(No Model.)

F. L. CREIGHTON.

PRESSER FOOT OR BAR FOR MOLDING MACHINES.

No. 485,153. Patented Oct. 25, 1892.

Fig. 1.

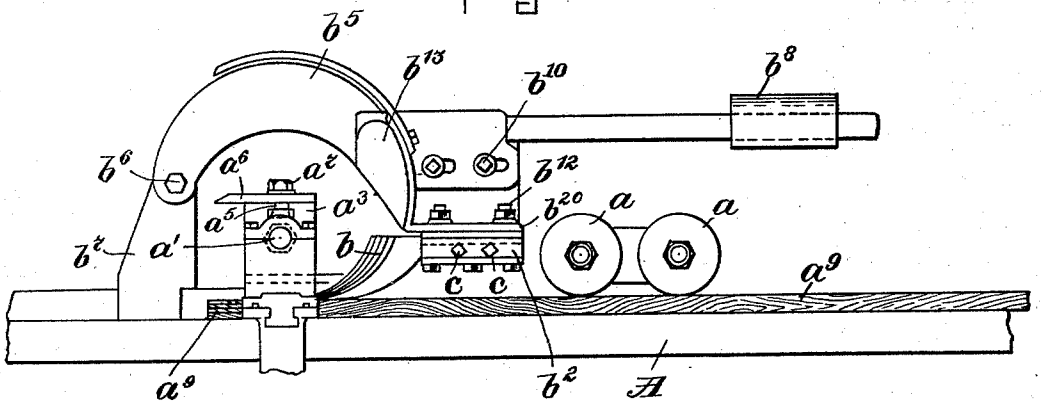


Fig. 2.

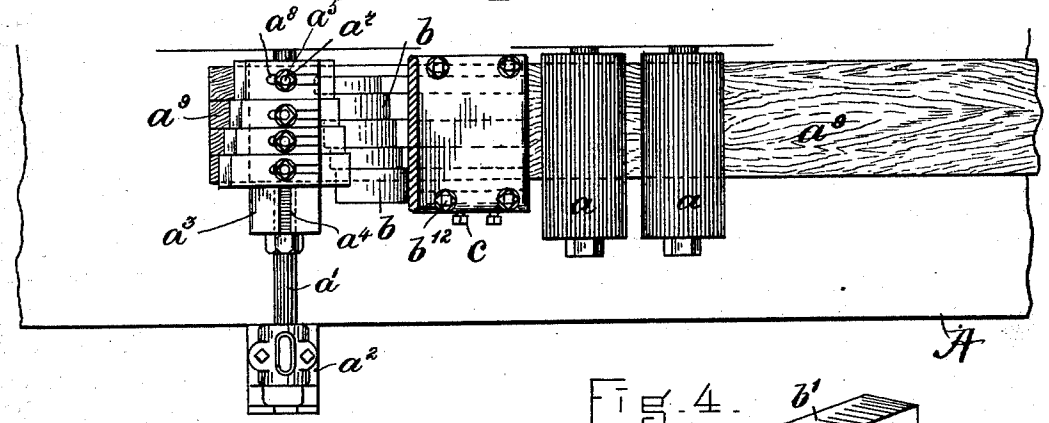


Fig. 3.

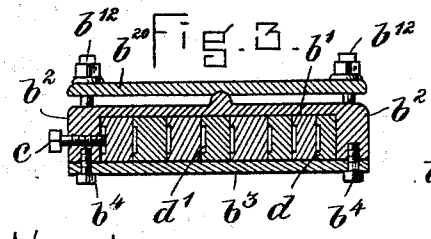
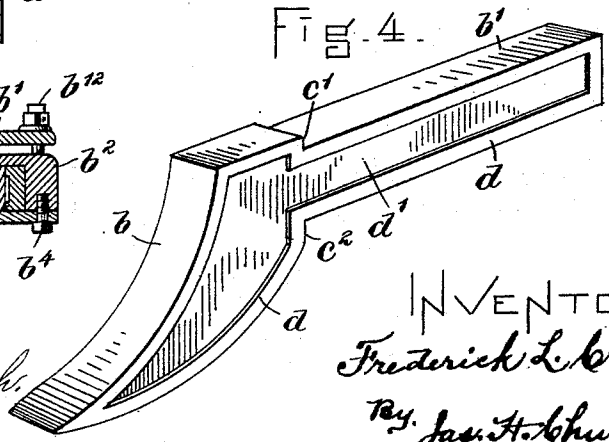


Fig. 4.



WITNESSES.

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UNITED STATES PATENT OFFICE.

