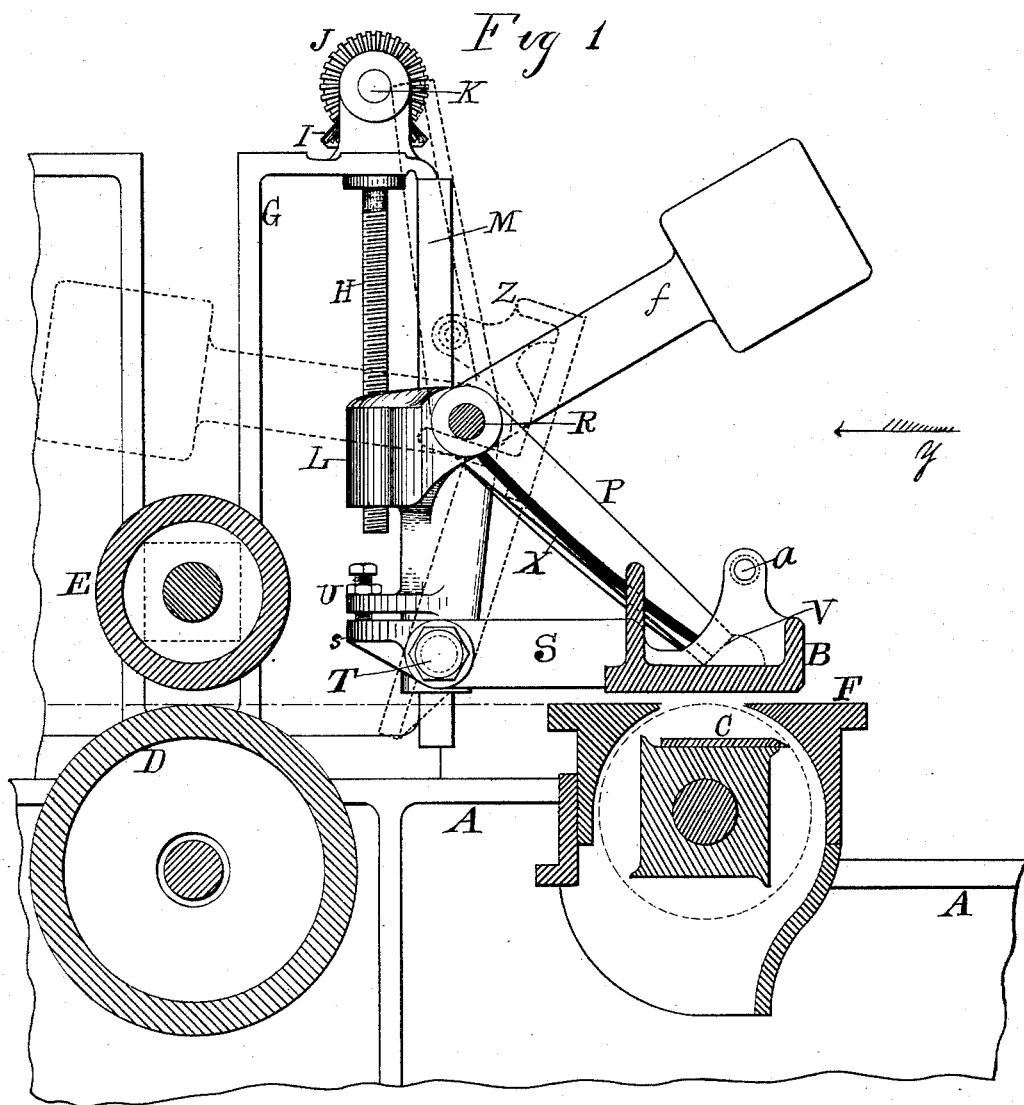


3 Sheets—Sheet 1.

HANGING AND ADJUSTING PRESSURE BARS OF PLANERS.

Patented Jan. 3, 1893.



Witnesses
Timothy Stebbins.
Mary H. O'Brien.

Inventor
David P. Ross.
By his Attorney C. L. Chapin.

(No Model.)

