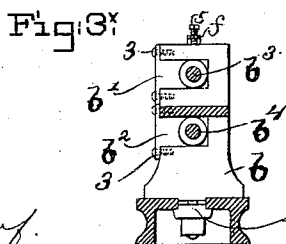
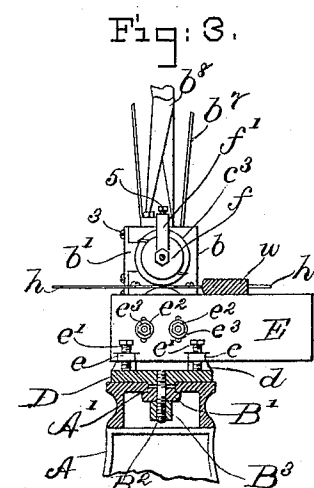
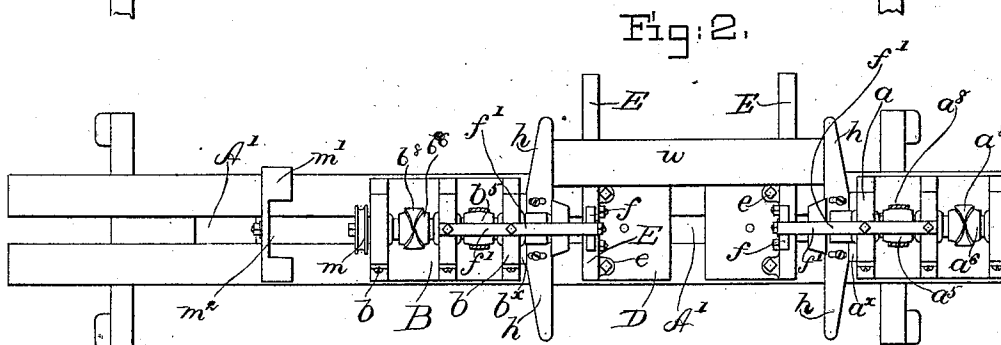
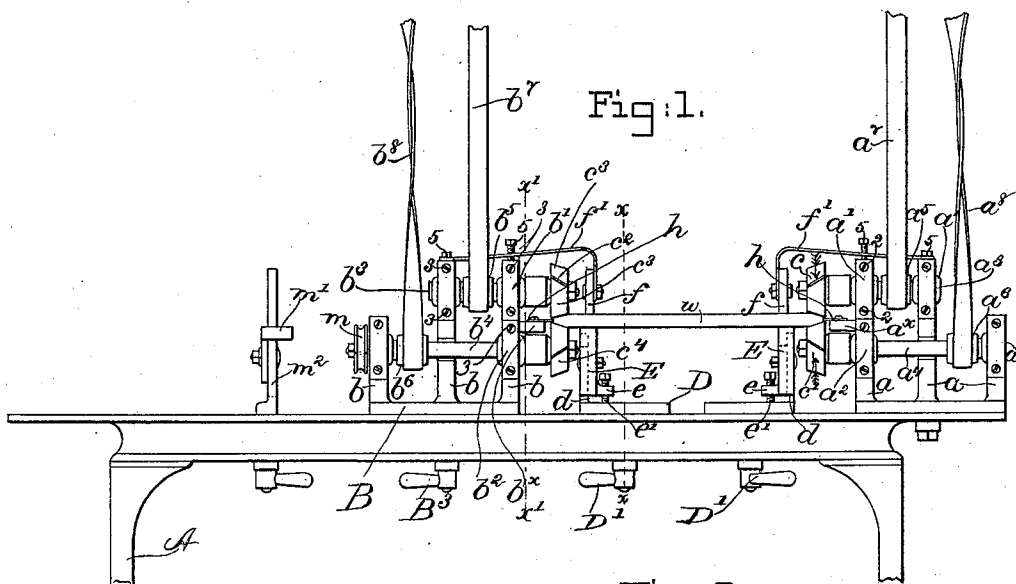


N. J. WHITE.  
SNIPING MACHINE.

Patented Nov. 1, 1892.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

NELSON J. WHITE, OF LAWRENCE, MASSACHUSETTS.

## SNIPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 485,401, dated November 1, 1892.

Application filed August 22, 1891. Serial No. 403,406. (No model.)

*To all whom it may concern:*

Be it known that I, NELSON J. WHITE, of Lawrence, county of Essex, State of Massachusetts, have invented an Improvement in Sniping-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

In the manufacture of barrel-staves, cloth-boards, and many other articles one or both ends of the board are beveled upon one or both sides, this operation of beveling being commonly known as "sniping." Heretofore it has been generally customary to snipe articles by means of a circular saw, which is a long and laborious operation.

