H. PATTERSON.

MATCH SPLINT MACHINE.

No. 7,367. **Patented May 14, 1850.**

Fig. 1.

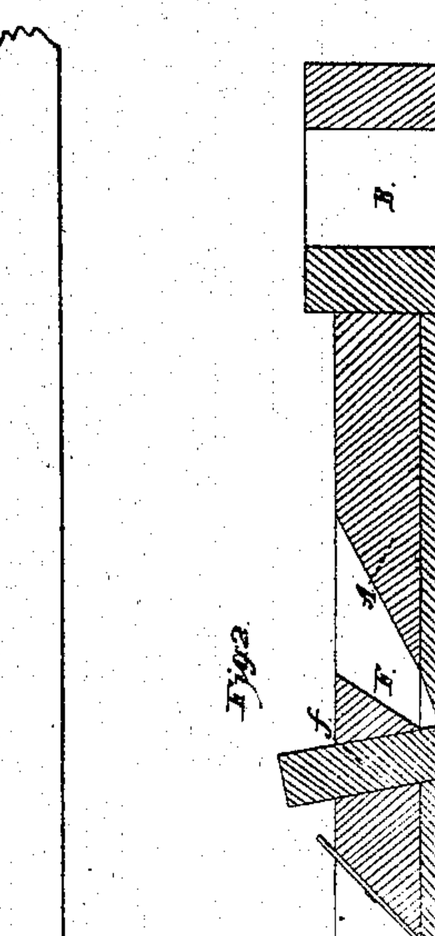


Fig. 2.

Fig. 3.

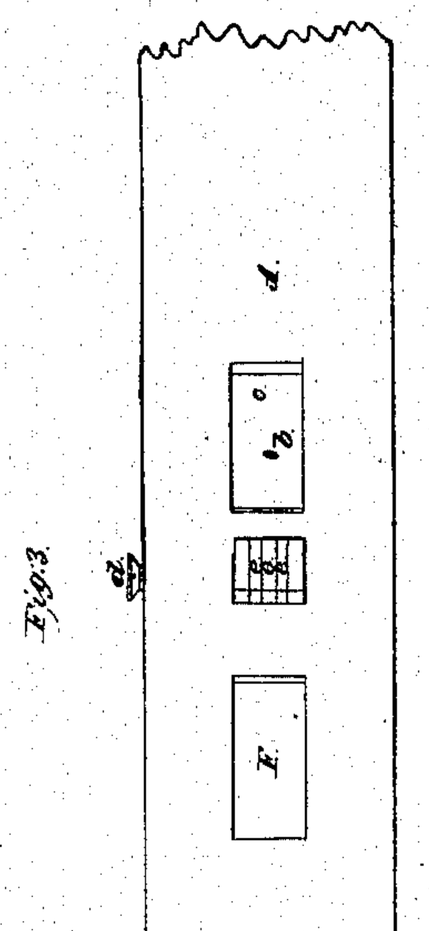


Fig. 4.

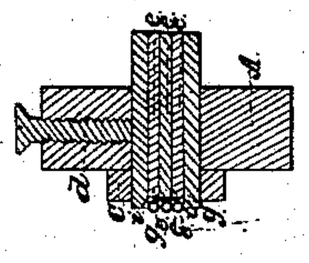


Fig. 5.

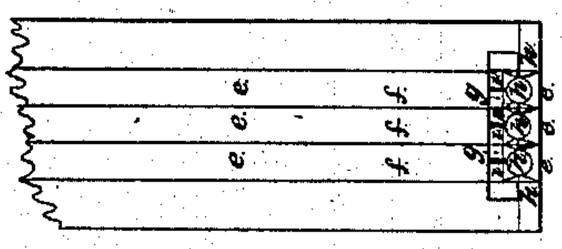


Fig. 6.

Fig. 7.

