

(No Model.)

2 Sheets—Sheet 1.

R. B. JONES.
PLANING MACHINE.

No. 302,911.

Patented Aug. 5, 1884.

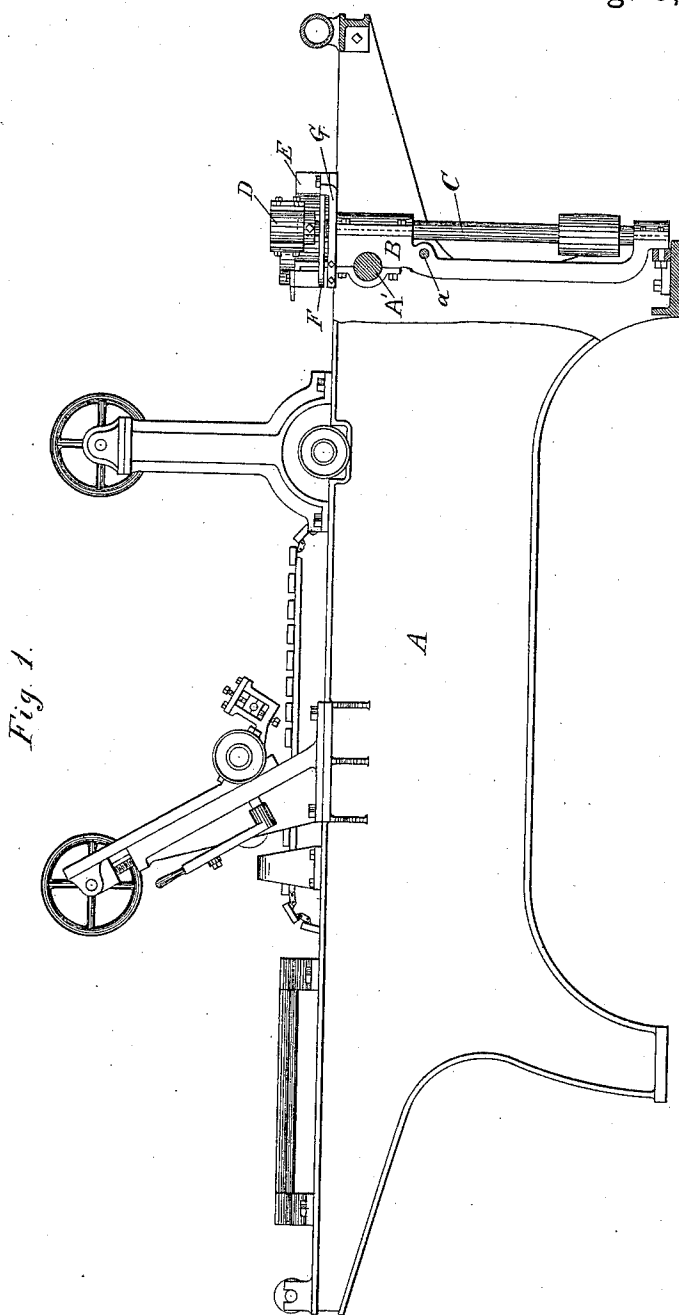


Fig. 1.

WITNESSES:

