C. F. BENDSHADLER.

FEEDING MECHANISM.

APPLICATION FILED SEPT. 5, 1912.

1,114,722.

Patented Oct. 27, 1914.

2 SHEETS—SHEET 1.

Fig. 1

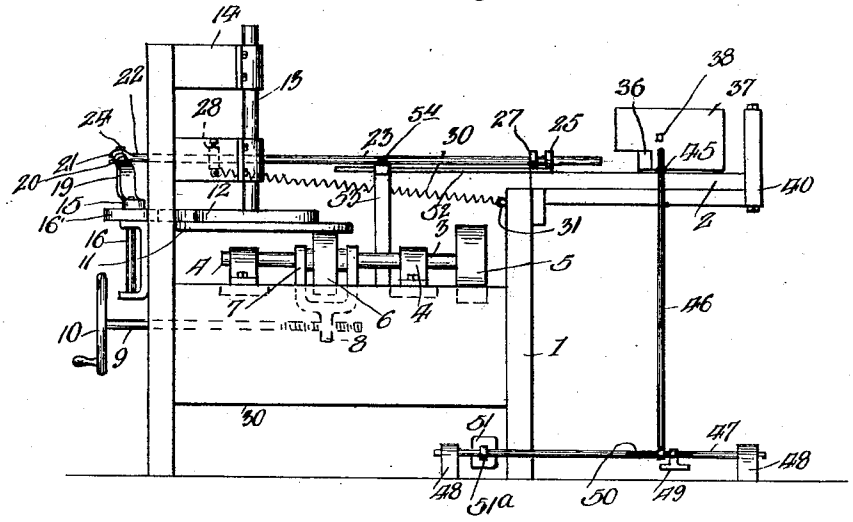


Fig. 2.

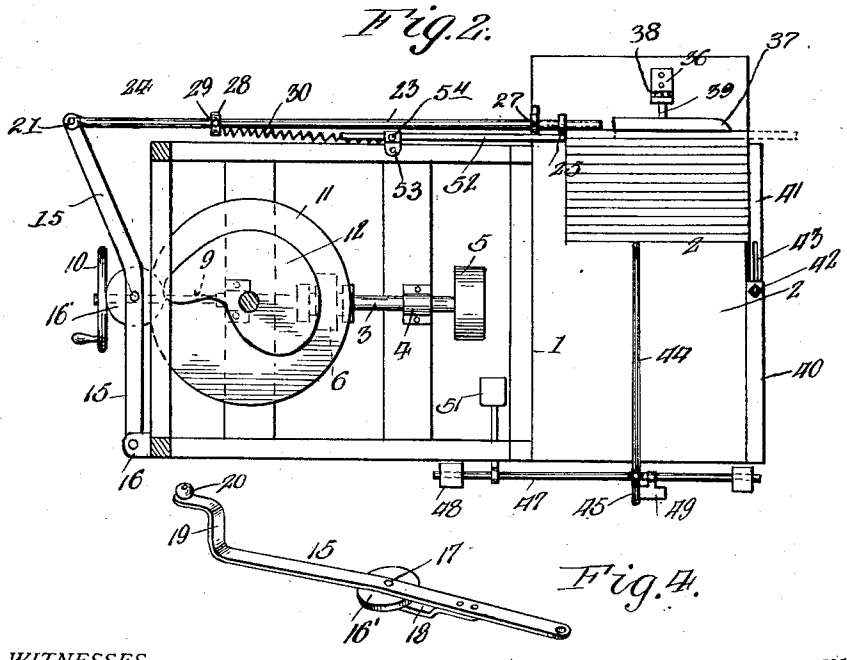


Fig. 4.

WITNESSES

G. M. Spring.

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INVENTOR

Charles F. Bendshadler

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C

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2 SHEETS—SHEET 2.

Fig. 3.

