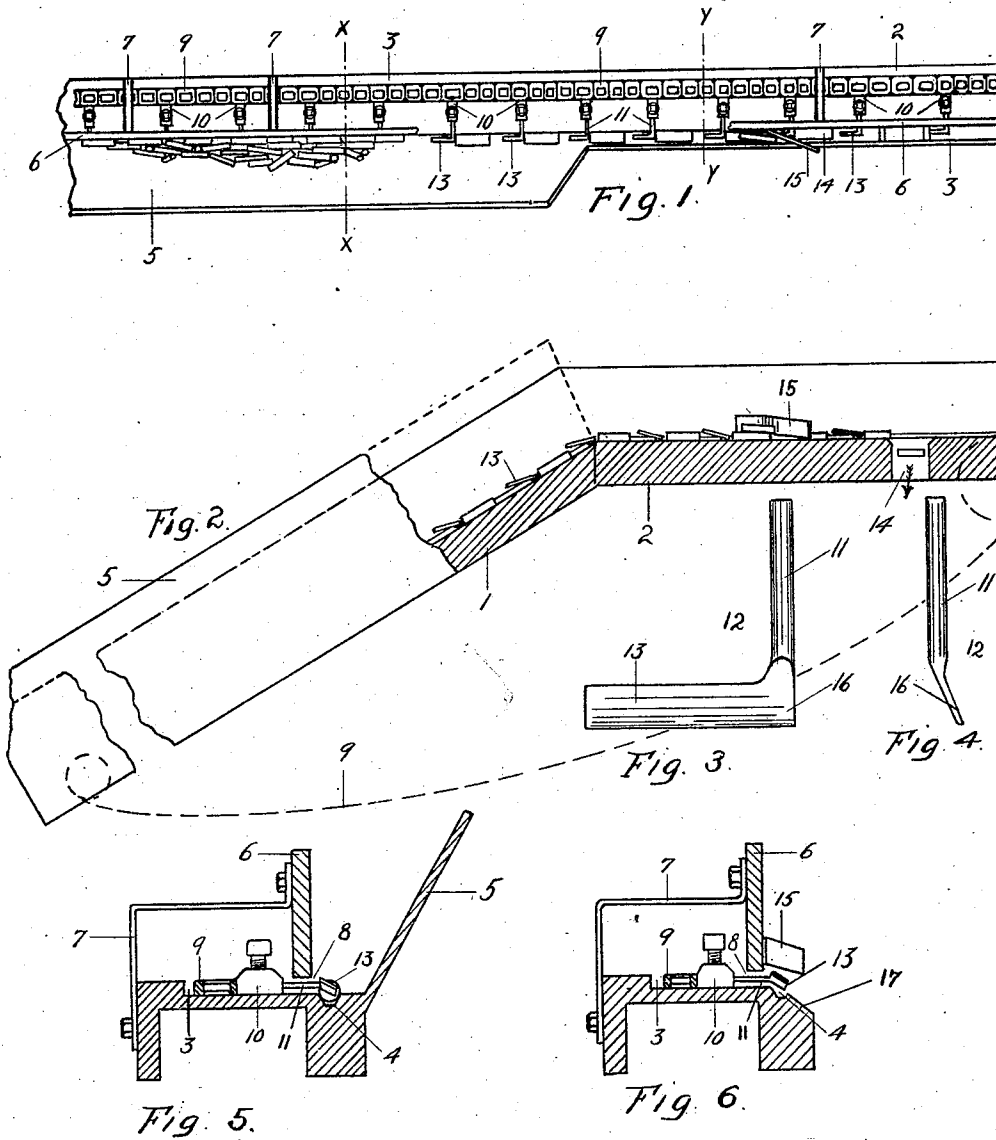


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C. F. STEWART.
CONVEYER.

APPLICATION FILED AUG. 31, 1906.



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CLARENCE F. STEWART, OF VASSAR, MICHIGAN.

CONVEYER.

No. 853,269.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CLARENCE F. STEWART, a citizen of the United States, residing at Vassar, in the county of Tuscola and State of Michigan, have invented certain new and useful Improvements in Conveyers; 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 conveyers or feeding mechanisms and in the present instance I have chosen to illustrate one embodiment thereof as a feeding means for wood working machines.

One object of my invention is the provision of means for feeding work singly to the wood working machine in order to avoid overcrowding the same.

A second object is the provision of means for preventing the passage of more than one piece of work at a time to the wood working machine and to effect a uniform feed.

To these ends, therefore, my invention consists in the provision of novel mechanisms and combinations of parts together with the equivalents thereof as will be more fully described hereinafter and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a top plan view of a portion of a conveyer in which is incorporated one embodiment of my invention, Fig. 2 is a side view of the same, parts being broken away to better disclose the construction, Figs. 3 and 4 are enlarged detail top and edge views respectively, of one of the fingers, Fig. 5 is a vertical cross sectional view on the line $x-x$ of Fig. 1, and Fig. 6 is a similar view on line $y-y$ of Fig. 1.