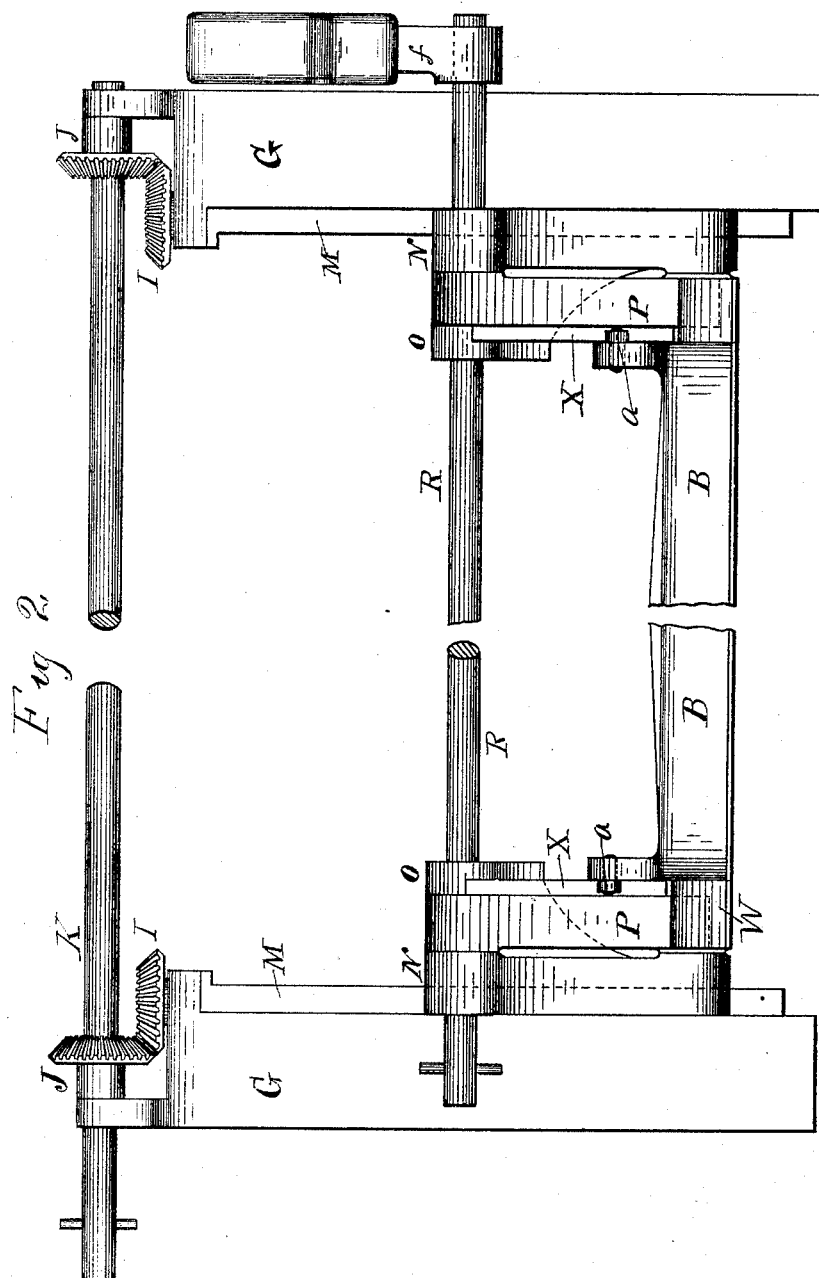
3 Sheets—Sheet 2.

D. P. ROSS.

HANGING AND ADJUSTING PRESSURE BARS OF PLANERS.

No. 489,038.

Patented Jan. 3, 1893.



