No. 753,251. PATENTED MAR. 1, 1904.

P. EKVALL.

ABRADING DEVICE.

APPLICATION FILED APR. 15, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

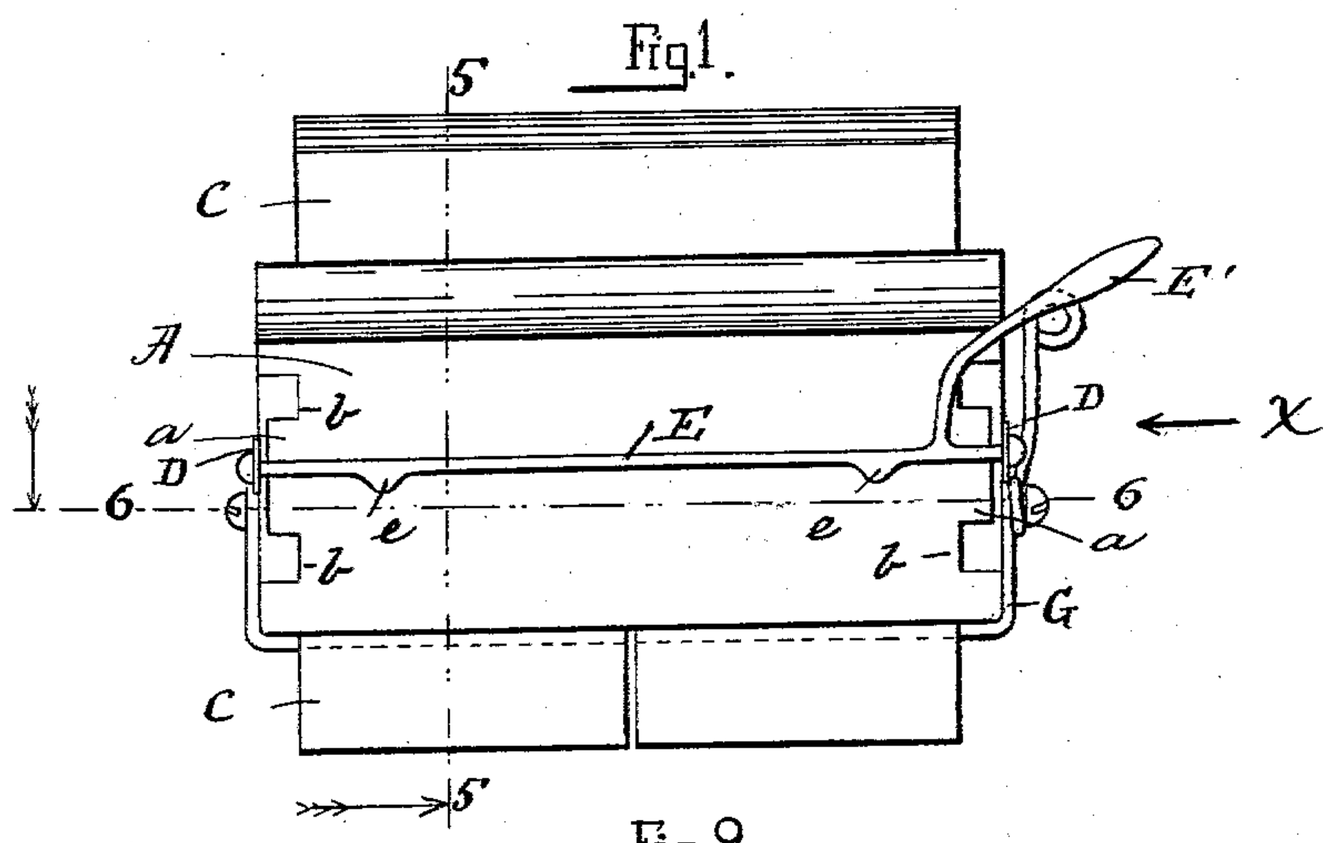


Fig. 2.