R. Forsyth
L. Holmboe.

INVENTOR

Richard B. Jones

BY

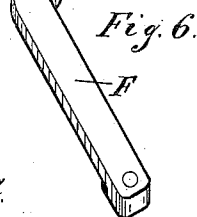
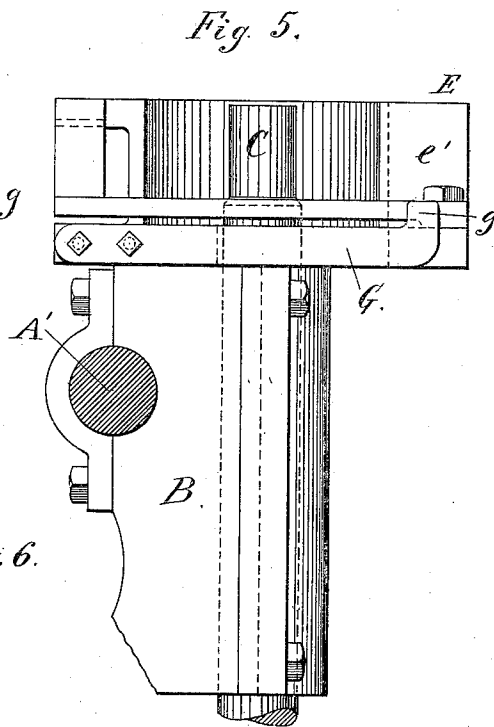
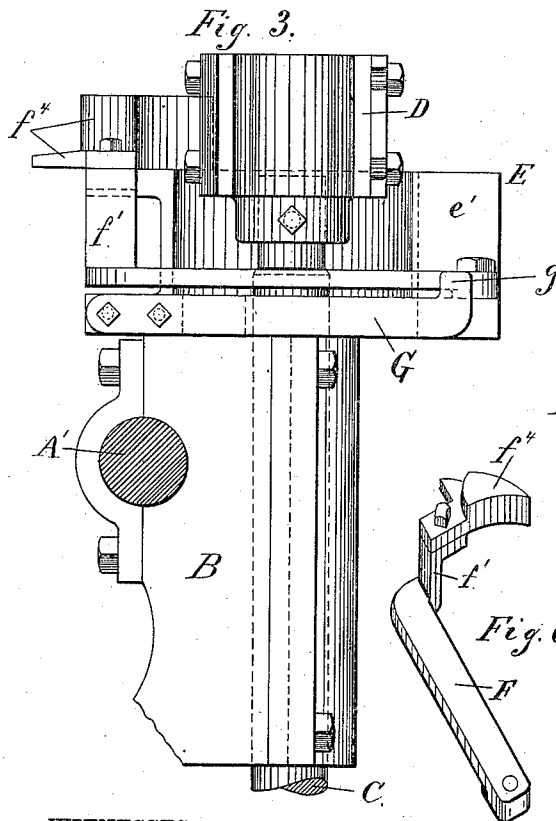
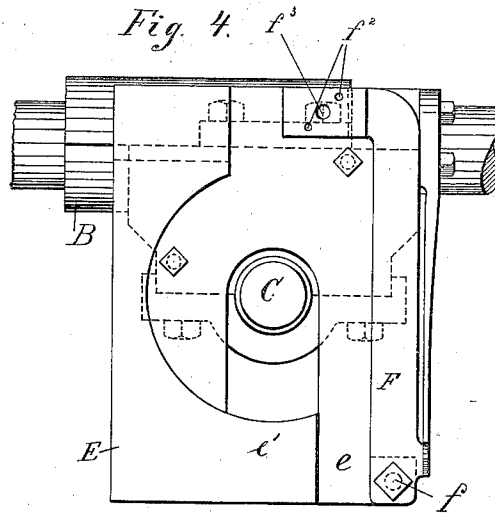
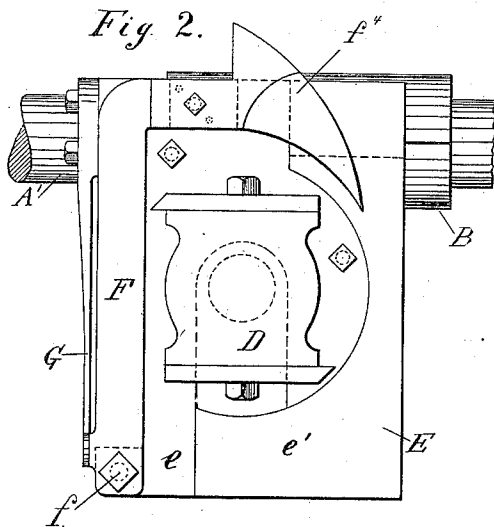
Prnce & Fisher.

ATTORNEY

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L. Holmboe

INVENTOR

Richard B. Jones
BY *Price & Fisher*
ATTORNEYS

UNITED STATES PATENT OFFICE.

RICHARD B. JONES, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO
GEORGE F. WETHERELL AND RANSOM RICHARDS, BOTH OF SAME PLACE.

PLANING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 302,911, dated August 5, 1884.

Application filed February 20, 1884. (No model.)

To all whom it may concern:

Be it known that I, RICHARD B. JONES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wood-Planing Machines, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My present invention has relation to the improvement of wood-planing machines of that class commonly known as "edgers," wherein the boards, after being planed upon one or both sides, are passed between revolving cutter-heads which plane their edges. In this class of machines it is customary to mount the edge-planing cutter-heads upon vertical spindles the housings of which are laterally adjustable to accommodate the cutters to boards of different widths. Each cutter-head is furnished with a "chip-breaker," that prevents the "splintering" of the board by the cutter-knives, and both the cutter-heads and the chip-breakers project above the bed of the machine a sufficient distance to plane the thickest boards. In planing-machines of this class, as at present usually constructed, the vertical cutter-heads project above the machine-bed, as do also the chip-breakers, which are made each of a single piece of metal bolted to the adjustable housing. It is obvious, therefore, that in such construction, when it is desired to work the machine upon very wide boards the edges of which are not to be planed, it is necessary to move the adjustable housing to the extreme sides of the machine, and to remove the cutter-heads and the chip-breakers. This shifting and removal of parts is objectionable for the reason that it not only causes delay, but also necessitates the readjustment of the housings and the chip-breakers when the edges of narrow boards are to be planed. A further difficulty found with the edge-planing devices as commonly constructed is that the spring by which the chip-breaker is pressed forward bears upon it near its free end, where it is subjected to all the movement of the chip-breaker, and is liable to become speedily weakened and unfit for use.