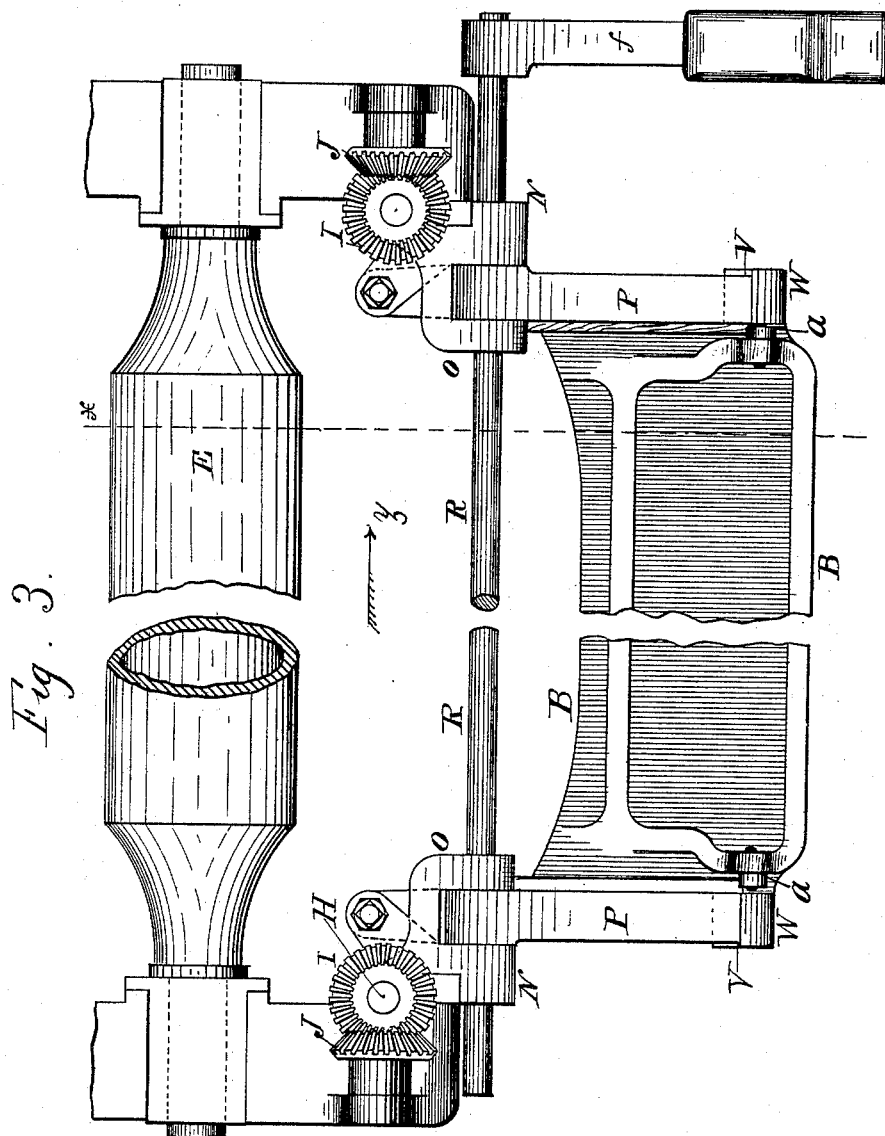
Witnesses
Timothy Stebbins
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3 Sheets—Sheet 3.

HANGING AND ADJUSTING PRESSURE BARS OF PLANERS.

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By his Attorney ^{Inventor} David P. Ross. G. L. Chapin.

UNITED STATES PATENT OFFICE.

DAVID P. ROSS, OF SOUTH EVANSTON, ILLINOIS.

HANGING AND ADJUSTING PRESSURE-BARS OF PLANERS.

SPECIFICATION forming part of Letters Patent No. 489,038, dated January 3, 1893.

Application filed September 28, 1891. Serial No. 407,039. (No model.)

To all whom it may concern:

Be it known that I, DAVID P. ROSS, a citizen of the United States, residing at South Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Presser-Bars for Planers, of which the following is a specification, reference being had to the accompanying drawings, which are made a part of this specification, and in which—

Figure 1 is a sectional elevation of a presser-bar embodying the invention and a vertical longitudinal section of so many of the other parts of a planer as are necessary in order to show its application thereto, the parts being viewed in the direction of the arrow *z*. Fig. 2 is an elevation of the improved presser-bar and its supporting standards, viewed in the direction of the arrow *y*, Fig. 1, some of the parts being broken away. Fig. 3 is a plan view thereof and of the upper feed roll.

