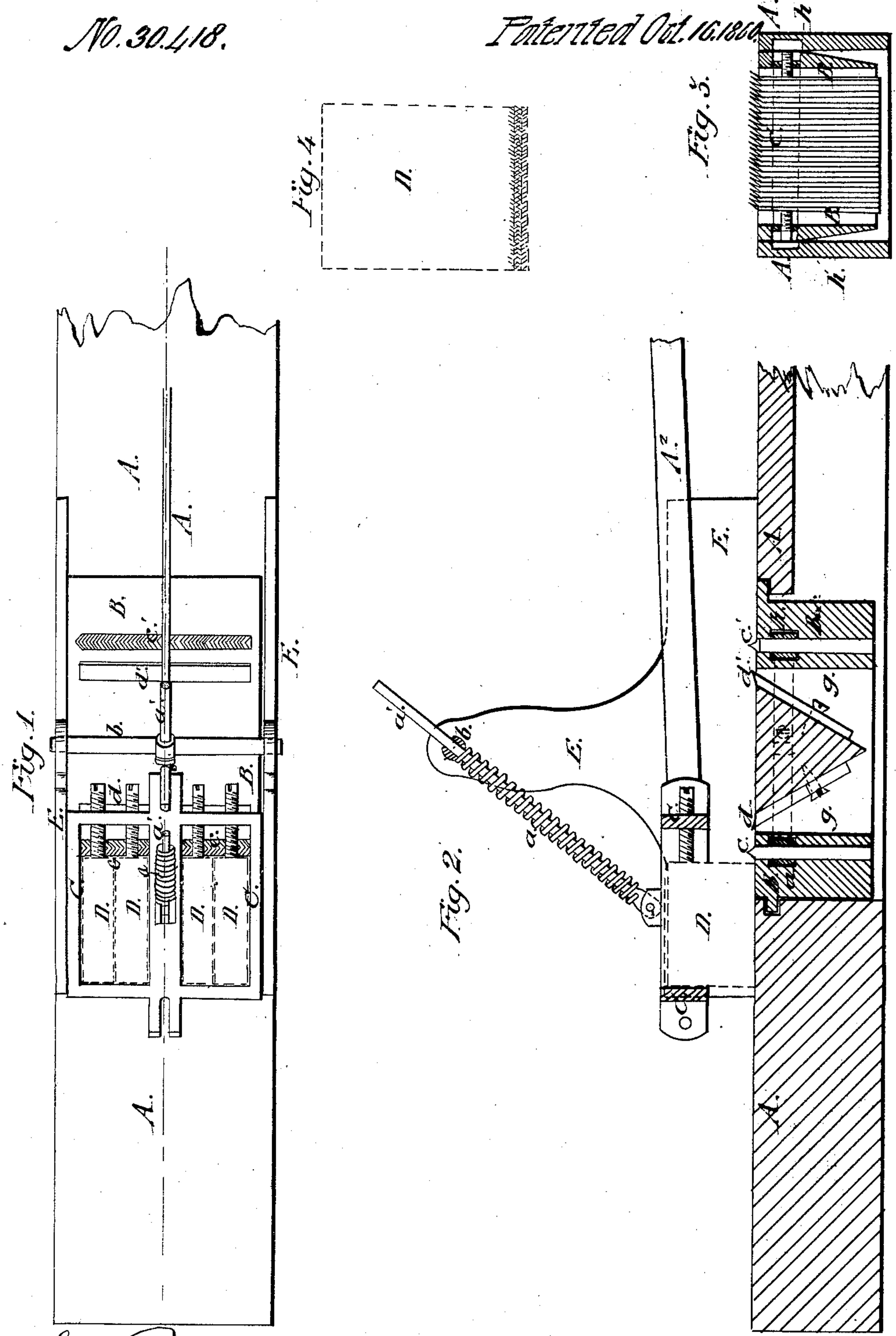


H. L. Nichols, Bench Plane.

No. 30,418.

Patented Oct. 16, 1860.



L. M. Daudre
Wm. Lumsden

Witnesses:

Inventor:
Henry L. Nichols.

UNITED STATES PATENT OFFICE.

HENRY L. NICHOLS, OF NEW YORK, N. Y.

SLIVERING-MACHINE.

Specification of Letters Patent No. 30,418, dated October 16, 1860.