The object of my invention is to overcome

the above-mentioned difficulties, and this I accomplish by providing a planing-machine wherein the only change necessary to enable the machine to work upon very broad stuff, the edges of which need not be planed, will be the removal of the cutter-heads and a portion only of the chip-breakers, and by providing for each chip-breaker a stiff spring which will bear thereon at a point very near its fulcrum or fixed end, and which, being hence subjected to but slight movement, will not become weakened.

In the accompanying drawings, Figure 1 is a view in side elevation of a planing-machine, a portion of which is broken away, showing parts in vertical section. Figs. 2 and 3 are respectively enlarged detail plan and side views of one of the edge-planing cutter-heads and adjacent parts. Figs. 4 and 5 are enlarged detail plan and side views, respectively, similar to Figs. 2 and 3, but having the cutter-head and foot of the chip-breaker removed. Fig. 6 is a detail perspective view of the improved chip-breaker.

To the sides A of the machine-frame, in the usual position for sustaining the edge-planing cutter-heads, is connected the rod A', upon which are carried the housings B, that are adapted to receive the vertical spindles C of the cutter-heads D, and are provided with suitable rods, a, extending to the outside of the machine-frame, whereby the lateral adjustment of the cutter-heads can be effected.

Upon the tops of the housings B are bolted the rest-blocks E, formed of the base portions e, cut away to admit the spindles C, and of the body portions e', upon the tops of which the lumber may rest as it passes the cutter-heads. A portion of the body e' of each rest-block is omitted, as shown, and to the base e at such point is attached by a suitable pivot-bolt, f, the chip-breaker F. The free end of this chip-breaker is provided with the upwardly-extending angular part f', the bent end of which is on a level with the tops of the rest-block, and is provided with the small sockets f² and the perforation f³.

To the end of the part f' is connected by a bolt passing through the perforation f³, and by lugs fitting into the sockets f², the removable foot f⁴, the curved forward edge of which

will bear upon the edge of the board passing through the machine. A strong flat spring, G, is bolted to the outer edge of the base *e* of each rest-block, and has an upwardly-projecting lip, *g*, which bears upon the body of the chip-breaker at a point very near its fulcrum. The upper ends of the spindles C do not extend above the rest-blocks, but terminate on a line therewith, or, as shown in the drawings, a slight distance below, and to these spindles will be keyed the cutter-heads in usual manner.

From the foregoing description it will be seen that when the machine has been planing the sides and edges of narrow stuff, and it is desired to run through very broad stuff and temporarily dispense with the edge-planing devices, it will only be necessary to remove the cutter-heads and the detachable feet of the chip-breakers. This operation can be quickly performed, and while leaving no obstacle to the passage of broad boards through the machine will in no wise disturb the position of the housings, thus requiring no readjustment of parts if the cutter-heads are to be used afterward upon narrow boards of the same uniform width.

It is obvious that by locating the spring of the chip-breaker, as shown, so that it shall bear thereon near its fulcrum, the chip-breaker in moving will impart much less motion to the spring than it would were the bearing-point of the spring near the free end of the chip-breaker, and there will therefore be much less tendency to weaken the spring.

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

1. In a planing-machine of the general character described, the combination, with a chip-breaker having its body located below the line of travel of the work, of a foot projecting within the line of travel of the work and removably connected to the body of the chip-breaker, substantially as described.

2. In a planing-machine, a chip-breaker comprising a main body and a foot removably connected to the upper side of said main body, substantially as described.

3. In a planing-machine, the combination, with the edge-planing cutter-heads, of spindles for said cutter-heads terminating below the line of travel of the work, and chip-breakers having their bodies below the line of travel of the work, and having detachable feet, substantially as described.

4. In a planing-machine, the combination, with the vertical cutter-head, and a chip-breaker having a free and a pivoted end, of a spring arranged to bear upon the chip-breaker at a point at one side of but very near its pivoted end, substantially as described.

5. In a planing-machine, the combination, with the vertical spindles, of the rest-blocks extending in line with or above the ends of said spindles, and the chip-breakers, the bodies of which are below the tops of said blocks and are provided with removable feet, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of February, 1884.

RICHARD B. JONES.

Witnesses:

JAMES H. PEIRCE,
GEO. P. FISHER, Jr.