The present invention consists in certain features of novelty that are particularly pointed out in the claims hereinafter.

A represents the base of the frame in which is journaled the rotary cutter C and lower feed-roll D, and by which is supported the housing F of the cutter.

G, G' are standards rising from the base A and constituting guides between which the boxes in which the upper feed roll is journaled may move up and down. Each of the standards G, one of which is situated at each side of the machine, is provided with a vertical way M, upon which a part L, (hereinafter called a "carriage") is adapted to slide up and down. The carriage is provided with a groove for receiving the way, and with a screw-threaded perforation for receiving a vertical screw H, which is swiveled to the standard, so as to be incapable of endwise movement, and provided at its upper end with a beveled pinion I.

K is a shaft extending from side to side of the machine, journaled in the standards G, G', or lugs projecting therefrom, and J, J, are similar beveled pinions fixed to it and gearing with the pinions I, so that by turning the shaft, by the aid of a crank wrench, or other suitable device, both of the screws H will be turned, and the carriages moved upward or

downward, according to the direction of the rotation.

B is the presser-bar which is carried by a pair of arms S, S, pivotally connected to the carriages L, L, by bolts T, T, about which they may be moved so as to bring them and the presser-bar to the position indicated by dotted lines. While in this position access may be had to the cutter for sharpening or repairing it, and to provide means for easily raising and lowering the presser-bar, and for holding it either in or out of operative position, is the object of my present invention.

I am aware that a presser-bar (or equivalent device, as, for example, a roller) has heretofore been secured to the ends of pivoted arms and worm gearing provided for raising and lowering it and for holding it down to its work. I do not claim such as my invention, nor do I consider worm gearing the equivalent of the mechanism now to be described.

The upper parts of the carriages L and arms *o* projecting from them are perforated horizontally to form bearings for a shaft R, which extends from side to side of the machine and has a weighted lever *f* rigidly fixed to it, whereby it may be turned in its bearings.

P, P, are arms fixed rigidly to the shaft R, (one between each of the carriages and its arm *o*) and adapted to engage the presser-bar for holding it down to its work, or for raising and lowering it, or for holding it elevated, according to circumstances. In holding it down to its work, the arms engage the bar and act as struts, the extremities of the arms being preferably squared off and the bar provided with shoulders V the slope of which is complementary to the ends of the bars. As shown in the drawings these shoulders are formed on lugs W projecting from the ends of the bar. The weighted lever *f* holds the arms in engagement with the bar, so that any upward pressure on the bar itself results in pressure directly against the ends of the arms, and as the arms are incapable of endwise movement, any tendency on the part of the bar to rise is effectually resisted. In order to limit the downward movement of the bar, when moving about its axis T, and at the same time adjust it so that the ends of the arms and the shoulders shall be in contact when the parts are in op-

erative positions, the arms S are provided with extensions s which bear against the lower ends of set screws tapped through lugs U projecting from the carriages.

5 In moving the weighted lever from the position shown by full lines to the position shown by dotted lines, the arms P are disengaged from the shoulders V and as soon as they have cleared said shoulders they engage the
10 under sides of lugs or studs α carried by the presser bar and thereby elevate it to the position shown by dotted lines. By reason of the relative positions of the centers of motion of the presser bar and arms, the point of
15 contact between them varies as the arms are moved upward or downward, approaching the center of motion of the arms as they are raised, and receding from it as they are lowered, and in order to lessen the friction between them the studs α are provided with
20 anti-friction rollers. In order to still further ease the motion, the arms are provided on their sides with tracks, or ways, X, for the rollers to bear upon, having curved top sides so
25 graduated as to present a less abrupt surface to the rollers at the commencement than at the finish of the upward movement. In lowering the parts from the positions shown by dotted lines to the positions shown by full
30 lines, the reverse of these operations takes place. In passing from one extreme position to the other, the weight of lever f passes the vertical plane of its center of motion so that when in one position it holds the arms in engagement with the presser-bar, as already described, and when in the other position it holds the parts in the positions indicated by dotted lines—the presser bar elevated.