To all whom it may concern:

Be it known that I, HENRY L. NICHOLS, of the city, county, and State of New York, have invented certain new and useful Improvements in Slivering Machinery; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a top view of the improved machine. Fig. 2 is a longitudinal section taken in a vertical plane through the middle of Fig. 1. Fig. 3 is a transverse section through Figs. 1 and 2 in the vertical plane indicated by the red lines *x, x*, showing the vertical slivering cutters. Fig. 4 is a view intended to represent the cut of the slivering knives.

Similar letters of reference indicate corresponding parts in the four figures.

This invention is an improvement in machinery for slivering blocks of wood for upholsterers' purposes—stuffing mattresses, etc. The improvements consist in setting the beveled cutting point of each slitting-cutter at an obtuse angle, more or less, with its shank, so that instead of their cutting perpendicularly into the wood they will make a slanting cut, so that when two sets of such slivers are used with their points inclined in opposite directions they will produce, with the horizontal plane irons, prismatic shreds or slivers as will be hereinafter described.

The invention also consists in securing the slivering cutters in stocks which are allowed to have a lateral play so that the points of these slivers will follow the grain of the wood where it is not perfectly straight, as will be hereinafter described.

To enable those skilled in the art to fully understand my invention I will proceed to describe its construction and operation.

A, is a bed plate into which the stock B, carrying the slivering cutters is secured; and C is a frame in which the blocks or bolts D, are secured by set screws, or clamps of any suitable description, which are capable of securing blocks of various lengths in the frame. This frame with the blocks placed in it is represented in the drawings as being held down to the work by a helical spring *a*, which spring surrounds a rod *a'*, that is

jointed to the top of the frame and plays through a rock shaft *b*, which has its bearings in the tops of the two side guides E, E, of the frame C, which guides are bolted to each side of the bed piece A.

The frame C receives an alternate rectilinear motion from an eccentric or crank wheel, through the medium of jointed connecting rod A². The machine may be operated by any prime motor. This frame C, is rectangular and has a bridge passing longitudinally through it with shaft connections on each end for attaching another similar frame behind it, if desirable. The cutter stock carries two sets of knives *c, d, c', d'*, so arranged with reference to the movement of frame C, which is operated by the crank or eccentric, that the cutters will act upon the blocks at each movement of the frame C. The horizontal plane cutters *d, d'*, for this purpose, are secured in their stock at opposite angles to each other, so that when the frame is moving forward *d*, will cut, and when the frame is moved backward *d'*, will cut. In front or opposite the cutting edge of each plane cutter are arranged the slitting or slivering cutters, which are intended for making fine slits in the blocks, in advance of the cutters *d, d'*, for the purpose of reducing the shavings to fine prismatic strips as represented in the cross section Fig. 4. In order to give this shape to the slivers or strips the cutting ends of the knives *c, c'*, are inclined from the perpendicular line of their shanks as represented in Fig. 3, and each set of knives are arranged so that their cutting points incline in opposite directions, as shown in Fig. 1, the cutting points *c*, incline to the right and the points *c'*, incline to the left or vice versa. These points project above the surface of the bed plate A a sufficient distance to cut into the blocks the thickness of two shavings, and the first movement of the frame C, cuts off strips which have been acted upon by one set of the cutters, the first cut will therefore make coarse strips, but all succeeding cuts will make the fine prismatic strips, for at the second movement of the frame C, the knives *c*, will cut diagonally across the previous cut of knives *c'*, while the strips are being planed off by the irons *d, d'*, they pass out through the throats 9, 9, and are raked away for use.

An advantage is gained by the arrangement of two sets of cutters for besides being enabled to produce better stuff, time is saved in the operation and the machine is
5 made to run with a uniform motion.

The slitting cutters c, c' , are simply narrow and their strips of steel with their sharp points bent over as above described. These pieces are confined in gangs within the metal
10 frames h, h , the ends of which are acted upon by springs of a suitable character for the purpose of allowing the frames with their cutters to move to the right or to the left. This lateral movement of the cutters
15 c, c' , will allow them to follow the course of the grain of the wood, and thus there

need not be so much care taken in the selection of wood with a perfectly straight grain.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is— 20

1. The slanting pointed cutters c, c' , when they are arranged in the relation to the two plane irons d, d' , and operate in the manner herein described. 25

2. Allowing a lateral yielding motion to slitting cutters c, c' , for the purpose, and substantially herein set forth.

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Witnesses:

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