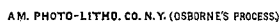


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UNITED STATES PATENT OFFICE.

JOHN CUMBERLAND, OF MOBILE, ALABAMA.

FEEDER FOR PLANING-MACHINES.

Specification of Letters Patent No. 8,702, dated February 3, 1852.

To all whom it may concern:

Be it known that I, JOHN CUMBERLAND, of the city and county of Mobile and State of Alabama, have invented a new and useful machine for feeding planing-machines with boards or planks with regularity and constancy and which may be used for the delivery of the same after the planing has been performed, and do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2, an end elevation. Fig. 3, a partial longitudinal section inverted, and Figs. 4, 5, and 6, partial representation.

This machine as constructed is composed of two general parts. The first consists of a stationary plane or bed-piece, and the second of a movable platform which is subject, for the purposes of description, to further division as will appear hereinafter. The bed-piece is represented in Figs. 1, and 2, by corresponding letters A A. It is a rectangular plane of sufficient solidity to support the superincumbent platform and its load and whose length and breadth is to be accommodated to length and quantity of the material to be elaborated by a planing machine. In front it projects half its width and is notched to receive the spring S, S, (Fig. 1,) and the standard T. It is furnished also with grooves Y, Y, fixed at right angles with its length on its upper surface to receive friction wheels or rollers on the movable platform above, the direction of whose motion they are intended to control; and also with a rack g' , g' , parallel with the grooves, which receives the cogs or teeth of the pinion on the hand wheel or winch f' , (Figs. 1, 2, and 3.) Besides these this bed-piece contains a part of the appliances for alternate lateral motion of the movable platform. The tumbler V, Figs. 1, 4, and 5, conveniently fixed by the journal of its shaft t' , t' , about the middle of A A, is furnished at either end with a click W, W, and thin springs X X, to keep them in proper place. On the shaft of the tumbler and below it is an arm U, having a slot cut longitudinally for an adjustable pin which joins the con-

necting rod R, with U, and a lever Q, below its fulcrum. The standard T, supports the lever Q, which extends upward and receives the pressure of the spring S, S, in front and below its cross head, so that when the lever is pressed forward by any force, and released it returns to its place by the elasticity of the spring and communicates a reciprocating motion to V, by the rod R, and the arm U. The connection of Q, R, and U, is shown by Figs. 1 and 4.

H, H, are posts of a gallows frame fastened to the edges of A A, for a purpose hereafter to be named; and the wheels K, K, only suggest the portability of A. A.

The movable platform in relation to its own structure may be divided into two parts: a fixed platform B, B, Figs. 1, 2, and 3, and an adjustable table C, C, Figs. 1, and 2. The fixed platform of this division is shown by the partial longitudinal section inverted (Fig. 3).

Z, Z, are two parallel ratchets, attached across B, B, and projecting a little over its edges, with reversed teeth inwardly to each other and are connected by an adjusting lever j' , j' , and shaped like a letter Y which is let into and flush with the bottom of the platform B, B, and moves freely on its center S' , above Z, Z. On the opposite arms of j' , j' , two pins m' , m' , move freely in the slots n' , n' , cut longitudinally in the ratchets Z Z to receive them. At either end of the two ratchets Z Z are slots O' , O' , O' , O' , cut at right angles with the ratchets for the admission of screws which serve the double purpose of fixing them to the platform B, B, and of guiding parallelly their motion when acted upon by the Y lever j' , j' , in the direction of the length of B, B, backward or forward.

Attached to the Y lever j' , j' , are two clutches or teeth l' , X' on the opposite sides of B, B, which form occasional extensions of the teeth of the ratchets Z, Z. The tooth at X' , is fixed upon j' , j' , while l' , is attached to an adjuster which turns upon its own center and is connected with the Y lever j' , j' , by a pin working in a slot, v' , and by which also the distances of the teeth l' and X' relatively to the ratchets are regulated. The two teeth l' , and X' , perform an important part by losing a motion and ungearing the

ratchets Z, Z, which are necessary for the production of the traverse motion of the platform B, B, and which will be hereafter explained.

- 5 The distance between the ratchets Z, Z, is regulated so as to accommodate itself to the length of the tumbler V and its clicks W, W, so that when B, B, is turned over and put in its place on A, A, they work between the ratchets in such a way that one click is always in gear. The connection of tumbler V, click W, and one of the ratchets Z, is shown in Fig. 1.

- 15 There are four friction rollers i' , i' , i' , i' , Figs. 3 and 2, attached (two at each end) to B, B. They are placed at right angles with it and move in the grooves Y, Y, on the bed-piece A A Fig. 1, and allow a free traverse motion to the movable platform. D, D, 20 D, D, Fig. 3, are the ends of the guide posts fastened to B, B, and appear also in Figs. 1, and 2.

- f' , f' , is a hand wheel (Figs. 1, 2, and 3,) at the end of B, B, on the shaft of which 25 (e' , e') running in two boxes Q', Q', is fixed a pinion p' , which works in the rack g' , g' , attached to the bed-piece A A, and enables B, B, to be moved right or left by hand.

