

P. D. Cummings,
Twisting Machine.
No. 110,440. Patented Dec. 27, 1870.

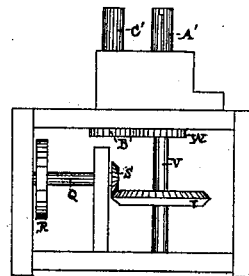


Fig. 3.

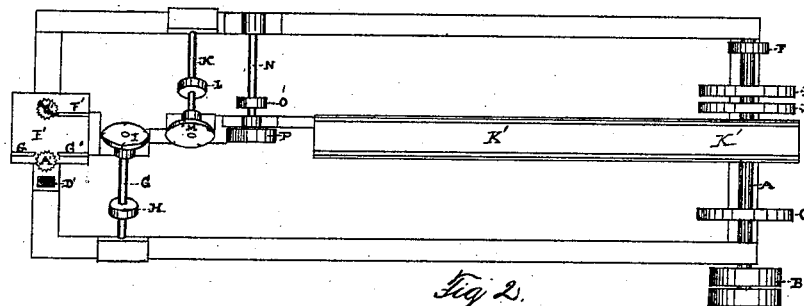


Fig. 2.

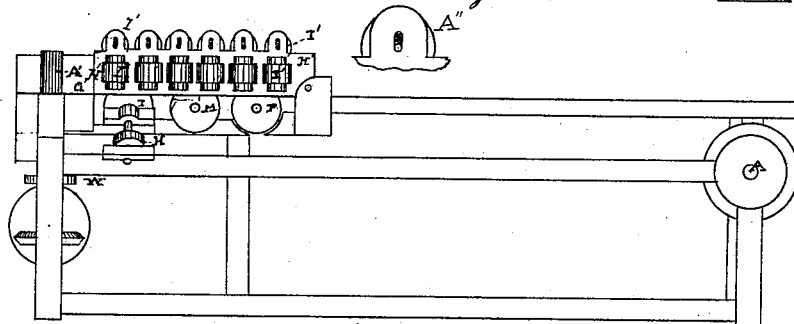


Fig. 1.

Witness
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United States Patent Office.

PERLEY D. CUMMINGS, OF PORTLAND, MAINE.

Letters Patent No. 110,440, dated December 27, 1870.

IMPROVEMENT IN MACHINES FOR GROOVING BLOCKS FOR WOOD PAVEMENTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, PERLEY D. CUMMINGS, of the city of Portland, in the county of Cumberland and State of Maine, have invented a new and useful Machine for Cutting Key-Ways in Blocks for Wooden Pavements; and I here declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, in which—

Figure 1 is a side elevation;

Figure 2, a top plan; and

Figure 3, an end view.

Same letters refer to like parts.

The main shaft A extends entirely across the machine, and is provided with five band-wheels, B, C, D, E, and F, their position being shown in fig. 2.

Near the other extremity of the machine is the shaft G, extending from the side to the center of the machine, the outer end being lower than the inner.

The shaft has a band-wheel, H, and at its inner extremity the scorer I, which has an inclined position, on account of the inclined position of the shaft G.

The wheel H is banded to the wheel C.

On the other side of the machine is the shaft K, with band-wheel L and screw M, of like construction and position with the shaft G, the wheel L being banded to the wheel E.

Beyond the shaft K is the shaft N, which is horizontal, and is likewise provided with band-wheel, and with an upright cutter, O and P, respectively, O and D being connected by a band.

At the same end of the machine, and extending part of way across the same is the shaft Q, having band-wheel R and beveled gear S.

The gear S matches into the beveled gear T on the vertical shaft V, which has the gear W, and terminates in the feeder A'.

At the left of the shaft V, and in a similar position, is another vertical shaft, provided with a gear-wheel, B', matching into the gear W, and terminating, like the shaft V, in the toothed feeder C'.

The distance of the feeders A' and C' is regulated by the spring D', fig. 2.

The shaft Q is rotated by band from wheel R to wheel E.

Under the feeders A' and C' is the platform E', having the guides F' and G'.

Beyond the platform E', and over the screws and cutters I M P, is the movable platform H', with slots therein, to allow an arc of the cutters to protrude through the same.

The left side of the platform is provided with a guide, while above and to the right of the cutters, are independent rollers I' I', which are rendered adjustable by springs placed above or to the right of the pivot of same, according as the roller is above or at the side of the platform. (See A''). The platform

F' is then continued over the shaft A to the end of the machine.

In operating the machine, power is applied to the band-wheel B. The blocks cut to the proper size are placed on the platform or table E', the surface in which the key-way is to be cut being downward.

They are then pushed between the feeders A' and C', by which they are carried upon the platform H', each block, while passing through the feeders, forcing on all those before it.

The blocks are thus forced by the feeders over the scorers I M and the cutter P, the rollers I' I' adjusting themselves to any inequalities in the blocks.

By the first two cutters or scorers two incisions are made in the surface of the block, leaving between them a dovetailed piece of wood, which is removed by the cutter P.

The blocks are then carried upon the platform K' K', whence they may be conveniently removed.

I do not claim the arrangement of the saws set out in Joseph Dill's dovetailing-machine, August 30, 1870, No. 106,922.

The feeding-rolls of T. D. Knight's patent, No. 16,777, March 3, 1857, are different from the feeding device set out in my application.

My invention shows, first, the vertical feed-rolls, and then the independent spring-rolls, and the planer and grinding-cylinder of Knight are different in operation and purpose from my inclined knives and chipping-wheel.

I do not claim the combination of a saw with a finishing-grinder; neither do I claim the combination of a movable bed with a horizontal shaft, having a cutter for tonguing and grooving tapering boards, as seen in B. J. Barber's patent No. 14,220, February 12, 1856.

In the patent of H. O. Ingraham, No. 23,250, March 15, 1859, the rollers are differently arranged from mine, subserve a different purpose, and the machine has no equivalent for either the feeders or cutting-box. I do not claim such a device.

My machine is for cutting an inwardly-and-upwardly-flaring groove in several successive separate wooden blocks, and has no connection with planing or grooving boards or long pieces of timber.

It is evident that by widening the two scorers I and M the whole of the wood between the outer edges of the incisions may be removed, thus avoiding the necessity of the upright cutter P.

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

The combination of the scorers I M, cutter P with the feeding device A' C' and the cutting-box, with its series of independent self-adjusting rollers.

PERLEY D. CUMMINGS.

Witnesses:

WM. HENRY CLIFFORD,
GEORGE E. BIRD.