Oct. 30, 1923. 1,472,274

M. C. KIRKPATRICK

TRAMPER FOR LINT COTTON

Filed June 19, 1922 2 Sheets-Sheet 1

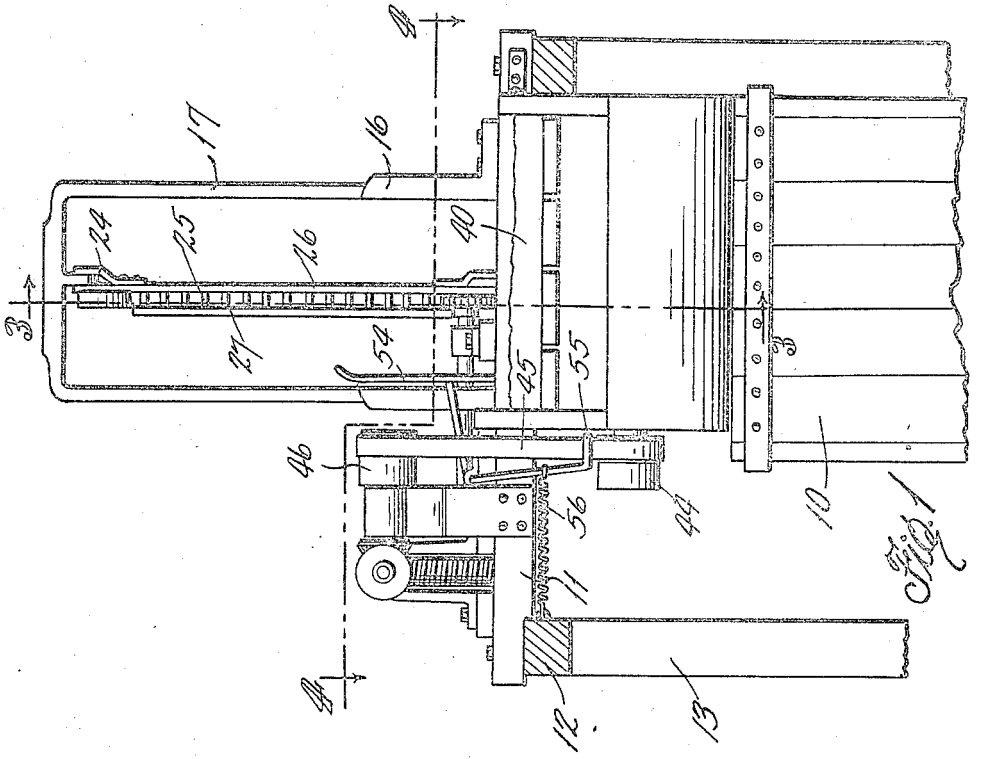

Fig. 1

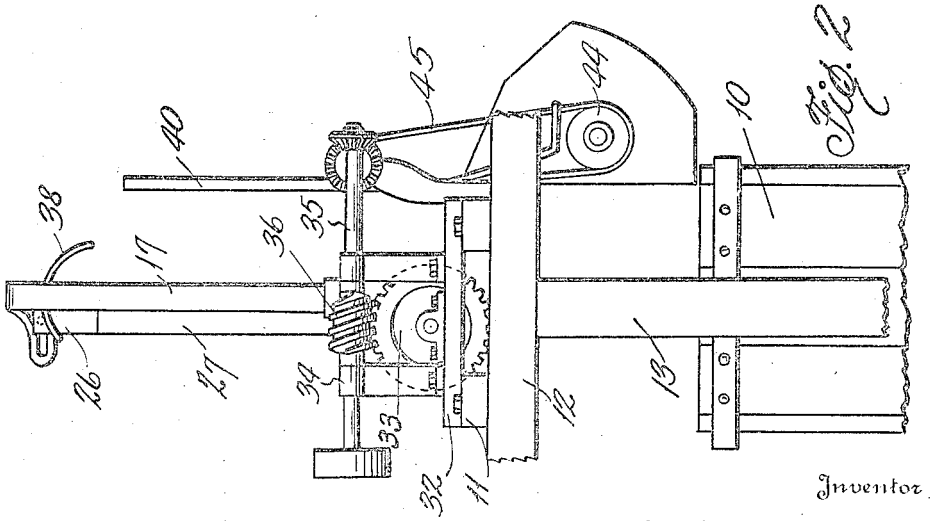

Fig. 2

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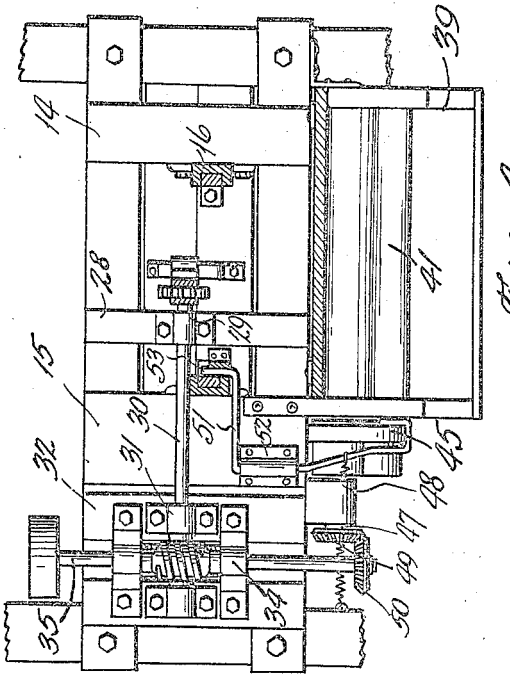