Referring to the drawings, wherein is illustrated one of a number of embodiments of my invention, I provide a suitable frame, comprising an inclined portion or way (1), terminating in a preferably horizontal portion (2), the inclined portion (1) being very steep in order to prevent the work from piling on top of the conveying means. Said way is preferably of inverted U-shape construction, to afford sufficient strength, the bridge portion of the way being cut away as at (3) and having a V-shaped groove (4) formed in the upper end of one of the legs of the way. The outer edge of the inclined portion (1) of the way is further provided with an outwardly or laterally projecting steeply inclined side (5) forming one wall of a trough,

the opposite wall (6) being vertical and preferably supported by the hangers or standards (7) suitably secured to the way and supporting the wall (6) a short distance above the upper surface of the way, whereby a slot (8) is formed between the upper surface of the cut-away portion of the way and the lower edge of the wall (6). The groove (4) is located between the walls (5) and (6).

The conveyer may preferably consist of an endless chain (9) received in the cut-away portion of the way on which it is supported, certain of the links of the chain being provided with laterally extending sleeves (10) adapted to receive the stocks (11) of the fingers (12). These fingers are preferably of the general L-shaped form as shown in Figs. (3) and (4), the blade (13) of the finger extending rearwardly at right angles to the stock (11) and being conveniently flattened, said flattened portion being bent down at its heel so as to lie in the groove (4), the blade being inclined from front to rear relative to the stock. The sleeves (10) are provided with set screws, whereby to adjustably retain the stocks of the fingers in position in the sleeves. The inclined wall (5) does not extend along the horizontal portion (2) of the way, as it is unnecessary at that point, although the suspended wall (6) may extend from end to end of the way, and longitudinally thereof as shown. The horizontal portion of the way is provided with an opening (14) located in alinement with the groove (4), and the inner wall (6) may be preferably provided with an outwardly inclined guard (15) located in advance of the opening (14) and projecting at an angle across the groove.

The operation of the present embodiment of my invention is as follows—Movement is imparted to the endless chain carrying the fingers (12) in any convenient manner, the stocks of the fingers projecting through the slot (8) beneath the wall (6) in such a manner that the inclined and flattened portions (13) of such fingers project partially into the groove (4) which is of such a width as to receive a single piece of work, the work normally lying in said groove owing to the inclination of the wall (5). The material operated upon by the wood working machine fed by this conveyer, which material, in the present instance, consists of unfinished cylindrical dowel pins, is dumped into the trough formed by the outwardly inclined wall (5) and the suspended wall (6) some of the

dowel pins falling into the groove (4) at the bottom of the trough. The fingers (12) (12) of the conveyer are spaced apart from each other a distance sufficient to easily accommodate but one only of the dowel pins between each two fingers, the heels (16) of the fingers engaging the rear ends of the dowel pins and pushing them along in the groove (4). The incline of the flattened portion (13) of the fingers prevents the dowel pins from riding thereon, and should any of the dowel pins be superposed upon others in the groove, such superposed dowel pins will be wiped off by the inclined guard (15) before they reach the opening (14), in order that the pins may be fed through the slot (14) one at a time. The opening (14) may conveniently lead to any suitable machine for further operating upon the pins and the superposed pins which are wiped off by the guard drop off the way. The outer edge of the groove is reduced at a point rearwardly of the inclined guard or sweep, as shown in Fig. (6) at (17), so that the groove is just deep enough to accommodate one pin. In the event that another pin is riding on top of a pin in the groove or on top of a blade (13) it will automatically roll off when it reaches this reduced portion, but in case it does not, the guard (15) will surely cause its displacement.

It is evident that by means of my invention I have produced a simple inexpensive conveyer which can not easily get out of order. It is also obvious that many changes might be made in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence, I do not wish to limit myself to the exact construction herein set forth.

Having thus fully disclosed my invention, what I claim as new and desire to secure by Letters Patent is—

1. A conveyer comprising a suitable trough shaped support to receive the work and having a groove formed on the bottom thereof into which individual pieces of work fall, a traveling means and means carried thereby such last named means projecting partially across the trough and then downward into the groove to engage the work therein and move it toward the discharge end of the conveyer.

2. A dowel pin conveyer comprising a suitable trough-shaped support adapted to receive the work, a traveling means moving over the support and work-engaging members carried by the traveling means to engage and move the work, each two adjacent members located apart from each other a sufficient distance to receive only a single pin therebetween.