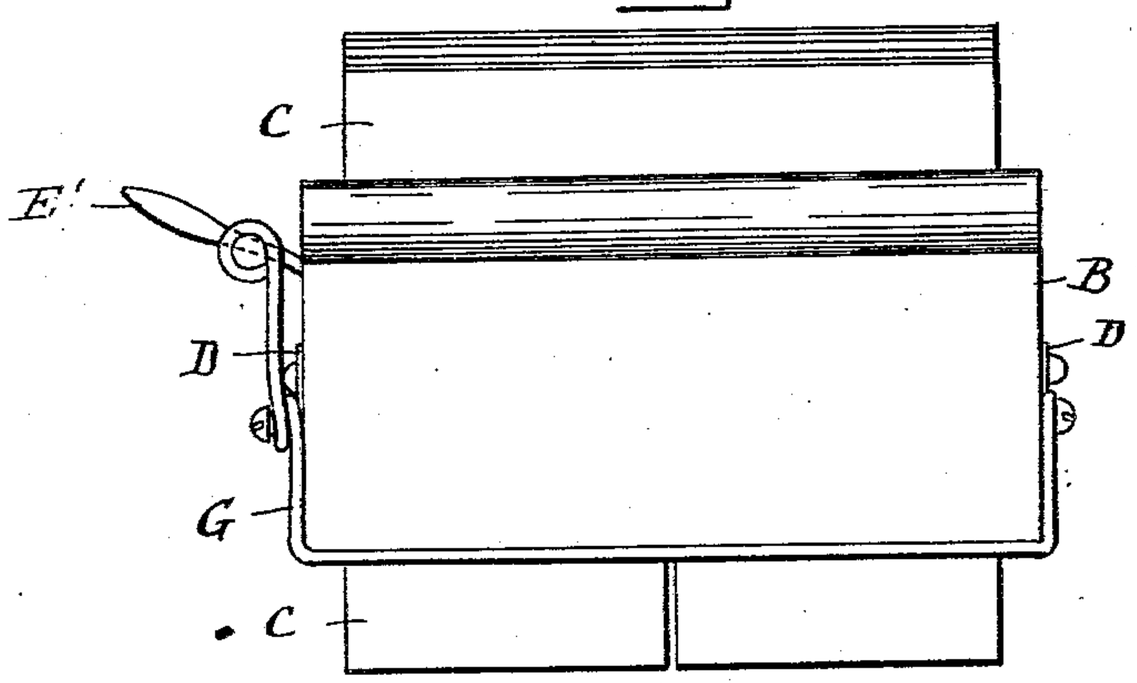


Fig 3

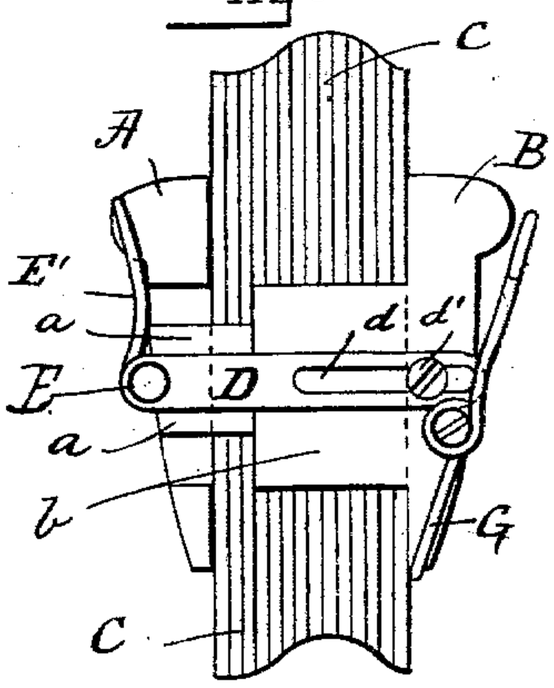
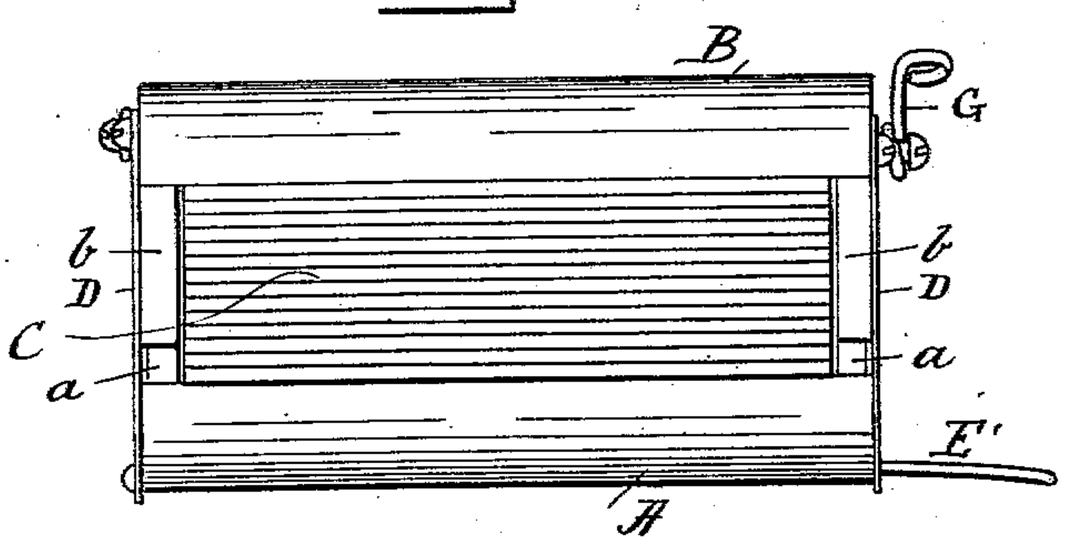


Fig. 4.



Witnesses.

Laurits N. Möller

Mary C. Moller

Inventor.

Peter Ekvall.