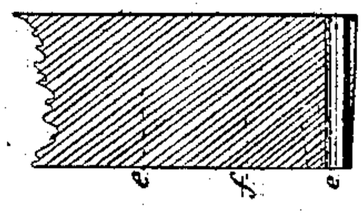


Fig. 8.

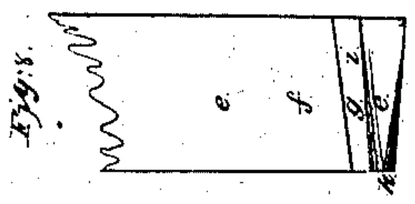


Fig. 9.

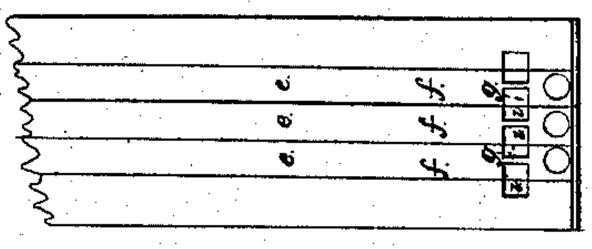


Fig. 10.

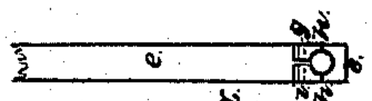


Fig. 11.

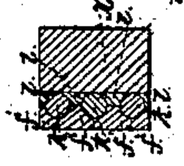
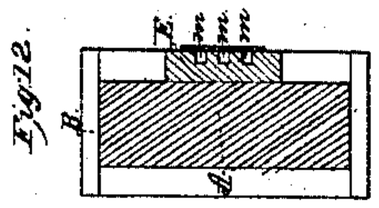


Fig. 12.



UNITED STATES PATENT OFFICE.

HORACE PATTERSON, OF BALDWINSVILLE, MASSACHUSETTS.

SPLINT-MACHINE.

Specification of Letters Patent No. 7,367, dated May 14, 1850.

To all whom it may concern:

Be it known that I, HORACE PATTERSON, of Baldwinville, and the county of Worcester and State of Massachusetts, have invented certain new and useful or Improved Machinery for Making Cylindrical Splints for Friction or other Matches or for Various other Purposes; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, letters, figures, and references thereto.

Figure 1, of the said drawings denotes a front view of the cutter stock or that part of a match splint making machine to which my improvement is applied. Fig. 2, is a horizontal section of it. Fig. 3, is a rear elevation of it. Fig. 4, is a transverse section of it taken through the series of rounding cutters. Fig. 5, is a side edge view of the collection of rounding cutters and is drawn on a scale three times greater than they are ordinarily used. Fig. 6, is a front end view of such collection of cutters and is drawn on a scale three times as great as they are ordinarily constructed. Fig. 7, is a horizontal section on said enlarged scale taken through one of the cutters. Fig. 8, is a similar horizontal section taken between two of the cutters. Fig. 9, is a rear side view of the collection of cutters exhibiting the waste passages thereof.

In the said drawings, A, denotes the cutter stock and B, the frame usually applied to it for the purpose of holding the dipping boards, C, and D, are two plain faces or plates against which the block of wood, from which the splints are to be separated is borne and moved. The face C, is placed a little in advance of the face D, as seen in Fig. 2, and is arranged between it and another face or plate E, on which are made the grooves or passages which receive the splints from the cutters and direct them into the dipping frames. Such grooves or conducting passages and dipping frames are substantially described in the specification of the Letters Patent granted on the 26th day of April A. D. 1845, to Asa Fessenden and Luke L. Knight. My invention although it may be used in connection with such directing passages and dipping frames may also be use separate therefrom.

Through the plate D, and near its connection with the plate C, a passage *b*, (see Figs. 1, and 2,) is made for the reception of a plane iron *c*, whose cutting edge is placed in the plane of the external surface of the plate *c*. The collection of cutters *e*, *e*, *e*, by which the cylindrical splints are made are arranged in and project from the plate C, as seen in Figs. 1, and 2, they being held in place by a set screw *d*.

