

E. MARX.

Saws.

No. 144,344.

Patented Nov. 4, 1873.

Fig. 1.

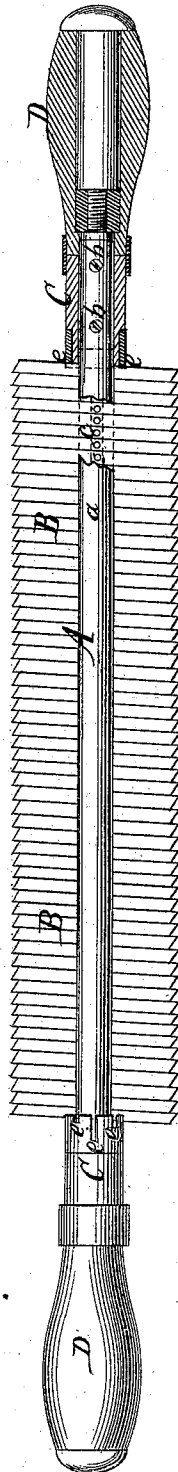
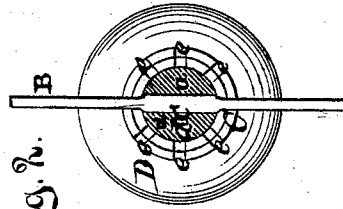


Fig. 2.



Witnesses.
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IMPROVEMENT IN SAWS.

Specification forming part of Letters Patent No. **144,344**, dated November 4, 1873; application filed April 25, 1873.

To all whom it may concern:

Be it known that I, ERNEST MARX, of the city, county, and State of New York, have invented a new and useful Improvement in Saws; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a sectional face view of my invention. Fig. 2 is a transverse section of the same in a larger scale than the previous figure.

Similar letters indicate corresponding parts.

This invention relates to a saw which is composed of a series of narrow flat blades, which are secured together in a suitable clamp, each of said blades being beveled off at its ends in such a manner that when the blades are fastened in their clamp their ends form a series of teeth, and when these teeth are dull they can readily be sharpened on a grinding-stone. The clamp consists of two semicircular rods, one or both of which is provided with a groove, extending throughout its whole length, and intended to receive pins projecting from the several blades. On the ends of said rods are fitted sleeves, which are pressed toward each other by screw-handles, and the inner edges of these sleeves are provided with a series of notches of varying depth, in such a manner that by means of said sleeves the inclination of the blades can be increased or diminished; or, if desired, the blades can be inclined to such a degree that their ends present an unbroken face; ready to be sharpened on a grinding-stone.

In the drawing, the letter A designates a clamp, which is composed of two semicircular rods, *a a*, which are secured together at their ends by screws *b b*, and which are so connected that an opening is left between them for the reception of the blades B, which constitute my saw. Each of these blades is provided with a pin, *c*, which projects into a groove, *d*, in one of the rods *a*, so that by means of said pins the blades are retained in the clamp, while they can be freely turned in any desired inclination. On the ends of the clamp A are fitted sleeves C, which are forced toward

each other by handles D, that are provided with internal screw-threads to engage with the ends of the clamp, as shown in Fig. 1, so that by turning these handles in the proper direction the sleeves are caused to compress the blades B, edge to edge. The ends of the blades B are beveled off, so that, when said blades are arranged in relation to each other as shown in Fig. 1, a saw is produced, the teeth of which are formed by the ends of the blades. The sleeves C are provided in their inner ends with notches *e*, of different depths, and just wide enough to receive the last blades. The notches in the sleeves are arranged in pairs diametrically opposite to each other, and the notches constituting each pair are of different depths, so that the blades B, on being pressed into said notches, will assume an oblique position, and, by turning the sleeves so as to bring different pairs of notches into operation, the inclination of the blades can be increased or diminished, as may be desirable. One pair of notches in each sleeve is so adjusted that when these pairs are brought into working position the blades B will be inclined to such a degree that their edges form unbroken lines, and that by clamping the blades in this position their edges can be readily ground off and sharpened with little trouble or loss of time.

The great advantage of my saw over ordinary saws is, that my blades B can be made as hard as may be desirable, and that the same can be sharpened on a grinding-stone and without the use of files. Furthermore, by adjusting the inclination of the blades B, my saw can be readily fitted for cutting different materials.

What I claim as new, and desire to secure by Letters Patent, is—

1. A saw composed of a series of blades, B, secured together in a clamp, A, substantially as shown and described.

2. The sleeves C, provided in their ends with notches *e*, in combination with the clamp A, blades B, and handles D, substantially as shown and described.

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Witnesses:

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