(No Model.)

J. B. EDSON.

METHOD OF AND APPARATUS FOR FORMING THIN SHEETS OF A PLASTIC AND YIELDING COMPOUND.

No. 283,224. Patented Aug. 14, 1883.

Fig 1.

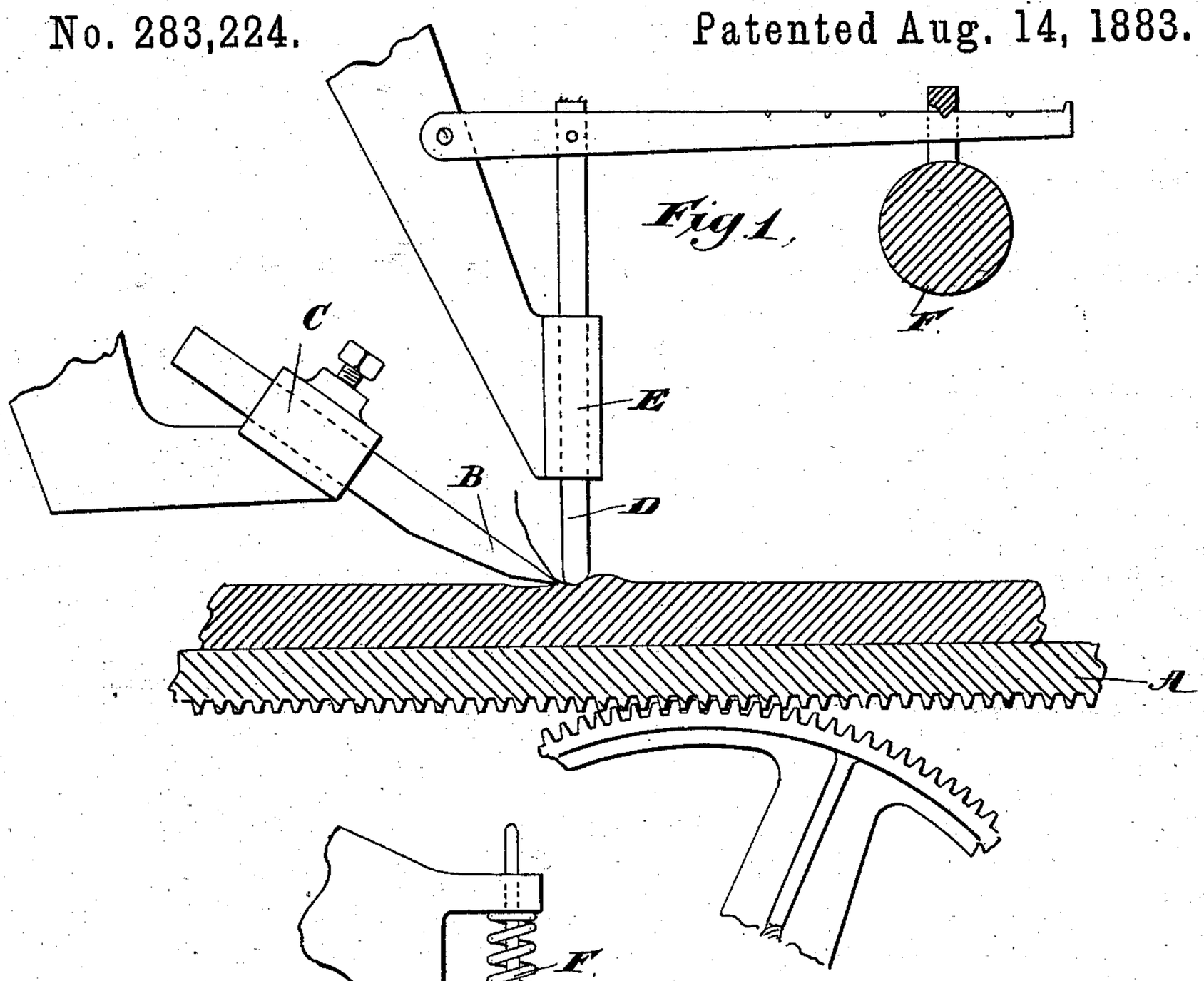
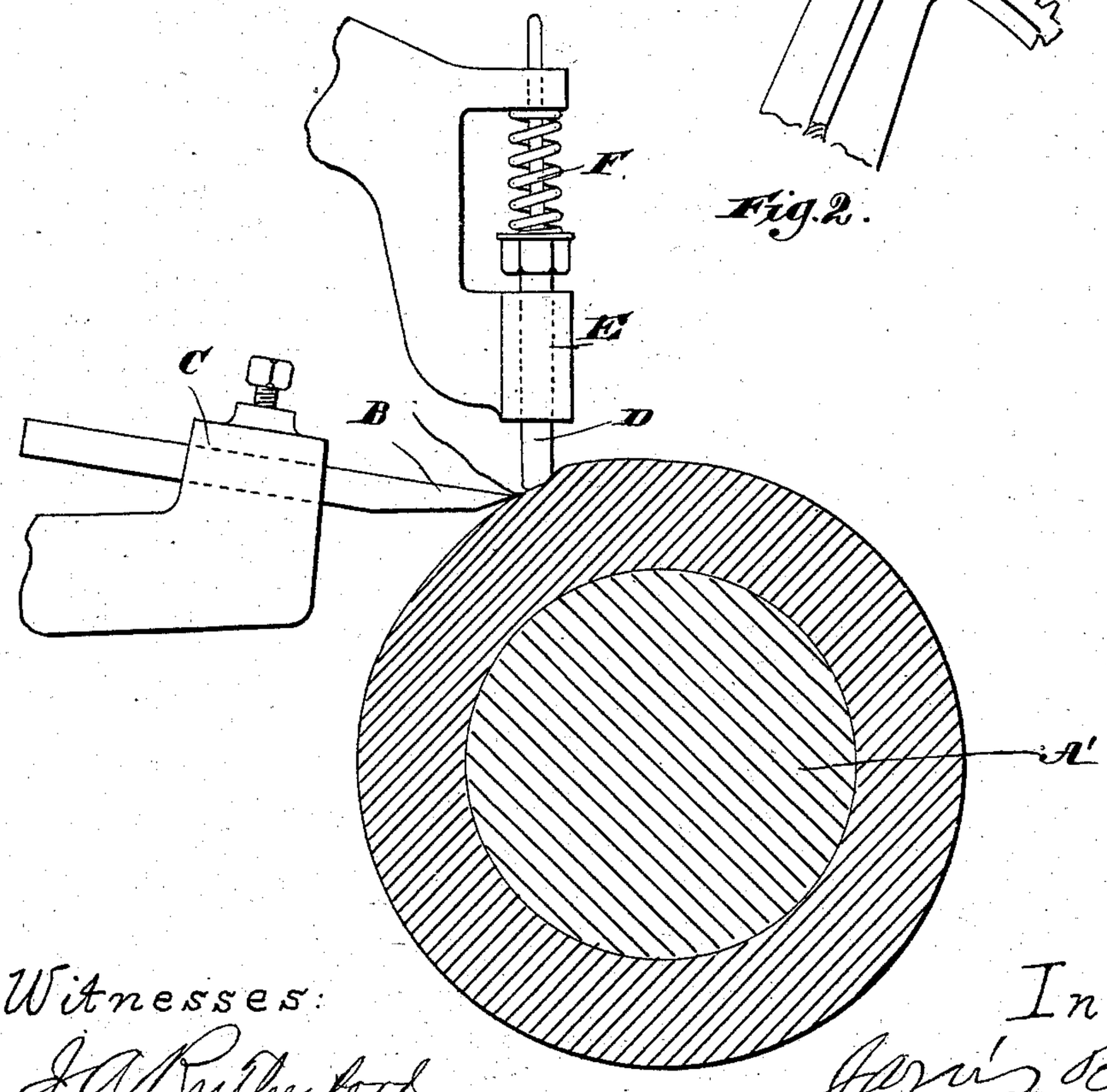


Fig. 2.