Each cutter consists of a short cylindrical or slightly conical tube which is connected to a bar *f* (see Fig. 10, which represents an edge view of one of the said cutters) by a thin rib *g*, whose front edge or that immediately contiguous to the cutter edge is made sharp so as to cut. The front end of the said cutter is also made sharp so as to cut. On each side of each cutter *e*, and at ninety degrees distant from it, is another thin cutting edge or wing as seen at *h*, *h*, Fig. 10. When the several cutters are put together spaces or passages *i*, *i*, *i*, will be found in rear of them the said spaces or passages being intended for the escape of the waste wood, or that part marked *f'*, *f'*, *f'*, in Fig. 11, which is a cross section of a block exhibiting the manner in which the cylinders of wood and the waste wood are removed by the cutters and plane. The cylinders of wood or the match splints are seen at *k*, *k*, *k*, and they pass through the cylindrical tubular cutter *e*, *e*, *e*, and are separated from the block X, by them. The waste portions *f'*, *f'*, *f'*, &c, are at the same time detached from the block and one another by the several cutters or ribs *g;* and wing cutters *h*, *h*, before described, and as said portions are so separated they pass through the spaces or passages *i*, *i*, *i*, and escape through a passage F, made through the cutter stock and opening out at the rear side thereof.

The portions marked *l*, *l*, *l*, in Fig. 11, are removed from the block X, by the plane iron *c*, during the next or succeeding forward movement of the block toward the cutters; such waste portions passing through the opening or passage *b*, and escaping in the rear of the cutter stock.

In the operation of the machine the block X, from which the splints are to be made is pressed and slid against the plates D, C, and E, and in the direction from D, to E, and by any proper means or mechanism. The plane iron *c*, removes a portion of it, which being done, the splints *k*, *k*, *k*, and waste parts *f'*, *f'*, *f'*, are next removed from it. During the next advancement of the block

toward and by the plane iron *c*, the waste parts *l*, *l*, *l*, are separated from the block, by the action of the said plane iron.

The grooves or passages made in the plate E, and which lead the splints to the dipping frames are represented by red lines in Fig. 1. They are also shown in section at *m*, *m*, &c., in Fig. 12.

In the collection of cutters seen in Fig. 5, it may be observed that the passages for the escape for the first and last waste pieces *f'*, *f'*, together with the wing knives or cutters thereof should be made of a size or vertical depth sufficient to receive pieces *f'*, *f'*, of any width which may be severed from any block. As the blocks generally vary in thickness this precaution is necessary to prevent the jamming of the wood in the said escape passages so as to choke the same, and also to enable us to operate on a block without the necessity of first very accurately reducing it to one particular thickness as is required to be done, when we operate by the hereinbefore mentioned machine, invented and patented by Fessenden and Knight and which was for making match splints square in cross section.

What I claim as my invention is—

1. The combination of the circular or tubular cutters *e*, *e*, their lateral wing knives or cutters, their rib knives or cutters *h*, *h*, and the waste escape passages for the waste strips *f'*, *f'*, *f'*, substantially in manner and for the purpose as above specified.

2. I also claim the improvement by which I am enabled not only to make round or cylindrical splints but, to introduce them to the dipping frames—that is, I do not claim the combination of cutters dipping frames and passages leading from the cutters to the dipping frames, as these have been before invented and used for making square splints and setting them in the frames, but I claim, in combination with the cutters for forming the round splints and passages *m*, *m*, for receiving them and conducting them to the dipping frames, the passages *i*, *i*, &c, F, for the escape of the waste wood or strips *f'*, f', *f'*, the same being applied together and made to operate in connection with the reducing plane iron *c* and the plates C, D, substantially as above specified.

HORACE PATTERSON.

Witnesses:

GILES H. WHITNEY,

ISAAC CUMMINGS.