This invention has for its object to provide a machine for sniping one or both ends of a piece or stick of wood upon one or both sides at one operation. In many classes of work—as, for instance, cloth-boards—it is necessary to round or mold the edge of the sniped end, so that it may present a smooth and neat appearance.

This invention also comprehends, in combination with a sniping-machine, an attachment for molding the edge of the stock after it has been sniped.

One part of this invention therefore consists of a bed, combined with two plates longitudinally adjustable thereon, upwardly-extended guide-ears at the outer end of each plate, a two-part supporting-table carried by the plates and movable vertically on said guide-ears and independent adjusting devices for each part of said table, and two rotating beveled cutting-heads located one above the other at one side of and to co-operate with said table, substantially as will be described; also, in the combination, with a table and one or more rotating heads carrying beveled cutting-blades to snipe the material, of a rotating grooved molding-head and table upon which the material may be fed thereto, to operate as will be described.

Other features of this invention will be hereinafter described, and pointed out in the claims.

Figure 1 represents in elevation a sniping and molding machine embodying this invention; Fig. 2, a top or plan view thereof; Fig. 3, a section taken on the dotted line  $x x$ , Fig.

1. Fig. 3<sup>x</sup>, a section on the dotted line  $x' x'$ , Fig. 1.

Referring to the drawings, the bed A may be of suitable construction to sustain the various parts, it being herein represented as provided upon its top face with a longitudinal slot A' (see Figs. 2 and 3,) to be described.

The bed A at one end has fixed to it and supports suitable standards  $a a$ , in which are formed suitable recesses or pedestals opening at one side to receive boxes  $a' a^2$ , secured in position by means of screws or bolts 2, and in which are journaled the shafts  $a^3 a^4$ , having fast to them, respectively, the pulleys  $a^5 a^6$ , driven from suitable counter-shafts by the open and crossed belts  $a^7 a^8$ , so that the two shafts will be rotated in opposite directions, as indicated by the arrows, Fig. 1. The shafts  $a^3 a^4$  at their inner ends are formed to receive the beveled cutting-heads  $c c'$ , which may be of such construction as to cut the material presented to it with a draw cut to prevent splintering the same as the tool leaves it.

The movable carriage or plate B is provided with a guiding rib or projection B', (see Fig. 3,) adapted to slide in the slot A' in the bed A, which rib or projection is provided with a depending threaded stud B<sup>2</sup>, on which is threaded the operating clamp-handle B<sup>3</sup>, by means of which the carriage B may be confined in any adjusted position along the bed A.

The carriage B is provided with standards  $b$ , having lateral recesses or pedestals to receive the boxes  $b' b^2$ , as represented in Fig. 3<sup>x</sup>, secured in position by screws or bolts 3, said boxes having journaled in them the shafts  $b^3 b^4$ , having fast to them the pulleys  $b^5 b^6$ , driven from the counter-shaft by means of the open and crossed belts  $b^7 b^8$ , said shafts at their inner ends being fitted to receive the beveled cutting-heads  $c^3 c^4$ , carrying the angular cutting-blades  $c^2$ , the construction and operation of the shafts  $a^3 a^4$  and their cutting-heads  $c c'$  being similar in all respects to the construction and operation of the shafts  $b^3 b^4$  and their cutting-heads  $c^3 c^4$ .

Each plate or carriage D is arranged upon the bed between the cutters  $c c'$  and  $c^3 c^4$ , it being held in adjusted position by means of an adjusting device controlled by the operating-handle D', said adjusting device being

similar in all respects to the clamping device previously described for holding the carriage B in adjusted position.

Each plate D at each extremity of its outer end has an upwardly-extended guiding-ear  $d$ , which enter a suitable groove or channel in and serve as guides for a table E, each provided at its lower end with lugs  $e$ , through which are passed the threaded screws  $e'$ , 10 tapped into the plate D, and by means of which the vertical height of the tables E may be varied, as desired, said tables being held firmly in adjusted position by means of the clamping-bolts  $e^2$ , extended through the vertical slots  $e^3$  into the guiding-ears  $d$ , as best shown in Fig. 3.

The stock  $w$  (see Fig. 3) as it is fed into the machine is maintained in contact with the tables E by means of the wheels or rollers  $f$ , mounted in suitable bearings in the free ends of the springs  $f'$ , adjustably attached to the standards  $a$   $b$  by means of screws or bolts, as 5, as shown in Fig. 1, the wheels or rollers yielding to the varying thicknesses of stock passed to the machine. 25 The innermost standards  $a$   $b$  are provided with suitable laterally-extended brackets  $a^x$   $b^x$ , (see Fig. 2,) to which are adjustably attached the lateral guides  $h$   $h$ , by means of which the lateral position of the stock as it is fed into the machine with relation to the cutters may be determined.