3. In a pin conveyer, the combination of a frame consisting of an inclined portion and a horizontal portion, an inclined wall project-

ing from the inclined portion of the frame, a second wall located opposite to the inclined wall and co-operating therewith to form a trough for receiving the work, and a conveyer engaging single pieces of the work in the trough and moving them up the inclined portion and along the horizontal portion of the way.

4. A conveyer comprising a suitable base, the upper face of which is cut away, and is also provided with a groove, opposing walls forming a trough in communication with the groove to receive the work, and means supported upon the cut-away portion of the base and projecting beneath one of the walls for engaging and moving the work.

5. A conveyer comprising an inclined trough having a groove formed therein, traveling means located outside the trough and means carried by the traveling means and projecting into the groove in the trough for engaging the material therein.

6. A conveyer comprising an inclined trough having a groove formed therein, traveling means located outside the trough and means carried by the traveling means and projecting into the groove through a slot near the bottom of the trough for engaging the material therein.

7. A conveyer comprising an inclined receiving means having a groove formed therein and a traveling means adapted to extend into the groove to engage the material therein.

8. A conveyer comprising a suitable means for receiving and supporting material to be conveyed, a traveling element, and fingers carried by the traveling element and projecting into the receiving means, said fingers being longitudinally and rotatably adjustable to project more or less into the receiving means.

9. A conveyer comprising a suitable means for receiving and supporting material to be conveyed, a traveling element, and fingers projecting into the receiving means, said fingers comprising a stock secured to the traveling element and a reduced blade extending at an angle to the stock.

10. A conveyer comprising a suitable means for receiving and supporting material to be conveyed, a traveling element, and fingers projecting into the receiving means, said fingers comprising a stock connected with the traveling element and a reduced inclined blade adapted to engage the material.

11. A conveyer comprising a suitable means for receiving and supporting material to be conveyed, a traveling element, and fingers projecting into the receiving means, laterally extending sleeves carried by the traveling element, a portion of the fingers received in the sleeves and means for removably and adjustably connecting the fingers and sleeves.

12. A conveyer comprising a suitable base having a groove formed therein and provided with an aperture, of a traveling element located apart from the conveyer, means carried by the element and projecting into the conveyer and a guard located in advance of the opening to wipe off superfluous material riding upon the aforesaid means.

13. A conveyer comprising a grooved support adapted to receive dowel pins, an endless chain traveling parallel with the support, stocks carried by the chain and spaced apart from each other, inclined blades on the free ends of the stocks, the heels of the blades adapted to lie in the grooves, the grooved support provided with a discharge opening in alinement with the groove, through which opening the pins are discharged one at a time and means for displacing superposed pins.

14. A conveyer comprising a grooved support adapted to receive dowel pins, an endless chain traveling parallel with the support, stocks carried by the chain and spaced apart from each other, inclined blades adapted to lie in the grooves, the grooved support provided with a discharge opening in alinement with the groove, through which opening the pins are discharged one at a time, the outer wall of the groove being reduced rearwardly of the opening to permit superposed pins to automatically roll off before arriving at the opening.

15. A conveyer comprising a grooved support adapted to receive dowel pins, an endless chain traveling parallel with the support, stocks carried by the chain and spaced apart from each other, inclined blades on the free ends of the stocks, the heels of the blades adapted to lie in the grooves, the grooved support provided with a discharge opening in alinement with the groove, through which opening the pins are discharged one at a time, the outer wall of the groove being reduced rearwardly of the opening to permit superposed pins automatically to roll off before arriving at the opening, and an inclined

sweep located just behind the opening to insure the displacement of the superposed pins from the blades and groove, before reaching the opening.

16. An inclined conveyer for feeding dowel pins singly and in succession, comprising a trough for receiving a bulk of pins, the trough having a longitudinally extending groove therein of a width to receive a single pin and traveling members engaging the rear ends of the pins.

17. An inclined conveyer for feeding dowel pins singly and in succession, comprising a trough for receiving a bulk of pins and traveling fingers projecting into the trough and taking against the rear ends of the pins, the fingers being inclined to prevent the pins from riding thereon.

18. A conveyer for feeding dowel pins singly and successively comprising a suitable support having an opening therein through which the pins drop, a conveyer for moving the pins toward the opening and a wiper located in advance of the opening for removing superfluous pins.

19. A conveyer for feeding dowel pins singly and successively comprising a suitable support having an opening therein through which the pins drop, a conveyer for moving the pins toward the opening and means for removing superfluous pins.

20. A conveyer for feeding dowel pins singly and successively, comprising a grooved support, in which the pins are guided, the support provided with an opening in alinement with the groove, through which opening the pins drop, traveling fingers taking against the rear ends of the pins for moving them along the groove, one wall of the groove being reduced in advance of the opening to permit superfluous pins to roll off.

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

CLARENCE F. STEWART.

Witnesses:

RALPH S. WARFIELD,
ALLEN MOORE.