Fig. 4

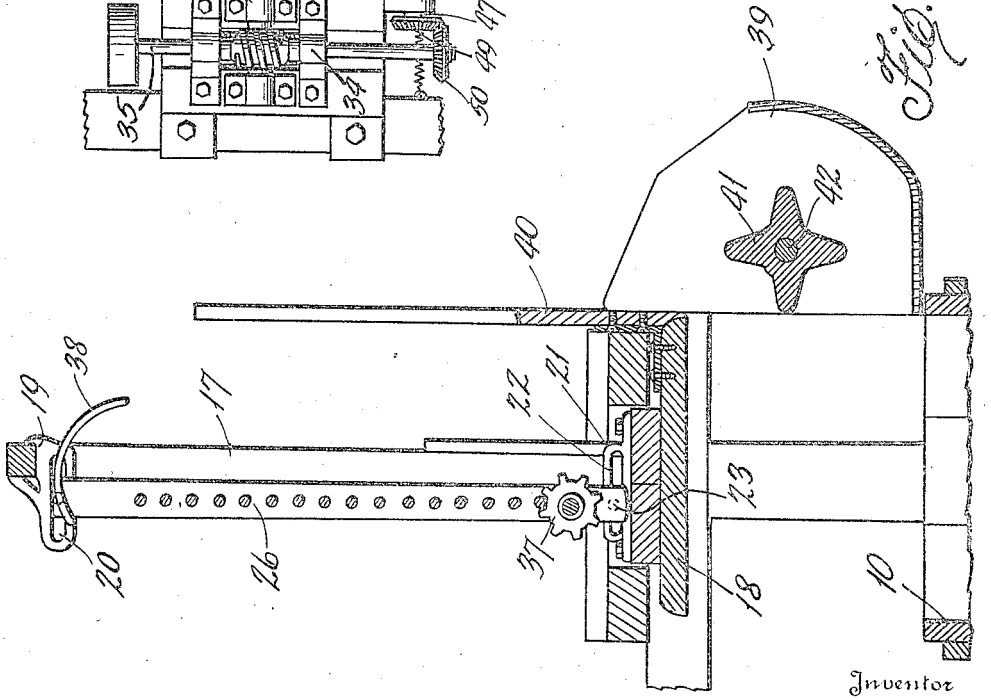

Fig. 3

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Patented Oct. 30, 1923. 1,472,274

UNITED STATES PATENT OFFICE.

MONROE C. KIRKPATRICK, OF FILES VALLEY, TEXAS, ASSIGNOR OF ONE-FOURTH TO J. H. WILLIAMSON AND ONE-FOURTH TO VANE WISEMAN, BOTH OF HILL COUNTY, TEXAS.

TRAMPER FOR LINT COTTON.

Application filed June 19, 1922. Serial No. 569,297.

To all whom it may concern:

Be it known that I, MONROE C. KIRKPATRICK, a citizen of the United States, residing at Files Valley, in the county of Hill and State of Texas, have invented certain new and useful Improvements in Trampers for Lint Cotton, of which the following is a specification.

This invention relates to new and useful improvements in trampers for lint cotton and the like.

The object of the invention is to provide a tramper head reciprocating means of the continuously operating type and to eliminate reversing gears and the like.

A further object of the invention is to provide a novel means of reciprocating the tramper head and one which will include a few number of parts and which will be of simple construction.

Another object is to provide a feeder device co-operating with the tramper head and means for automatically starting and stopping said device.

A construction designed to carry out the invention will be hereinafter described together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown and wherein:

Fig. 1 is a rear elevation of a tramper constructed in accordance with my invention,

Fig. 2 is an end elevation of the same,

Fig. 3 is a vertical sectional view on the line 3—3 of Fig. 1, and

Fig. 4 is a cross sectional view on the line 4—4 of Fig. 1.

In the drawings the numeral 10 designates a press box of the usual type, 11 the overhead cross beams 12 the end beams supporting the cross beams, and 13 the standards or uprights. Base plates 14 and 15 respectively, are mounted transversely on the beams 11 and to the inner edges are fastened, opposed channel or guide members 16.

The members 16 extend above the base plates and receive an upright yoke 17 which is slidable in said members and has its lower end attached to a tramper head 18 working in the box 10. The yoke has a transverse guide hanger 19 at its central portion which is provided with an elongated slot 20. A keeper 21 is mounted on top of the head and has an elongated slot 22 parallel with the slot 20 and vertically alined therewith.