The shaft  $b^4$  of the carriage B at its outer end may be fitted with a rotary grooved cutter  $m$ , by which the edge of the sniped stock may be rounded or molded, if desired, the stock to be so treated being fed to the cutter upon the table  $m'$ , adjustably mounted on the standard  $m^2$ , which latter is also adjustably movable along the bed A. 40

Assuming that the machine is to be employed to snipe the ends of cloth-boards, or boards employed by cotton-mills to wind the finished cloth upon before shipped from the mill, the operation of the machine is as follows: The board  $w$ , previously cut to the desired size and having its ends square and rough, as left by the saw, is fed to the machine upon the tables E and between the guides  $h$   $h$  until it reaches the rotating cutters  $c$   $c'$  and  $c^3$   $c^4$ , which cutters will bevel or snipe the opposite ends of the board above and below as the latter is pushed between them, all as clearly shown in Fig. 1, after which, 55 if it is desired to round or mold the snipe or other edges of the board, it will be removed to the table  $m'$ , previously moved into proper position over the rotating grooved cutter or molder  $m$ , which will round or mold the edges of the board, giving it a smooth and finished appearance. 60

For stock of varying thicknesses the table E may be adjusted vertically by means of the screws  $e'$  and secured by the bolts  $e^2$ , the tables being of course raised for thinner stock and lowered for thicker stock, while adjustment of the machine for boards of different

lengths may be had by movement of the carriage B toward or from the fixed supports  $a$  and cutters  $c$   $c'$ . 70

When it is desired to change the angle of the snipe or bevel with relation to the end or surface of the board or stock, the cutting-blades of the several cutters will be adjusted to give the proper angularity to the bevel. 75

The depth of the bevel or snipe is varied by movement of the carriage B and by proper adjustment of the guides  $h$ .

This machine is particularly adapted to beveling or sniping the inner or concave ends of barrel-staves, in which case or whenever the material is to be sniped upon one side only the under cutters  $c'$   $c^4$ , together with their respective shafts and boxes, will be removed and the staves fed upon the tables E under 85 the upper cutters  $c$   $c^3$  only, said cutters sniping the staves on a true curve with the concavity of the staves.

When it is desired to snipe only one end of the stock, the carriage B will be moved to the left to such a distance as to clear the stock as it is fed into the machine. 90

It will be evident that many and various classes of work may be treated in this machine by utilizing any or all of the various 95 cutters.

This invention is not limited to the particular construction and arrangement of the various parts shown, as it is evident that the same may be varied without departing from 100 the scope of the invention.

I claim—

1. The combination, with a bed, of two plates longitudinally adjustable thereon, upwardly-extended guide-ears at the outer end of each plate, a two-part supporting-table carried by the plates and movable vertically on said guide-ears, and independent adjusting devices for each part of said table, and two rotating beveled cutting-heads located one above the other at one side of and to co-operate with said table, substantially as described. 105

2. The combination, with a bed, of a pair of vertically-arranged rotating beveled cutting-heads at one end of said bed, a carriage movable longitudinally on said bed and having standards to support a second pair of vertically-arranged cutting-heads, means to hold said carriage in adjusted position on the bed, and a two-part supporting-table longitudinally movable on the bed between said pairs of cutting-heads, and means for adjusting independently the two parts of the table vertically, the work being supported by the table between the cutting-heads at each end, substantially as described. 115 120 125

3. The combination, with a bed, of plates longitudinally adjustable thereon, guide-ears on each of said plates, a supporting-table carried by and movable on said ears, lugs on said table, and adjusting-screws extended there-through and bearing against the plate to adjust the table vertically, two rotating beveled cutting-heads located one above the other, 130

and an adjustable spring-supported presser-roll above said table and axially on one side of the upper cutting-head, substantially as described.

5 4. In a machine for sniping and molding boards, a bed, a carriage supported thereby and having uprights or standards, a pair of rotating shafts in said standards, and a beveled cutter on one end of each shaft, and a  
10 grooved molding-cutter mounted upon the opposite end of one of said shafts, combined with independent supporting-tables movable on said bed and on opposite sides of the carriage, substantially as described.

15 5. The combination, with a longitudinally-

slotted base, of the plate D, movable thereon, a guiding rib or projection on said plate, adapted to slide in the bed-slot, a depending threaded stud, a clamping-handle, vertical ears *d* on the outer end of the plate, and a table having channels to receive and be guided by said ears, and means to raise and lower said table, substantially as described.

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

NELSON J. WHITE.

Witnesses:

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