

G. Bishop,  
Cutting Veneers.

N<sup>o</sup> 17,072.

Patented Apr. 21, 1857.

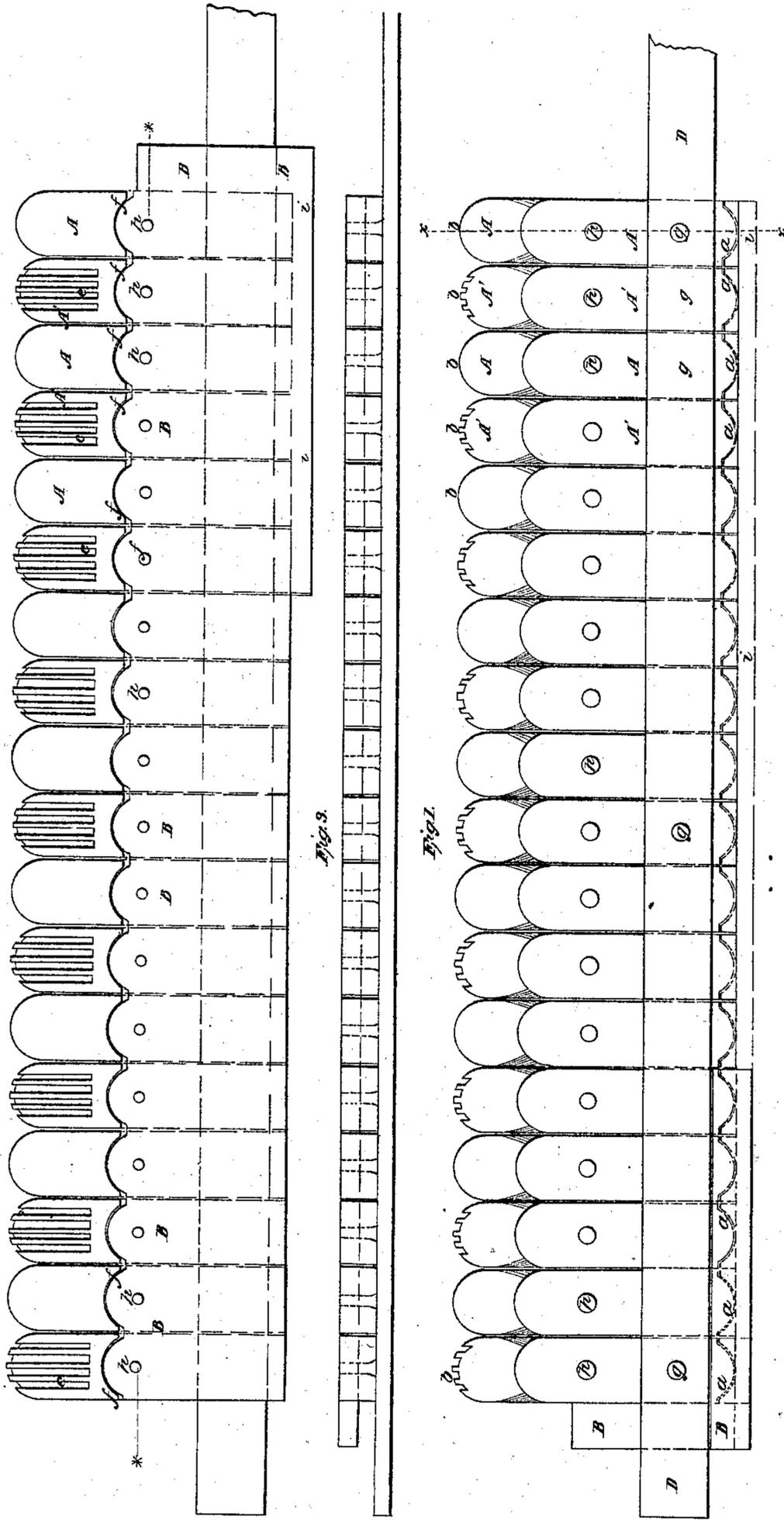
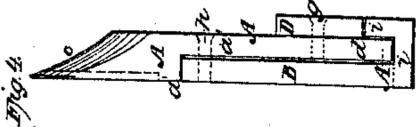


Fig. 2.