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PRESSER FOOT OR BAR FOR MOLDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 485,153, dated October 25, 1892.

Application filed February 1, 1892. Serial No. 419,894. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK L. CREIGHTON, residing in Somerville, county of Middlesex, and State of Massachusetts, have invented an Improvement in Presser Feet or Bars for Molding-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawing representing like parts.

This invention relates to molding-machines of that class in which straight pieces of material are acted upon by suitably-shaped cutters or knives to obtain the desired form of moldings, and which machines are commonly known as "straight molders."

In straight molding machines as now commonly constructed and known to me the piece of wood or like material to be molded is held down upon the bed-plate of the machine by a presser bar or foot made as a single piece or block, usually as wide as the cutter-head upon which the cutting blades or knives are secured. With the presser bar or foot as now commonly constructed a considerable space exists between the edge of the presser foot or bar and the cutter-head, and when a number of cutting-knives of different lengths and widths are secured to the cutter-head to effect in the wood cuts of different depths, and thereby obtain an irregular molding, the presser foot or bar is removed from the cutter-head a sufficient distance to clear the longest knife. As a result of this construction it frequently happens that the shorter knives chip or splinter the surface of the wood or like material being treated and tear substantially-long pieces out of the wood, thereby spoiling the work and rendering the piece of wood worthless for the purpose intended.

My present invention has for its object to overcome the defect referred to, and I accomplish my object by making the presser-foot of independent sections or pieces adjustable toward and from the cutter-head on the wood engaged by the presser foot or bar, so that different sections of the presser bar or foot may be brought nearer or farther away from the cutter-head, according to the length of knife with which the said section co-operates, whereby the wood or material being treated may be engaged by the different sections of the presser bar or foot at the same relative distance, thus leaving a minimum amount of surface exposed to be acted upon by the knives and thereby obviating chipping or splintering of the wood.

The particular features of my invention will be pointed out in the claims at the end of this specification.

Figure 1 is a side elevation of a sufficient portion of a molding-machine provided with a presser bar or foot embodying my invention to enable the invention to be understood; Fig. 2, a top or plan view of the machine shown in Fig. 1; Fig. 3, a sectional detail, to be referred to; and Fig. 4, a detail, on an enlarged scale, of one of the presser-foot sections.

A represents the bed-plate of a straight molding machine of any usual or well-known construction, such as now commonly used for the manufacture of wood moldings. The bed-plate A is provided with the usual feed-rollers a, which in practice are positively driven by a suitable gearing, (not herein shown,) and the said bed-plate also supports a rotary shaft a', the said shaft, as shown in Fig. 2, having one end supported in a suitable bearing a^2, represented as a bracket secured to the bed-plate A.

The rotary shaft a', which may be driven by any usual or well-known gearing such as now commonly found on straight molding machines, has firmly secured on it a cutter-head a^3 of any usual or well-known construction, it being represented as a substantially-oblong block provided on its faces with longitudinal slots a^4, in which are inserted headed bolts a^5, over which the cutting knives or blades a^6 are placed and are securely clamped to the cutter-head a^3 by suitable nuts a^7, screwed upon the threaded bolts a^5.

The cutting knives or blades a^6 are and may be of any usual or well-known construction such as now commonly employed on straight molding machines and are provided with a longitudinal slot a^8, by which the said knife or blade may be adjusted on the cutter-head to effect a deeper or shallower cut in the piece of wood a^9 being treated. The wood a^9, inserted beneath the feed-rolls a, passes under the cutter-head and is acted upon by the cutting-knives a^6 to form the molding desired. The piece of wood a^9 is firmly held down upon the bed-plate A in accordance with

my present invention by means of a presser foot or bar composed of a plurality of independent sections (shown separately in Fig. 4) and each consisting of a curved portion or member b and an arm or member b', extended rearward from the upper part of the member b in a substantially-horizontal plane.

The presser-foot sections are mounted in a carrier or hollow box b^2, preferably provided with a detachable bottom or under side b^3, herein shown in Fig. 3 as secured to the sides of the box-shaped carrier by screws b^4. The presser-foot carrier is herein shown as secured to a lever or pivoted arm b^5, pivoted, as at b^6, to an upright b^7 on the bed-plate A and provided at its rear end with an adjustable weight b^8, by which the pressure of the sectional presser foot or bar upon the wood a^9 may be increased or decreased, as desired. The presser-foot carrier is herein shown as secured to a plate b^{20}, as by bolts b^{12}, and the said plate is attached to the lever b^5 by bolts b^{10}, the plate b^{20} being provided with the upwardly-extended plate or shield b^{13}, forming the usual chip-guard. The presser-foot sections are secured within their carrier, as herein shown, preferably by set-screws c, inserted through the front side of the hollow presser-carrier and abutting against the arm b' of one of the presser-foot sections. The arm b' of the presser-foot section is made smaller than the main body or member b of the presser-foot section, so as to leave shoulders c' c^2, which abut against the front side of the hollow presser-foot carrier when the arm b' of the said presser-foot sections is inserted into the said carrier.

