(No Model.)

S. M. RICHARDSON.

PLANER PRESSER ROLL.

No. 313,885. Patented Mar. 17, 1885.

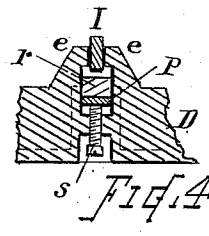


Fig. 4

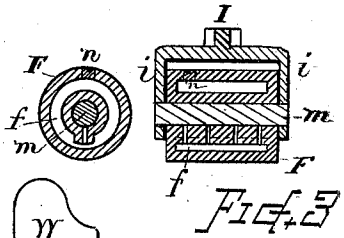


Fig. 3

Fig. 1

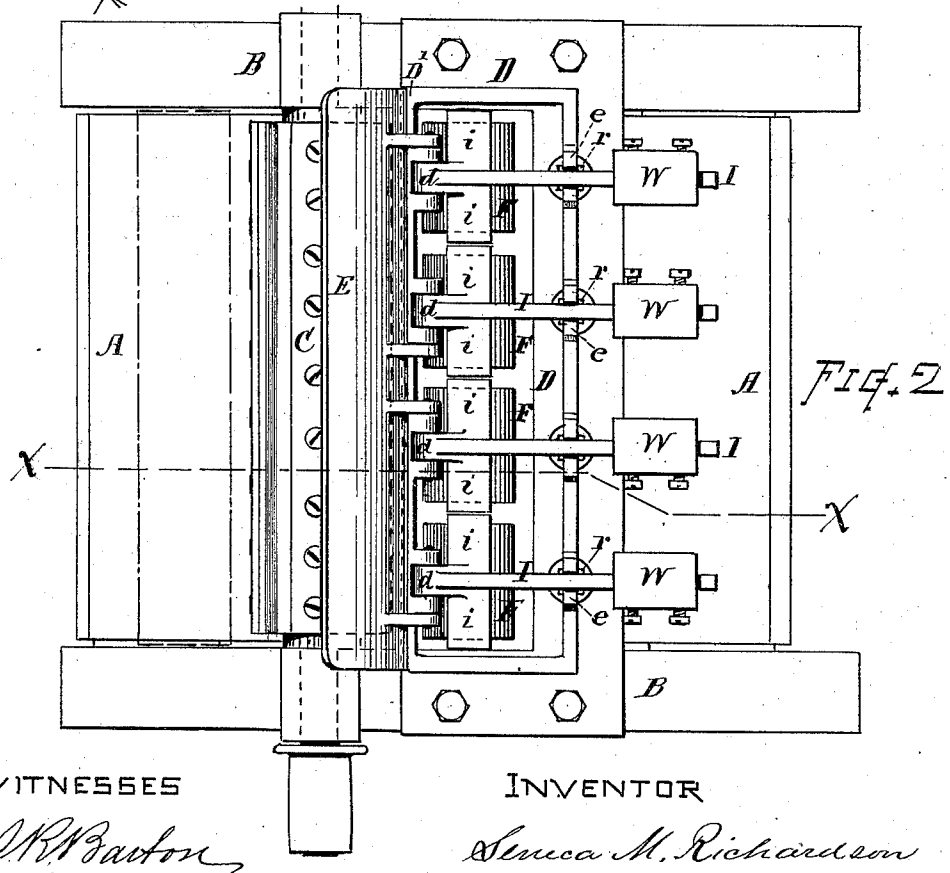


Fig. 2

WITNESSES

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UNITED STATES PATENT OFFICE.

SENECA M. RICHARDSON, OF WORCESTER, MASSACHUSETTS.

PLANER PRESSER-ROLL.

SPECIFICATION forming part of Letters Patent No. 313,885, dated March 17, 1885.

Application filed December 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, SENECA M. RICHARDSON, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Presser-Roll Mechanism for Traveling-Bed Planing-Machines; and I declare the following to be a description of my said invention, sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The object of my present invention is to provide a practical and convenient presser-roll mechanism for endless traveling-bed planing-machines, and to afford efficient means for independently weighting the several roll-sections, so that either of said roll-sections can be raised without reference to the others; also, to afford facilities for the self-oiling of the roll-sections, and means for supporting the shaving-hood in connection with the presser-supporting frame.

My invention consists in mechanism constructed and combined for operation substantially as shown and described, the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a vertical sectional view at line *x x*, showing such parts of a planing-machine as will illustrate the nature of my invention. Fig. 2 is a plan view of the mechanism; and Fig. 3 shows transverse and longitudinal sections of the presser-roll and its journal-support, as made for self-oiling. Fig. 4 is a sectional view showing one of the adjustable spring-bunters beneath the pressure-levers.

In referring to the drawings, A denotes the endless traveling bed, B indicates the side frames, and C the cutter-head, which parts may be severally constructed and arranged in the usual manner. The mechanism for operating the traveling bed and cutters and the devices for effecting adjustment of the head to or from the bed are not herein shown and described, as such devices form no part of my present invention, although in practice employed in association therewith in the complete operating machine, and the arrangement and operation of such devices as are not shown will be understood as being those of any suitable or ordinary kind of wood-planing machine.

