

ANDREW J. WATSON.

Improvement in Planing Machines.

No. 121,028.

Patented Nov. 14, 1871.

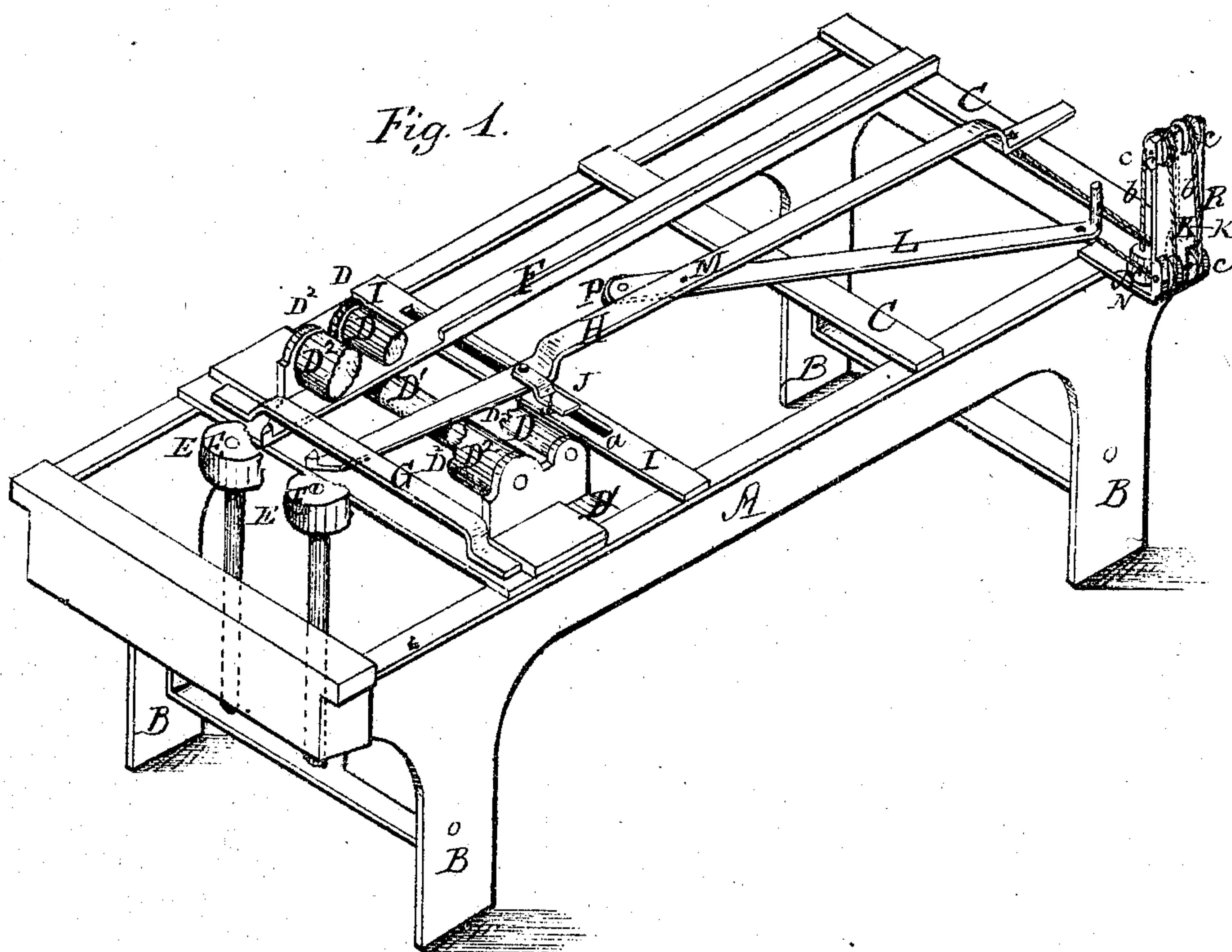
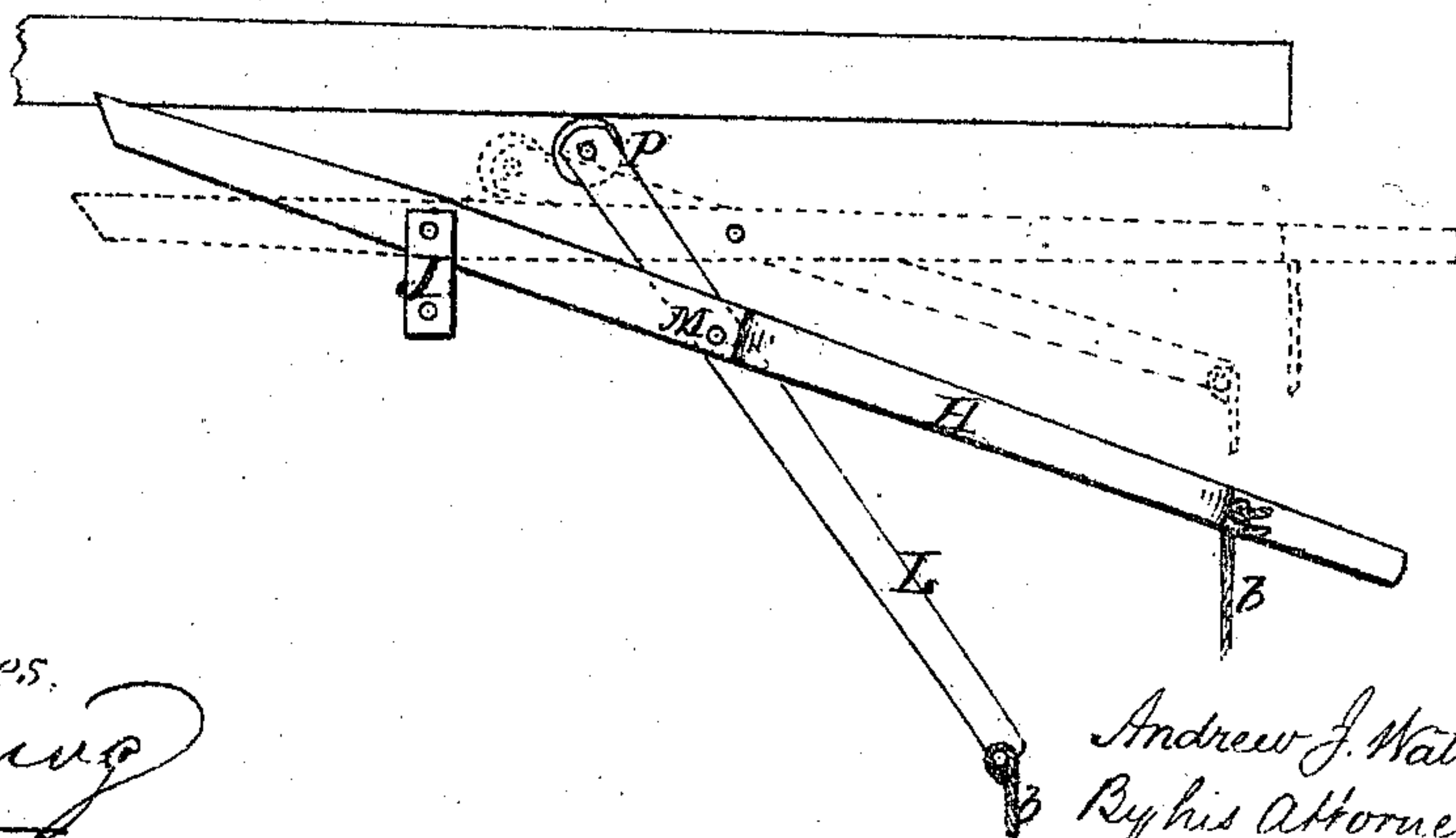