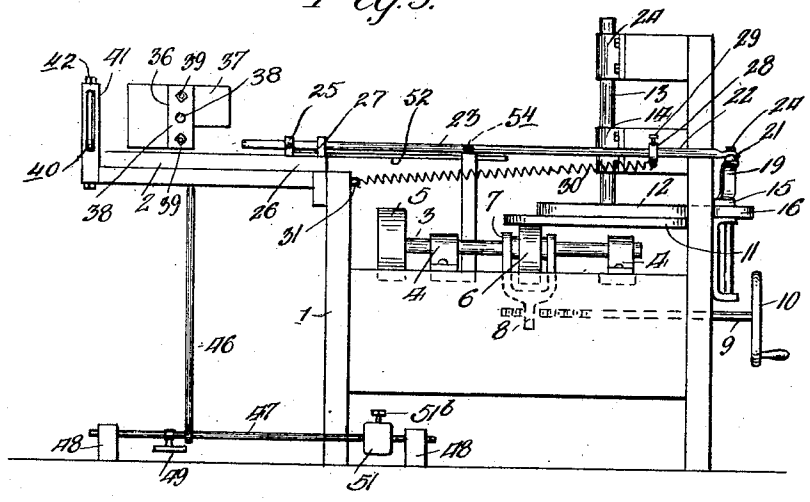


Fig. 7.

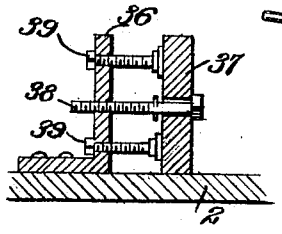
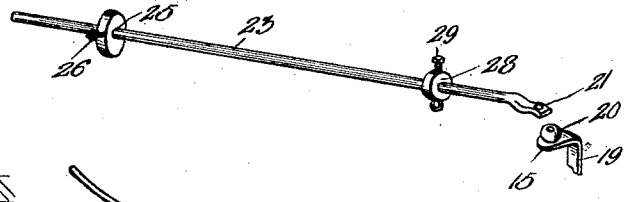


Fig. 5.



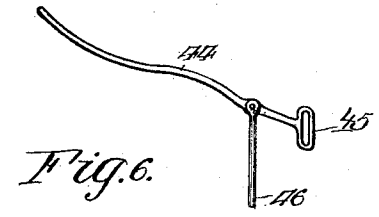
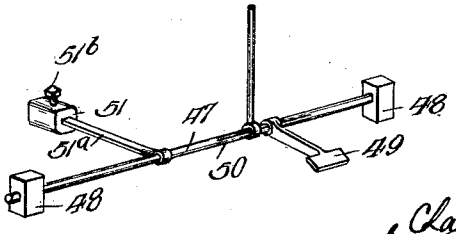


Fig. 6.



WITNESSES

G. M. Spring

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UNITED STATES PATENT OFFICE.

CHARLES F. BENDSHADLER, OF ELGIN, OREGON.

FEEDING MECHANISM.

1,114,722. Specification of Letters Patent. Patented Oct. 27, 1914.

Application filed September 5, 1912. Serial No. 718,759.

To all whom it may concern:

Be it known that I, CHARLES F. BENDSHADLER, a citizen of the United States, residing at Elgin, in the county of Union and State of Oregon, have invented new and useful Improvements in Feeding Mechanism, of which the following is a specification.

My invention relates to feeding mechanism, and particularly to a mechanism for feeding boards or shooks to box making machines.

An object of my invention is to provide a device adjustable to accommodate the feeding of boards of various sizes.

Another object of the invention is to provide a novel and efficient means for driving the machine.

A further object of the invention is to provide an improved form of means for maintaining the boards or shooks in feeding position upon the bed or table of the machine.

A still further object of the invention is to generally improve the construction of a machine of this kind, the minor objects which are attained appearing from the following description of the device illustrated in the accompanying drawings.

In said drawings:—Figure 1 is a side elevation. Fig. 2 is a plan view. Fig. 3 is an elevation taken from the side of the machine opposite to that of Fig. 1. Fig. 4 is a detail perspective view of the cam-operated lever. Fig. 5 is a detail perspective view of the board feeding slide member. Fig. 6 is a detail perspective view of the mechanism for maintaining the shooks in position to be fed to the box making machine. Fig. 7 is an enlarged detail sectional view of the abutment plate employed.

Referring to the drawings, 1 designates a suitable frame which is preferably constructed of wood and which is of such shape as to support the various elements hereinafter specified. The numeral 2 designates the bed or table upon which the boards or shooks to be fed to the box making or other machine, are placed.

