like coverings; gravity-controlled stamping devices mounted above those portions of the threshing table between which said receptacles are formed; cam-controlled

mechanism for lifting said stamping devices; feeding devices for carrying the material under the latter and over said grate-like coverings; and means for turning the material during its passage.

5 6. A threshing machine consisting of a threshing table formed with receptacles for the seed, said receptacles having grate-like coverings; gravity-controlled stamping devices mounted above those portions of the threshing table between which said receptacles are formed; mechanism for lifting said stamping devices and feeding devices for carrying the material under the latter and
10 over said grate-like coverings.

15 7. A threshing machine consisting of a threshing table formed with receptacles for the seed, said receptacles having downwardly-converging walls and being provided

with grate-like coverings; gravity-controlled stamping devices mounted above those portions of the threshing table between which said receptacles are formed; cam-controlled mechanism for lifting said stamping devices; and feeding devices for carrying the material under the latter and over said grate-like coverings.

In testimony whereof I have hereunto set my hand in the presence of the two undersigned witnesses this seventeenth day of August, 1909, at Parkhill in the county of Middlesex and Province of Ontario, Dominion of Canada.

JOHN D. JEFFERSON.

Witnesses:

JAMES F. ROBERTS,
JOHN H. LAUGHTON.