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UNITED STATES PATENT OFFICE.

JARVIS B. EDSON, OF ADAMS, MASSACHUSETTS.

METHOD OF AND APPARATUS FOR FORMING THIN SHEETS OF A PLASTIC AND YIELDING COMPOUND.

SPECIFICATION forming part of Letters Patent No. 283,224, dated August 14, 1883.

Application filed April 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, JARVIS B. EDSON, of the town of Adams, in the county of Berkshire and State of Massachusetts, have invented new and useful Improvements in the Method of and Apparatus for Forming Thin Sheets of a Plastic and Yielding Compound—such as zylonite or similar substances chiefly formed of pyroxyline—of which the following is a specification.

This invention pertains to that class of fabrics in which there is the operation of shaving or slicing the substances which are to be formed into sheets, as in the manufacture of veneer; and the invention consists in this case in mounting the composition upon a foundation, as a mandrel or bed, and holding it in such a manner that as it traverses to and fro continuously, as the case may be, according to the length and breadth of the bed or support thereof, its surface will be held under compression by a device placed immediately in front of the cutting or separating edge, so that a continuous pressure will be maintained upon the said elastic material equal to the resistance of the cutting-edge.

In illustrating this invention I may here remark that the corresponding principle is used in cutting veneers from wood, or in the planing-machines in which pressure is brought to bear in front of the cutter; but there is this marked and distinguishing difference, that the pressure in front of the cutting-knife in the formation of thin sheets of plastic material requires to be adapted to the amount of pressure due to the cutting-edge, and therefore is an element that is not required in the pressure-bar or the pressure-surface in the formation of veneers, or in the well-known operation in planing-machines.

In the drawings, Figure 1 illustrates a transverse section of the cutter and material mounted on a bed, as in a planing-machine, and shows the pressure-bar in front of the cutting-edge. Fig. 2 represents a cross-section of the mandrel around which the zylonite is formed and the relationship of the knife or cutting-edge to its surface, and also the pressure-bar to operate in the same manner as shown in Fig. 1.

At A is represented a bed or platen for supporting the material, whether it be a flat bed or a shaft, as represented at A′ in Fig. 2, and upon either of these the material is mounted in any of the well-known ways of fastening such substances upon either beds or axes.

The knife B is mounted in suitable guides, as at C, to support and guide it toward the surface of the material fastened either upon the bed or axes, and in either case must be moved forward toward the material by suitable feeding mechanism, such as is well known in the arts for the operation of such devices, either in planers or lathes.

At D is represented a pressure-bar, which may be a round-faced narrow surface, as shown in the drawings; or it may be a roller under certain circumstances, supported in suitable guides, as at E, and held in position by springs or weights, as at F, so that any required resistance or pressure may be brought to bear upon the surface required to be cut. This bar is preferably rounded on its bearing-surface, so that it compresses the elastic or yielding fabric immediately in front of the cutting-edge to the exact required degree necessary for holding it against the cutting-edge in proportion to the amount of resistance necessary for the different thicknesses of the sheet required to be produced—that is, the resistance of the pressure-bar shall be exactly equal to the density of the material necessary for cutting the degree of thickness or thinness of sheets—and consequently it is provided with adjusting devices—as set-screws—to nicely regulate the proper degree of compression required.

I am aware of the patent granted to J. W. Hyatt, No. 199,908, February 5, 1878, and do not claim anything therein shown or described.

Having thus described my invention, I desire to claim—

1. The method or process of cutting thin sheets of zylonite or similar yielding and plastic compound by compressing the substance immediately in front of the cutting-edge, as hereinbefore set forth.

2. In a machine for the formation of sheets from a plastic and yielding substance, such as zylonite or its equivalent, the combination of a pressure-bar or its equivalent with the bed or support of the material, and immediately in front of the cutting-edge or knife, as hereinbefore set forth.

In witness whereof I have hereunto subscribed my name and affixed my seal in the presence of two subscribing witnesses.

JARVIS B. EDSON. [L. S.]

Witnesses:
EUGENE N. ELIOT,
HARRY EDWARDS.