The parts of the machine are driven from a shaft 3 suitably mounted as in bearings 4. The shaft 3 is provided with a pulley 5 adapted to be engaged by a driven belt to impart motion to the shaft 3. The shaft 3 has slidably secured thereon to revolve therewith, a friction wheel 6 mounted between the arms of a bracket 7, also slidable along the shaft. Said bracket is provided with a plate 8 having a screw threaded opening therein, which is engaged by a screw threaded portion of a rod 9 operated by means of a hand wheel 10.

The wheel 6 frictionally engages and drives a plate or disk 11 on which is formed a suitable form of cam 12. The plate 11 and supported cam 12 are fixed to a vertical shaft 13 suitably mounted in bearings 14 on the frame 1.

The numeral 15 designates a lever which is pivoted at 16 to the frame 1, and has approximately midway of its length, a roller or wheel 16′ pivoted at 17 to the lever 15 and an attaching arm 18 thereon, as best shown in Fig. 4. Said lever at one end, is deflected upwardly at 19 to raise a portion thereof, provided with a ball or similar device 20 thereon. Said ball 20 is engaged by a cap or socket 21 provided on a slide or shook feeding rod member 23. A bolt 24 is passed through the ball and socket 20 and 21 respectively, to provide a pivot joint thereat. An abutment or board feeding block 25 is adjustably secured to the rod 23 as by means of a set screw 26 or the like. Said block 25 is oval or projects beyond the outermost arc that may be described from the axis of the block so that the block may be adjusted to different extents of projection toward the feed table, so as to feed boards or shooks of different thicknesses or a plurality of boards or shooks simultaneously. The rod 23 passes through and is guided in a bracket 27 secured to the feeding table or other suitable part. To the rod 23 is adjustably secured a block or ring 28 by means of a set screw 29. A coil spring 30 is attached to said block 28 and to a suitable part of the machine, as at 31, which spring normally maintains the roller 16′ in engagement with the cam.

The numeral 36 designates a bracket which may be suitably supported on the machine, and 37 designates a plate which is adjustable to extend beyond the inner face of the slide 23, as by means of a screw 38 engaging a threaded opening in the bracket and secured to the plate 37 so as to turn therein without disengagement therefrom. The plate 37 is also provided with additional adjustment means consisting of screws 39 which are also screw threaded and engage openings provided in the bracket arm. Said screws 39 merely bear against the plate

37 and serve as a support therefor in addition to the screw or bolt 38.

Along one side of the bed or table 2 is secured a board or bracket 40 which is slotted so as to slidably receive a plate or arm 41 adjustably secured thereto, as by means of a vertical bolt such as 42 engaging an elongated slot 43 in the arm 41.

The adjustment of the plate 41 is relatively to the abutment plate 37. By means of this plate, means is provided for the boards or shooks to abut against without being properly fed upon feeding movement of the feed rod 23. Merely sufficient space is left between the end of the plate 41 and inner face of the plate 37 to permit of the passage of but a single feed of boards or shooks therethrough at a time.

The shooks or boards are placed upon the table or bed 2 with their sides parallel with the inner face of the slide 23, and the adjacent board or shook abuts or engages against the block 25. The adjustable feature of the block permits the accommodation of boards or shooks of different lengths, and the machine is adjusted to accommodate different thicknesses of board by means of the block 25 and adjustable plate 37 which may be projected beyond the inner face of the slide 23 so as to insure the feed of a single board in cases where the boards are of less thickness than the thickness of the block 25. Where the boards are of greater thickness or equal thickness to the block 25, the machine may be adjusted to accommodate the passage of a single one of such boards or shooks by the adjustment of the plate 41.