A connecting bar 26 extends from the hanger to the keeper and has laterally extending studs 23 at each end engaging in the slots 20 and 22 and confined by brackets 24 fastened to the side of said bar. A plurality of spaced pins 25 extend from the opposite side of the bar 26 and have their outer ends supported by a retaining bar 27. The bar 27 terminates short of the bar 26. These parts constitute a vertical gear rack for reciprocating the head. A member 28 is mounted on the beams 11 within the yoke and supports a bearing box 29 in which a counter shaft 30 is journaled. The other end of this shaft is journaled in boxes 31 mounted on cross bars 32. Between the boxes 31 a worm gear 33 is fastened on the shaft. Bearing brackets 34 are mounted transversely of the bars 32 and support a drive shaft 35 on which a worm 36 is fastened. The worm meshes with the gear 33 and drives the same.

On the inner end of the counter shaft is mounted a spur wheel 37 which engages the pins 25 and raises and lowers the rack. The rack is carried over the wheel as is shown in Fig. 3 which causes the rack to shift laterally, the studs 23 riding in the slots 20 and 22. When the rack reaches the lower end of its stroke a curved shoe 38 carried thereby rides over the spur wheel acts not only to keep the wheel in mesh with the pins, but to prevent the rack falling when the latter passes under the wheel. This arrangement provides for a continuously reciprocating tramper head without reversing mechanism in the drive.

A hopper 39 is mounted on the upper rear edge of the box and an upright apron 40 mounted on the apron head passes contiguous to the front of the hopper and closes the same when the head is below said hopper. A fluted feeder roll 41 is mounted in said hopper on a shaft 42 which extends thru one end of the hopper and has a fast pulley 43 and a loose pulley 44 mounted thereon.

A belt 45 extends from the pulleys up to a driving pulley 46 having a face equal in width to the combined faces of the pulleys 43 and 44. The pulley 46 is mounted on a shaft 47 supported in a standard 48. The shaft has a bevel gear 49 on its outer end meshing with a bevel gear 50 mounted on

the end of the drive shaft 35. Motion is constantly imparted to the shaft 47 and the pulley 46 revolved. The pulley 46 drives the belt 45 which in turn drives the fast pulley 43 which revolves the shaft 42 and the feeder roll 41. Cotton received from a condenser or otherwise in the hopper is fed by the roll into the press box 10 below the head 18.

For shifting the belt I provide an angular shifting lever 51 pivoted in a keeper 52 mounted on the plate 15 and having a finger 53 bent at right angles and projecting into the path of a vertical shifting bar 54 carried by the head 18. The lever has a loop 55 engaging about the belt just above the pulleys 43 and 44. A coiled spring 56 under tension has one end attached to the adjacent end beam 12 and the other end connected with the lever.

When the head 18 in its downward stroke reaches the bottom of the hopper, the bar 54 will ride out of engagement with the finger 53 and the spring 56 will swing the lever so that the belt will be shifted onto the loose pulley 44. When the belt is shifted to the loose pulley the feeder roll will cease to revolve and the feed will be stopped. On the upward stroke of the head the bar 54 will engage the finger 53 when the head reaches the bottom of the hopper. The bar will swing the finger-end of the lever upwardly and said lever being in the nature of a bell crank will swing the loop 55 toward the hopper against the tension of the coiled spring 56, whereby the belt will be shifted onto the fast pulley 43 and the feed roll 41 set in motion.

It will be seen that the operation of the feeder is entirely automatic and the head will reciprocate continuously, thus packing the cotton in the box. The particular arrangement and operation of the gear rack and its shifting movement make for a smooth and easy running tramper and are highly important and advantageous. There will be less vibration and more effective functioning than is generally had in reciprocating trampers.

Various changes in the size and shape of the parts as well as modifications and alterations, may be made within the scope of the appended claims and without departing from the spirit of the invention.

What I claim, is:

1. In a tramper, a press box, a head reciprocating into said box, a yoke mounted on said head, a laterally shifting gear rack having one end connected with the yoke and the other end connected with the head, and a continuously operating spur wheel engaging said rack.

2. In a tramper, a press box, a head reciprocating into said box, a yoke mounted on said head, a laterally shifting gear rack having one end connected with the yoke and the other end connected with the head, and a shoe carried by the yoke and riding over the wheel as the rack passes under the same at the lower end of the head.

3. In a tramper, a press box, a reciprocating tramper head, a pair of channel members, a yoke attached to the head and slidable in the members, a slotted hanger at the top of the yoke, a slotted keeper at the bottom of said yoke, a connecting bar having projections engaging in the slots of the hanger and keeper and movable laterally, a gear rack carried by the bar, a shaft, a spur wheel mounted on the shaft and meshing with the rack, a curved shoe carried by the yoke in position to ride over the wheel, and means for driving the shaft.

In testimony whereof I affix my signature.

MONROE C. KIRKPATRICK.