- 30 A', A', Figs. 1, 2, and 3, is a vertical rack attached to the side and near the end of B, B, and extends up as high as the guide posts D, D.

- C, C, is the adjustable table of the fixed 35 platform B, B, shown in Figs. 1 and 2. This table bears the planks to be fed to planing machine. It has the form and size of the lower platform B, B, and rests upon it. It is pressed upward by springs as 40 shown by the spirals h' , h' , or is supported by cords P, P, which pass over the fusee J. It moves freely up and down between the guide posts D, D, which are attached to B, B, and is adjusted in the same direction 45 by the hand rack A', A', and pinion B', B', Fig. 3.

- Attached to C, C, are four vertical ratchets G, G, G, Figs. 1 and 2, with the teeth or catches turned up and fastened to four posts 50 E, E, E, Fig. 1, and are furnished with balance clicks F, F, F, which fall in gear with the ratchets G, G, G, and prevent the table from rising up. The balance clicks F, F, F, are fastened to the guide posts D, D, and 55 have on the inside, handles of sufficient weight, that by falling they are thrown out of the teeth of the ratchets.

- u' , in Figs. 1, 2 and 3, is a support for the shaft C', C', and pinion b' , b' , which 60 works through the wide box v' , and with the wheel d' , d' , forms the hand rack for moving the adjustable table up or down.

- H, H, H, Figs. 1 and 2, is a gallews frame which the driving shaft L, L, works in.

- 65 N is a driving pulley on L, L, and on

L, L, is a driving half wheel M, which moves or pushes the plank from the adjustable table.

The posts I, I, on the frame support the fusee J.

Fig. 6, represents a rack and half wheel which may be substituted for the parallel ratchets Z, Z, for the purpose of producing the reciprocating lateral motion of the movable platform by a ratchet wheel shown by 75 the dotted lines.

Having thus described the several parts of my invention the operation for the feeding of a planing machine is as follows: The planks are piled up in even and successive tiers on the adjustable table C, C, Fig. 1, which brings it down to the platform B, B. The handles of the balance clicks will rest upon the tiers of plank which being pressed up by the springs h' , h' , 85 or supported by the cord P, P, and weight O, over the fusee J, or the hand rack A', A', will be kept in gear with the vertical racks G, G, G, and hold C, C, in its place. The uppermost planks on the several tiers on the table C, C, are now a little lower than the transverse handle of the lever Q, and on a level with the course of the planing machine. Things being thus arranged the first plank of the first tier is forced forward by 95 the driving half wheel and carries the lever Q, forward with it, which as soon as the plank is over, returns to its place by the energy of the spring S, S, which presses against it. The lever Q, acting through the rod R, and arm U, communicates its motion to the tumbler V, which has one of its clicks W, in gear with one of the teeth of the parallel ratchets Z, and moves the movable platform laterally so as to bring the next tier of planks to the place just occupied by the first. The first plank of the second tier is then removed with like action of the feeding machine and so on till the last tier of planks is reached. Now it is 110 required that two planks must be removed successively before the movable platform begins to return in the opposite direction. When the first plank on the last tier is removed the return of the lever Q, has no longer acted on the ratchet Z but on the adjusted tooth z' on the Y lever j' , j' , and has turned the Y lever on its center s' , without any other action on the parallel ratchets Z Z than throwing the ratchet out of gear which brought the movable platform to its present position and bringing the other ratchet now into connection with the opposite click of the tumbler V. The platform therefore loses a motion and when the second plank of the last tier is removed the lever Q will then advance it one degree in the opposite direction as the click will act on the other ratchet. The lever Q will now 125 continue to move the platform until the first

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tier is again reached when coming into play with the tooth X', on the other side of B, B, another motion will be again lost and thus all the planks will be taken away in succession as the movable platform traverses the bed-piece from side to side. The balance clicks adjust themselves. The handles rest upon the planks and when they are moved from under the clicks the handles fall and let go a catch or tooth in the rack G, G, G, and as the planks are forced up by the spring or weights the clicks are again brought into gear with the ratchets, so that the balance clicks permit the movable platform to rise the thickness of a plank as often as top layers of the tiers are shoved off.

When the machine above described is used for the delivery of boards from a planing machine after they are dressed its parts and structure are the same as above shown excepting that the teeth of the ratchets Z, Z, and the clicks W, W, on the tumbler V are reversed, and the lever Q, and the springs S, S, change places in the notch in A, A, so that the latter presses the former forward instead of back as above described. The

action of the movable platform will then be accommodated to the reception of the dressed material as it was before to the purpose of feeding the planks to the plane. 36

What I claim and desire to secure by Letters Patent is—

My above described combination of a bed-piece, with the spring, lever, connecting-rod, arm, tumbler and click; and its grooves, guides and rack, with a movable platform with the adjusting levers, and ratchets for the production of a lateral traverse and lost motion, with its adjustable table, adjusted by springs, weights, screws or other known means; with its hand wheels, rollers, vertical ratchets and balance clicks; and of a frame with its pulley and half wheel for the purpose of delivering or receiving material thereon, the whole being constructed, combined and operating, as above set forth and described and for the purposes mentioned. 45

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Test:

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