It will be understood that in order to adjust
40 the presser-bar vertically with respect to the cutter for varying thicknesses of lumber, the carriages L, L, are raised or lowered, as may be necessary, by turning the screws H, as already described.

45 It will be noticed that the arms P have several functions, and so far as I am aware I am the first to use such an arm for either of them.

What I claim as new and desire to secure by Letters Patent is:

50 1. The combination with the presser-bar and pivoted arms by which it is carried, of a movable strut engaging said bar for holding it down to its work, said strut being incapable of endwise movement, substantially as set forth.

2. The combination with the presser-bar and pivoted arms by which it is carried, of a pivoted arm adapted to engage said bar for raising and lowering it, and means for operating said arm, substantially as set forth.

3. The combination with the presser bar and pivoted arms by which it is carried, of an arm adapted to engage said bar for holding it down to its work, elevating it, holding it
65 elevated, or lowering it, and means for operating said arm, substantially as set forth.

4. The combination with the presser bar

and pivoted arms by which it is carried, of the arm P engaging the presser-bar, and a weight for holding said arm in engagement
70 with the bar, substantially as set forth.

5. The combination with the presser bar and pivoted arms by which it is carried, of a rock shaft the arm P projecting therefrom and engaging the presser bar, and the weighted lever f secured to the rock shaft, substantially as set forth.

6. The combination with the presser-bar and pivoted arms by which it is carried, of a rock shaft, an arm projecting therefrom, a
80 stud carried by the presser-bar and adapted to be engaged by said arm for raising and lowering the presser-bar, and means for turning said rock shaft, substantially as set forth.

7. The combination with the presser-bar
85 and pivoted arms by which it is carried, of a rock-shaft, an arm projecting therefrom, a stud carried by the presser-bar and adapted to be engaged by said arm, said arm having a graduated-curve bearing surface for said
90 stud, and means for turning said rock-shaft, substantially as set forth.

8. The combination with the cutter, of a presser bar, arms projecting laterally therefrom, pivots having axes parallel with the
95 length of the presser-bar about which said arms are movable, stops for limiting the downward movement of said arms, and means for adjusting the pivots vertically, substantially
100 as set forth.

9. The combination with the presser-bar and arms by which it is carried, of vertically adjustable carriages to which said arms are pivoted, a rock-shaft carried by said carriages,
105 arms projecting from the rock-shaft and engaging the presser-bar, and means for operating said rock shaft, substantially as set forth.

10. The combination with the presser-bar and arms by which it is carried, of vertically adjustable carriages to which said arms are
110 pivoted, a rock shaft carried by said carriages, arms projecting from the rock-shaft, shoulders on the presser-bar adapted to be engaged by said arms and means for turning the rock-shaft, substantially as set forth.

11. The combination with the presser-bar, and arms by which it is carried, of vertically adjustable carriages to which said arms are pivoted, a rock-shaft carried by said carriages,
120 arms projecting from said rock-shaft, studs carried by the presser-bar and adapted to be engaged by said arms, and means for turning the rock-shaft, substantially as set forth.

12. The combination with the presser-bar having shoulders v and studs α , and arms by
125 which said presser-bar is carried, of vertically adjustable carriages to which said arms are pivoted, a rock-shaft carried by said carriages, arms P P projecting from said shaft and engaging said shoulders and studs, and means
130 for turning the rock-shaft, substantially as set forth.

13. The combination with a presser-bar and arms by which it is carried, of vertically

movable carriages to which said arms are pivoted, mechanism for simultaneously adjusting said carriages, and means for limiting the downward movement of the presser-bar, 5 substantially as set forth.

14. The combination with a presser-bar and pivoted arms by which it is carried, and a stop for limiting the downward movement

of said bar of struts engaging the bar and preventing its upward movement, substantially as set forth.

DAVID P. ROSS.

Witnesses:

MEDFORD POWELL,
EDWARD KELLY.