Fig. 2.



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UNITED STATES PATENT OFFICE.

ANDREW J. WATSON, OF LYONS TOWNSHIP, MICHIGAN.

IMPROVEMENT IN PLANING-MACHINES.

Specification forming part of Letters Patent No. 121,028, dated November 14, 1871.

To all whom it may concern:

Be it known that I, ANDREW J. WATSON, of the township of Lyons, in the county of Ionia and State of Michigan, have invented certain new and useful Improvements in Tonguing and Grooving Machines; and I 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 accompanying drawing which make part of this specification, in which—

Figure 1 represents a view in perspective of a machine embracing my improvements. Fig. 2 is a plan or top view of the board-gauge and chip-breaker detached.

My invention relates to machines for planing, tonguing and grooving boards; and it consists in the employment of two bars brought into and held to action by weights—one of said bars being pivoted to the frame of the machine and serving as a chip-breaker, to prevent the splitting of the board during the process of tonguing; the other being pivoted to the chip-breaker and capable of lateral adjustment with it, to change its fulcrum, as desired, and serving as a gauge to hold the plank to a straight-edge, as will be hereinafter described.

In the accompanying drawing, A represents the frame of the machine mounted upon legs B, and suitably braced transversely by cross-pieces C. Near the front of the machine are arranged the feed and guide rollers D D¹ and cylinder D², between and under which the plank to be dressed is passed, as shown in the drawing. In front of the said rollers are located, upon mandrels having their bearings in transverse pieces of the frame of the machine, the grooving and tonguing tools E E', as is usual in machines of this class. Arranged longitudinally on the frame of the machine is the straight-edge F, against which the plank to be dressed is held by the means to be hereinafter described, as it is fed to the grooving and tonguing cutters. The end of this straight-edge is protruded under and beneath the fore bar G, and is so constructed as to serve as a chip-breaker to the grooving-tool E, in conjunction with which it operates to prevent splitting of the board while the groove is being cut.

The device for breaking off the chips made by the tonguing-cutter E' in the plank is composed of a bar of iron, H, or other suitable material, arranged to operate as a lever, having its fulcrum in the transverse piece I of the frame, which is slotted to receive the bar J to which the chip-breaker is pivoted, and in which slot *a* the said bar J may be moved laterally to change the fulcrum of the chip-breaker, as may be required, to dress timber of different widths. This bar H is extended between the rollers D D¹, and beneath the cylinder D², and through the fore bar G to within a short distance of the tonguing-cutter E', and its acting end is so shaped as that it serves to break off the chips made by the tonguing-cutter, and thereby prevents splitting.

It will be seen, therefore, that by this arrangement the action of the chip-breaker bar is entirely automatic, being brought into action by the weight K, and held in contact with the board to perform its function until the tongue is made, while the side of the board in which the groove is formed is at the same time prevented from being split by the chip-breaker formed on the end of the straight-edge, as hereinbefore described.

The device for holding the board to the straight-edge is also automatic in its operation, and consists of a bar of iron, L, acting, like the chip-breaker, upon the principle of a lever, and having its fulcrum at a point on the chip-breaker, as shown at M in the drawing. It is actuated by a separate weight, N, and is furnished at its end in contact with the board with an anti-friction roller, P, which revolves as the said board is carried along the cutters.

It will be seen that the devices herein described are simple, not liable to derangement, and effective, and by their employment lumber is dressed, as described, more rapidly and with fewer hands than by any of the modes heretofore known.

The rear ends of the chip-breaker and board-gauge are attached to their respective weights by cords *b* running over pulleys *c* arranged in a standard, R, on the side of the machine, as clearly shown in the drawing.

Having described my invention, I claim—

1. The combination of the board-gauge L,

brought into and held to action by its weight N, with the chip-breaker H, to which it is pivoted in the manner and for the purpose described.

2. The combination of the chip-breaker H, held to action by its weight K, and arranged on the frame of the machine, as described, the board-gauge L, the straight-edge F provided with a chip-breaker at its forward end, and the groov-

ing and tonguing tools E E', the whole constructed, arranged, and operating as herein described.

Dated this 23d day of January, A. D. 1871.
ANDREW J. WATSON.

Witnesses:

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(173)