From the construction shown it will be seen that each presser-foot section may be adjusted in its hollow carrier independent of the other sections, so that when the cutting blades or knives a^6, which are secured to the cutter-head, are of varying lengths, so as to produce cuts of varying depths in the wood a^9, the said independent sections may be adjusted in the carrier so as to bring the foot portion of the section nearer to or farther away from the cutter-head, according to the length of knife with which the presser-section co-operates, the said carrier remaining practically stationary with relation to the cutter-head.

As represented in the drawings, and especially in Fig. 2, four cutters or knives a^6 are shown as secured to the upper side of the cutter-head a^3, and these knives are shown of different lengths, with the smallest at the inner end of the cutter-head and the longest at the outer end of the said head, and it will also be noticed that the presser-foot, as herein shown, is composed of five sections, the innermost section being adjusted out of its carrier to the correct distance and the outermost section being the least adjusted from its carrier, so that the presser-foot sections are adjusted in their carrier to correspond to the different lengths of the cutter-knives with which they co-operate—as, for instance, the shortest cutting-knife has co-operating with it the presser-foot section the farthest extended from its carrier and the longest knife has co-operating with it the presser-foot section the least extended from its carrier—so that substantially the same surface of wood will be exposed to be acted upon by all the knives—that is, the innermost presser-foot section, being the one farthest adjusted outward, will clear the smallest knife, and the outermost presser-foot section, being the least adjusted from its carrier, will clear the longest knife. The presser-foot sections may be adjusted in and out of their carrier independently of one another, so that they may be made to conform to the position or arrangement of the cutting-knives upon the cutter-head a^3, and the adjustment of the presser-foot sections may be varied to correspond to the different kinds of molding to be produced. Each presser-foot section, which is preferably composed of metal, such as cast-iron, is preferably provided on one face with a rim d, extended around the perimeter of the section, so as to leave or form a hollow chamber d'. This construction is preferred by me, so that when the independent sections of the presser-foot are firmly clamped together within their carrier b^2 the hollow portion d' may receive any fine dust or chips which might otherwise become lodged between the presser-foot sections and which would tend to distort or wabble the said sections, thereby giving rise to irregularity in the work.

I claim—

1. In a molding-machine, a bed-plate and a rotary cutter-head supported thereon and provided with a plurality of knives arranged on the cutter-head to effect cuts of varying depths in the wood or material being acted upon, combined with a presser-foot carrier having a fixed or stationary position in a substantially-horizontal plane above the bed-plate with relation to the said cutter-head and a presser-foot composed of independent sections adjustable in a substantially-horizontal plane toward and away from the cutter-head independent of the said carrier, whereby a presser-foot section co-operating with the long knife on the cutter-head may be moved back away from the said cutter-head and a presser-foot section co-operating with a shorter knife on the cutter-head may be moved forward toward the cutter-head to expose the same surface of wood to be acted on by the different knives, substantially as described.

2. In a molding-machine, the combination, with a bed-plate and a rotary cutter-head supported thereon and provided with one or more knives, of a hollow presser-foot carrier secured above the bed-plate in a fixed position in a horizontal plane with relation to the cutter-head and a presser foot or bar composed of independent sections secured in said hollow carrier and each consisting of a main portion or member b and an arm b', extended rearwardly from the upper part of the member b in a substantially-horizontal plane and

adjustable toward and from the cutter-head independent of the cutter-carrier.

3. In a molding-machine, the combination, with a bed-plate and a rotary cutter-head supported thereon and provided with one or more knives, of a lever b^5, pivoted above the bed-plate, a hollow presser-foot carrier secured to the said lever, and a presser foot or bar composed of independent sections consisting of a main portion or member b and an arm b', extended rearwardly from the member b and adjustably secured in the hollow presser-foot carrier, substantially as described.

4. The herein-described presser-foot section, consisting of the main portion or member b and the arm or member b', extended rearwardly in a substantially-horizontal plane from the upper part of the member b.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK L. CREIGHTON.

Witnesses:
JAS. H. CHURCHILL,
SADIE C. FEARING.