Fig. 3.

Fig. 1.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

GILBERT BISHOP, OF NEW YORK, N. Y.

## KNIFE FOR CUTTING VENEERS.

Specification of Letters Patent No. 17,072, dated April 21, 1857.

*To all whom it may concern:*

Be it known that I, GILBERT BISHOP, of the city, county, and State of New York, mechanical engineer, have invented a new and useful Improvement in Cutting Knives or Tools for Cutting Veneers, and that the following is a full and exact description thereof, reference being had to the drawings, making part of this my specification.

This improvement consists in making the knife in sections; each alternate knife or section having a smooth cutting knife edge, while the other alternate sections have a toothed or saw edge; and all the sections composing the knife are so arranged that while the knife is being drawn across the wood, or the wood across the knife, as the case may be, a vibrating motion may be given to the whole series at the same time.

In the accompanying drawings Figure I, represents the upper surfaces of the sections composing the knife. Fig. II, represents the under and opposite surfaces. Fig. III, represents a cross vertical section through the knives. Fig. IV, represents a section of a knife and its bearings and frame as shown at  $x-x$ , Fig. I.

In all the figures the same letters represent the same parts.

The form and construction of the knives are shown in the drawings AAAA' A' A'—the smooth cutting edges being upon AAA— and the toothed edges upon A'A'A'. These sectional knives are about four or five inches long, about one inch in width, and about a quarter of an inch thick in the shank, which may be made of iron, these proportions and sizes may be varied to suit the work. The sides of the knives should be true, even, and parallel, and the bevels to form the cutting edges should be alike in shape and size. The ends of the shanks of the knives should be rounded as shown at  $a, a$ , Fig. I. The cutting edges of all the knives should be rounded as shown at  $b, b$ , Figs. I and II. The bevel of the knives to form the cutting edges should be pretty long and gradual, slightly scooped or hollowed from the upper surface to the cutting edge, while in the transverse direction of the bevel, the surface is convex. The shape of the bevel from the upper surface to the edge is seen at  $c$ , Fig. IV.

The under sides of the knives are cut out so as to form a square recess for about two thirds the length of the knife, this recess is shown at  $d, d, d$ , Fig. IV. The toother edges are formed by cutting grooves upon the under surfaces of the knives so as to pass through their cutting edges, as shown  $e, e, e$ , Fig. II. The shoulder or upper part of the recess of the knife is made slightly concave as shown at  $f, f, f$ , Fig. II.

Across the under surface of the whole series of knives placed evenly together side by side, is placed a plate B, B, B Figs. II and IV, (of metal) which exactly fits the recessed part of the knives, so as that its exterior surface will be flush with the under surface of the thickest part of the knives. Its edge where it comes in contact with the concave shoulder  $f, f$ , of the knives is shaped convex so as to fit the shoulder, and thus forms a support or bearing for the knives, and at the same time allows a slight circular movement of the knives as hereinafter described. The opposite edge of the plate B, B, is made flush with the ends of the shanks of the knives.

Upon the upper faces of the knives, placed side by side as above, is placed the plate D, extending across and a little beyond the whole series of knives. Each knife is attached to this plate by a pin or pivot, which is shown at  $h$ , Figs. II and IV. The knives are placed with a very slight interval between each, so that they can vibrate slightly upon the pins or pivots, without friction upon their sides.

For additional support and bearings to the knives a metallic plate  $i, i$  Fig. IV may be attached to the plate B, upon which the ends of the shanks of the knives may rest, and move when vibrated.

It will be obvious that if, by hand or any mechanical contrivance suitably connected with the machine when in operation, a lateral movement back and forth is given to the plate D, a similar vibratory movement will be given to each and all the knives attached to the plate by the pins  $g, g$ . This vibratory movement is to be given in addition to and simultaneous with the drawing stroke of the knife or the wood, and it acts to increase the effect of the knife upon the

wood, and also to clear the knife of dust and chips.

Having thus described my improvement, what I claim as my invention therein and for which I desire Letters Patent is—

5 Constructing the knife in sections each having alternate smooth and toothed cutting

edges, attached together, and arranged and supported as above described.

GILBERT BISHOP.

Witnesses:

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