by Ivan Andrews

his atty.

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ABRADING DEVICE.

APPLICATION FILED APR. 15, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 5.

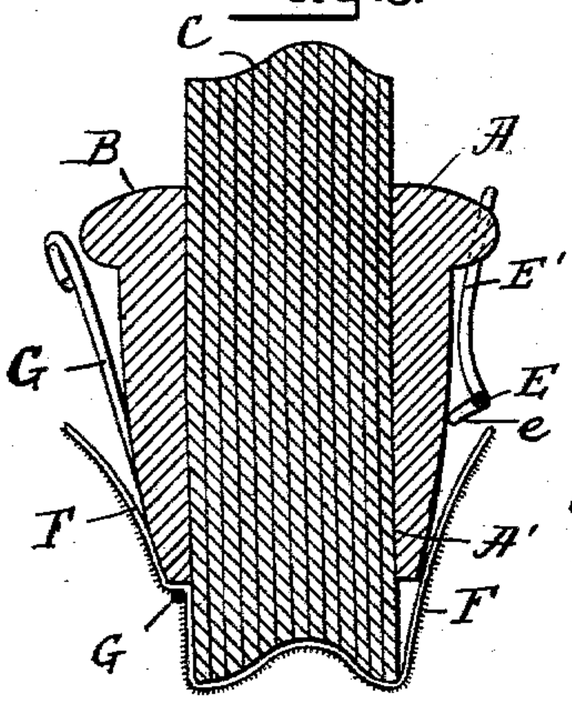


Fig. 6.