D indicates an open-centered casting or bridge-plate arranged across the machine above the bed A and just forward of the cutter-head C. Said plate has an upright flange, D', along its rear side that serves as a guard in front of the cutters, and the shaving-hood E is hinged to the top of said flange in the manner illustrated, so that said hood can be turned back from above the cutter-head when desired.

F indicates the sectional presser-roll located in front of the cutters and arranged to work through the open center of the bridge-plate D for holding the lumber G down upon the bed A as it is fed into the machine.

I indicates the vertically-swinging roll-supporters or levers that carry the presser-roll sections F. At one end said levers I are pivoted or fulcrumed on the bridge-plate or hood-flange, as at *d*, while their other ends, which extend forward above the plate D, are furnished with weights W, in the manner indicated. Near their fulcrumed ends said levers I are provided with lateral wings or ear-pieces *i*, that reach over and pass down at the respective ends of the roll-sections F to give bearing-support for the journals or studs on which the rolls revolve. The front flange of the bridge-plate is slotted or provided with lugs *e*, that extend upward at the sides of the levers I and serve to retain said levers in proper position laterally.

Beneath the levers I, upon the forward part of the plate D, are arranged spring-bunters to counteract the shock of the descending weight and lever when the end of the board is permitted to run out from beneath the roll F, letting the parts drop toward the bed. These bunters are arranged as shown in Fig. 4. A recess is formed in the plate-casting D below the guiding-slot and within this recess is placed a spring or india-rubber cushion, *r*, on which the lever I strikes when dropped down. Beneath the spring *r* is a support-plate, P, and a set-screw, *s*, by means of which the bunter can be adjusted at higher or lower position, as desired. A recess is formed at the lower

side of the plate D for the head of the screw *s*, so that it will not interfere with the feeding of the boards into the machine. The several rolls or sections F are each mounted in connection with a separate arm, I, so that each is weighted independently, and either roll-section can rise and fall without reference to the others, to accommodate variations in stock when several boards of different thickness are simultaneously run through the machine. The rolls F are preferably made as hollow cylinders, the bearing studs or shafts *m* being arranged to extend through the axis of the roll, with their ends supported in the ears *i*, so that the roll revolves about the shaft, which is stationary, although, if desired, the roll could be made with end journals to revolve in the ear-bearings.

To render the parts self-oiling the roll is made with an annular oil-chamber, *f*, having holes leading to the bearing-surface, as indicated in Fig. 3, a side opening with screw-stopper *n* being provided for filling the chamber.

The action of the weight W on the arm I presses the roll down upon the lumber G with a yielding pressure, while the forward movement of the lumber also tends to increase the pressure by carrying the rolls toward the vertical line of the fulcrum-pivots; hence a lighter weight, W, can be used than would otherwise be required. The lever I and roll F can be turned upward, as indicated in dotted lines, Fig. 1, to give access for cleaning or oiling when desired. In the present instance four roll-section and weight devices are shown; but a greater or less number may be employed, as required, the manner of constructing and arranging the individual devices being the same.

I am aware that presser-rolls in planing-machines have heretofore been made with two or more roll-sections in the width of the machine to accommodate boards of different thickness, and I do not, therefore, herein make claim to such feature otherwise than as embraced in mechanism constructed and organized for operating as hereinbefore specified.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. In combination, as hereinbefore described, with the cutter-head and endless traveling bed, the bridge-plate D, having open center and front and rear upright flanges, the series of levers I, severally provided with lateral downwardly-extended ear-pieces *i*, supporting roll-sections F, hinged to the rear flange, D′, as at *d*, above the rolls, and guided on the front flange, as at *e*, and the weights W, for the purposes set forth.

2. In combination, as hereinbefore described, with the cutter-head and traveling bed, the bridge-plate D, having front and rear upright flanges, the series of weighted levers I, severally provided with lateral downwardly-extended ears *i*, supporting the roll-sections F, hinged to the rear flange, D′, as at *d*, above the roll, the guides *e* on the front flange, and the cushion-bunters *r* and adjusting-screws *s*, located within said front flange beneath said levers, for the purposes set forth.

3. In combination, as described, with the cutter-head and bridge-plate D, having the upright rear flange, D′, the shaving-hood E, and the series of levers I, carrying the presser-roll sections F, connected with said bridge-plate flange by the same hinge-pivots, as at *d*, whereby said hood can be turned back upon the levers, or the levers turned up against said hood, as indicated.

4. The levers I, provided near their fulcrum ends with the right and left lateral and downwardly-extended wings *i i*, the shaft *m*, connecting said wings, and the self-oiling roll-section F, revoluble on said shaft, the lever-arm being centrally disposed above said roll, in combination with the bridge-plate and traveling bed, as shown and described.

Witness my hand this 13th day of December, A. D. 1884.

SENECA M. RICHARDSON.

Witnesses:

CHAS. H. BURLEIGH,
AMASA BALLOU.