The boards or shooks are held in vertical position and against the inner face of the plate 37, by means of a rod 44 which may be curved if desired, or of any other shape, and which is preferably provided with an upturned shook or board engaging end, as shown. The rod 44 is provided with a handle 45 and is pivotally secured as shown, on a vertical rod 46 slidable on the rod 47 which is pivoted in blocks or supports 48. The rod 46 is slidable along the rod 47 so that the rod 44 may be brought centrally of the boards or shooks. A pedal or foot operable member 49 is secured to the rod 47, preferably slidably. Said slidable parts 46 and 49 are connected so as to turn with the rod 47 by means of a spline 50. A weight member 51 is provided on an arm 51[a] which is rigidly secured to the rod 47. The weight 51 is slidable on the arm 51[a] and is secured thereto by a set screw 51[b], which permits adjustment of the weight to vary the tension on the rod 44. As the boards are fed from the bed or table, the rod 45 is moved inwardly and automatically through the falling or lowering of weight 51, to an extent equal to that left by the fed board or boards by means of the weight 51. But it is usual, however, to place a supply or quantity of boards upon the curved part of rod 44 and hold them thereon by hand, and as the supply against which the end of the rod 44 bears diminishes, the rod is pulled away from said diminishing supply and another supply is shoved off of the curved rod by hand, and the rod then allowed to return to position with its upturned end bearing against the supply of boards being fed. When it is desired to supply the shooks or boards to the table or bed, or to remove the rod 44 from pressing against the boards or shooks, the pedal 49 is depressed whereupon the rod 44 will be raised. Upon releasing the pedal 49, the weight 51 restores the rod 44 to engagement with the boards or shooks. A guard rod or the like 52 is adjustably supported in a slot in a bracket 53, by means of a set screw 54, This guard rod 52 at one end, as seen in Fig. 2, bears against the shook or board next to the shook or board being fed and prevents the displacement of said "next" shook upon return movement of the rod 23 and block 25. In the absence of such rod 52, the frictional engagement of the block 25 with the said "next" shook would be sufficient, in some cases, to move the shook inwardly with the rod 52 upon its return movement.

The feeding of the boards is accomplished as follows, after the several parts described have been adjusted according to the length and thickness of the boards. The disk or plate 11 is driven by frictional engagement with the wheel 6 and the speed of the wheel may be regulated by the distance of the wheel 6 from the shaft 13 as a center, the wheel being adjusted through the rod 9 and coöperating parts. Upon the turning or rotation of the plate 11, the cam 12 is likewise rotated and periodically forces the roller 16 and attached lever 15 away from the same so as to reciprocate the rod 23. Said rod 23 feeds a board or shook or a predetermined number of them, upon each reciprocation, the block 25 engaging the boards or shooks and sliding the same beyond the bed or table where they are engaged by rollers or other parts of a box making machine, or other machine to which it may be desired to feed the boards or shooks. As the rod 23 and block 25 return to their normal position, the block 25 passes the remaining boards or shooks, and when beyond the same the rod 44 forces the pile of boards or shooks against the inner face of the slide 23 and plate 37, preparatory to another feeding reciprocation. Upon the return movement of the rod 23 and block 25 the guard member 52 prevents the adjacent boards or shooks from being moved inwardly out of position.

The reciprocating rod and turnable block 25 enable the machine to operate effectively in connection with a special sawing process

as follows. Boards or shooks of the same thickness are first sawed into two boards, one of the sawed boards being one-half the thickness of the other sawed board. Such sawed boards are subsequently returned to the table 2 for further feeding and sawing, this time two boards, one of each of the two thicknesses, simultaneously upon each reciprocation of rod 23. According to the process the sawed boards of less thickness, when two sawed boards are fed simultaneously engages the plate 37 and thus in order to feed the two boards simultaneously the block or article-engaging member 25 must be of such size as to extend completely across the adjacent end of one sawed board and partly across the adjacent end of the other sawed board without engagement with the third board from the plate 37. In order that a single block 25 may be used to feed single boards as first suggested and in order to feed two boards simultaneously, such block must be turnably mounted on the rod 23. The special process referred to is practised in connection with a special type of sawing machine unnecessary to particularly describe or illustrate as it forms no part of the present invention.

My invention is not limited in its application to the feeding of boards or shooks as described, but may be used in other arts to feed other material, and it is to be understood also that changes within the spirit and scope of the appended claims may be made.

Having thus described my said invention, what I claim and desire to secure by Letters Patent is:—

1. A reciprocating feed mechanism comprising a reciprocating member, an article-engaging member longitudinally adjustable, mounted off center and turnable on said reciprocating member to different degrees of projection on the feed side for engaging articles of different thickness.

2. A feed mechanism comprising a feed member movable relative to articles to be fed, an article-engaging member longitudinally adjustable, mounted off center and turnable on said reciprocating member to different degrees of projection on the feed side for engaging articles of different thickness, and means to fasten the article-engaging member to the feed member.

CHARLES F. BENDSHADLER.

Witnesses:
FRANK T. SMITH,
JESSE CRUM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."