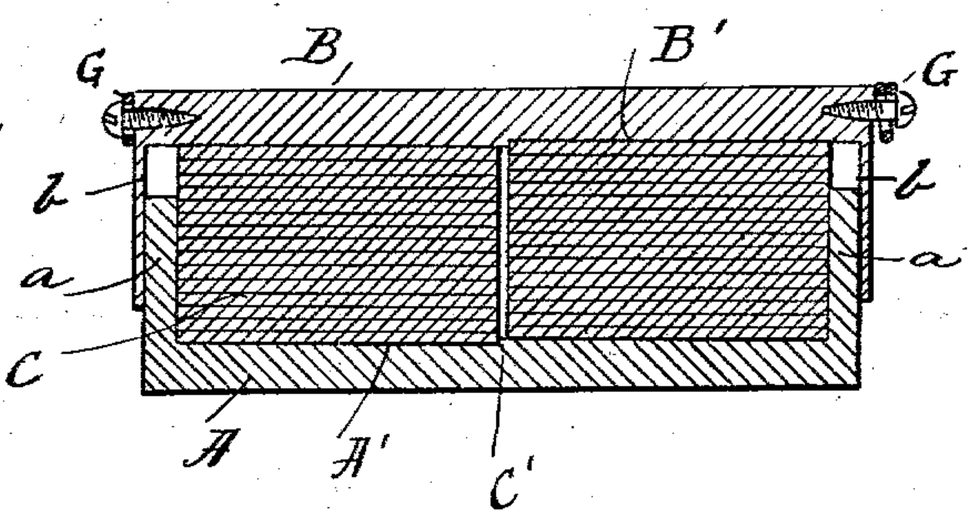
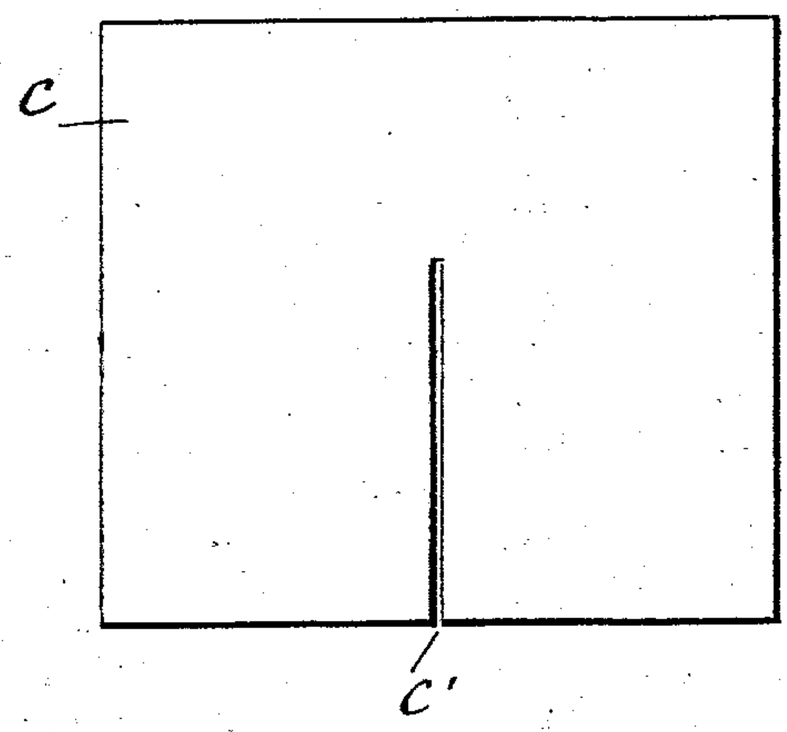


Fig. 7.



Witnesses.

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No. 753,251. Patented March 1, 1904.

UNITED STATES PATENT OFFICE.

PETER EKVALL, OF BOSTON, MASSACHUSETTS.

ABRADING DEVICE.

SPECIFICATION forming part of Letters Patent No. 753,251, dated March 1, 1904.

Application filed April 15, 1903. Serial No. 152,727. (No model.)

To all whom it may concern:

Be it known that I, PETER EKVALL, a citizen of Sweden, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Abrading Devices, of which the following is a specification.

This invention relates to an improved abrading device for the purpose of sandpapering, filing, shaping, or finishing curved or irregular surfaces of wood or metal, and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 is a front elevation of the device. Fig. 2 is a rear elevation of the same. Fig. 3 is an end view as seen from X in Fig. 1. Fig. 4 is a top plan view. Fig. 5 is a vertical section on the line 5 5 shown in Fig. 1. Fig. 6 is a horizontal section on the line 6 6 shown in Fig. 1. Fig. 7 is a detail front elevation of one of the adjustable sheets or plates used in connection with the clamping device.

Similar letters refer to similar parts wherever they occur in the different parts of the drawings.

The device consists of a pair of laterally-adjustable clamps or jaws A and B, between which are arranged and adjustably secured a series of sheets or plates C C C, which may be made of wood or metal, according to the purpose for which the device is to be used. In practice I make on the opposite ends of the clamp A projections *a a*, adapted to be guided in correspondingly-shaped guides *b b* on the ends of the clamp B. Any suitable device may be used for clamping and securing the sheets or plates C C C between the jaws A B, and I have for such purpose shown in the drawings slotted links D D, adjustably secured to the ends of the jaw B and pivotally connected in their other ends to a rod or bar E, provided with lateral projections *e e*, adapted to be swung in contact with the jaw A when clamping the sheets or plates C C between the jaws A B, as shown in the drawings. In practice I make on the end of the rod E a handle or lever E′, by means of which the clamping device may be manipulated for the purpose of releasing the sheets or plates from between the clamping-jaws or securing them thereto, as may be desired. The links D D are each provided with a longitudinal slot *d*, through which passes a binder-screw *d′*, which is screwed into the end of the jaw B, as shown, and by this means I can secure the links D D in adjusted positions relative to the jaw B, according to the combined thickness of the mass of the sheets or plates that are to be confined between the aforesaid clamping-jaws. Each sheet or plate C is preferably slitted from its lower edge partially upward, as shown at C′ in Fig. 7, for a purpose as will hereinafter be described.

On the inner lower portion of the jaw A is made a recess or offset A′, extending about half the width of said jaw, and on the inner lower portion of jaw B is made a similar recess or offset B′. Such recesses in the said jaws are not directly opposite to each other; but one is arranged at the side of the one in the opposite jaw, as shown in Fig. 6, and this is for the purpose of causing the lower slitted edges of the adjacent sheets or plates C C to break joints, as shown in Fig. 6, by which arrangement a continuous shaping or abrading surface is obtained on the lower edges of the sheets C C when the latter are adjusted in position relative to the curvature, &c., that is to be shaped or finished, as shown in Fig. 5.

When the device is to be used with a sheet of sandpaper or emery-cloth F, as shown in Fig. 5, such abrasive sheet is wrapped outside of the jaws A B, its middle portion extending below the lower edges of the sheets C C, and while in use the operator may hold the upper sides of the abrasive sheet with proper friction against the outside of the jaws A B, so as to cause the active part of said sheet to conform to the curvature of the adjusted lower edges of the plates C C and the corresponding surface of the article that is being shaped or abraded.

Instead of holding the abrasive sheet F by hand against the sides of the jaws A B it may be secured in position thereto by means of pivoted bail-wires G, pivoted in their upper ends to the outside of the clamping-jaws and adapted when swung downward to hold the abrasive sheet locked in position relative to

the clamping-jaws. Only one of such jaws is shown in the drawings as being provided with such bail-wire; but both jaws may be provided with such or similar sandpaper or emery-cloth holding device without departing from the essence of my invention.

The device is very simple in construction and is readily adjustable for the purpose of shaping or finishing objects of varying contours in a manner as hereinabove shown and described.

What I wish to secure by Letters Patent and claim is—

1. In the herein-described abrading device, the combination with a pair of laterally-adjustable jaws, of a series of intermediate adjustable sheets or plates, means for guiding said jaws to and from each other and means for locking and securing said sheets between the jaws, substantially as and for the purpose set forth.

2. In the herein-described abrading device, the combination with a pair of laterally-adjustable jaws, of a series of intermediate adjustable sheets or plates, a locking device for securing the latter between the jaws, and an abrasive sheet or cloth, substantially as and for the purpose set forth.

3. In an abrading device, the combination of a pair of clamping-jaws, having offsets or recesses A′, B′, in their lower ends, combined with a series of intermediate adjustable sheets or plates C, C, having vertical slits C′, in their lower portions and means for adjustably securing said sheets or plates between said jaws, substantially as and for the purpose set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

PETER EKVALL.

Witnesses:

ALBAN ANDRÉN,

LAURITZ N. MÖLLER.