E. Q. Smith.

Dovetailing Machine.

No. 15,530. Patented Aug. 12, 1856.

Fig. E.

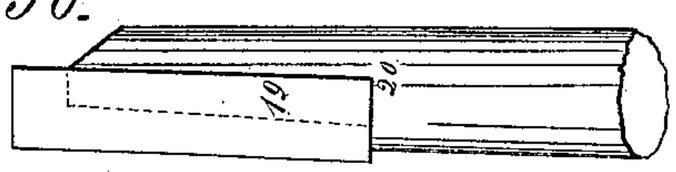


Fig. H.

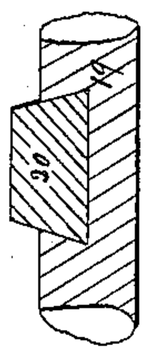


Fig. D.

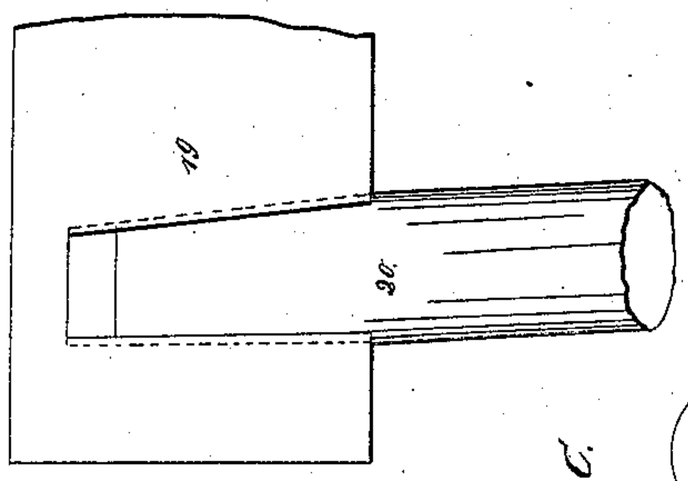


Fig. C.

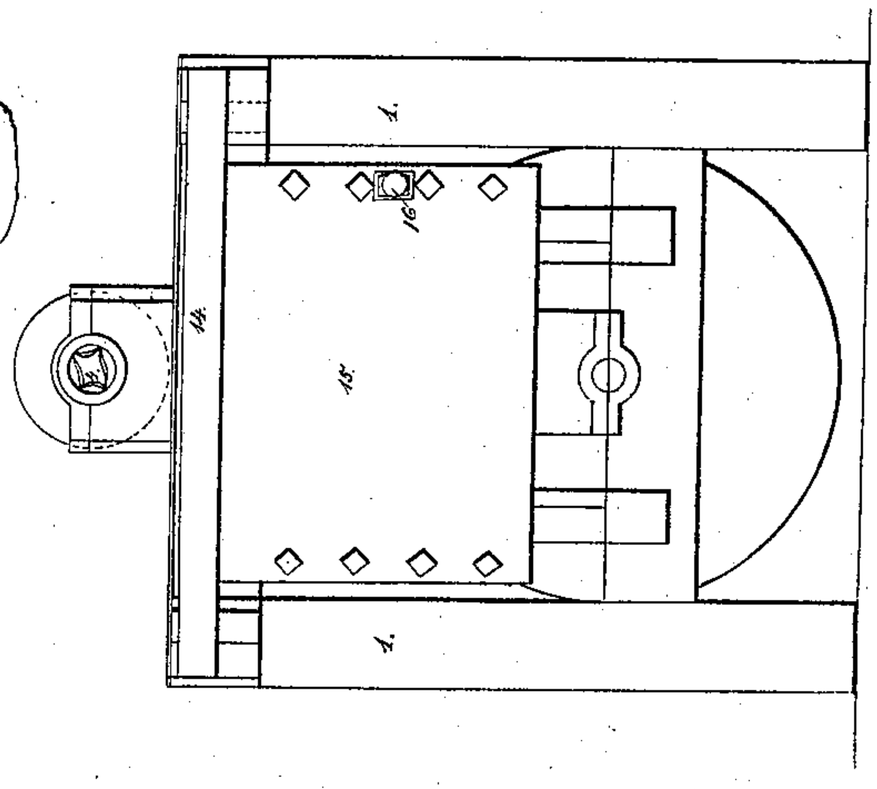


Fig. F.

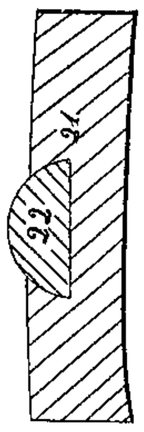


Fig. G.

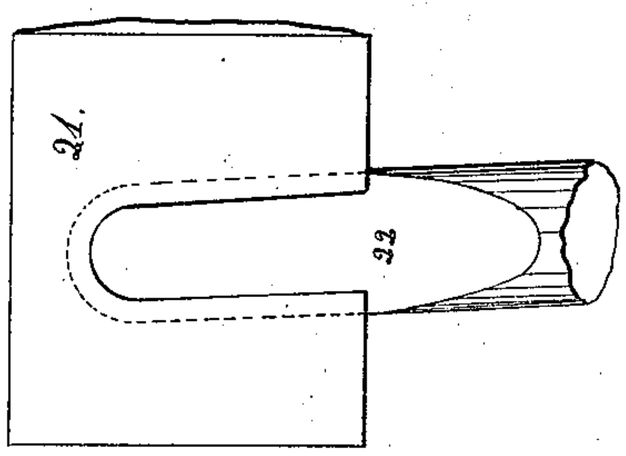


Fig. A.

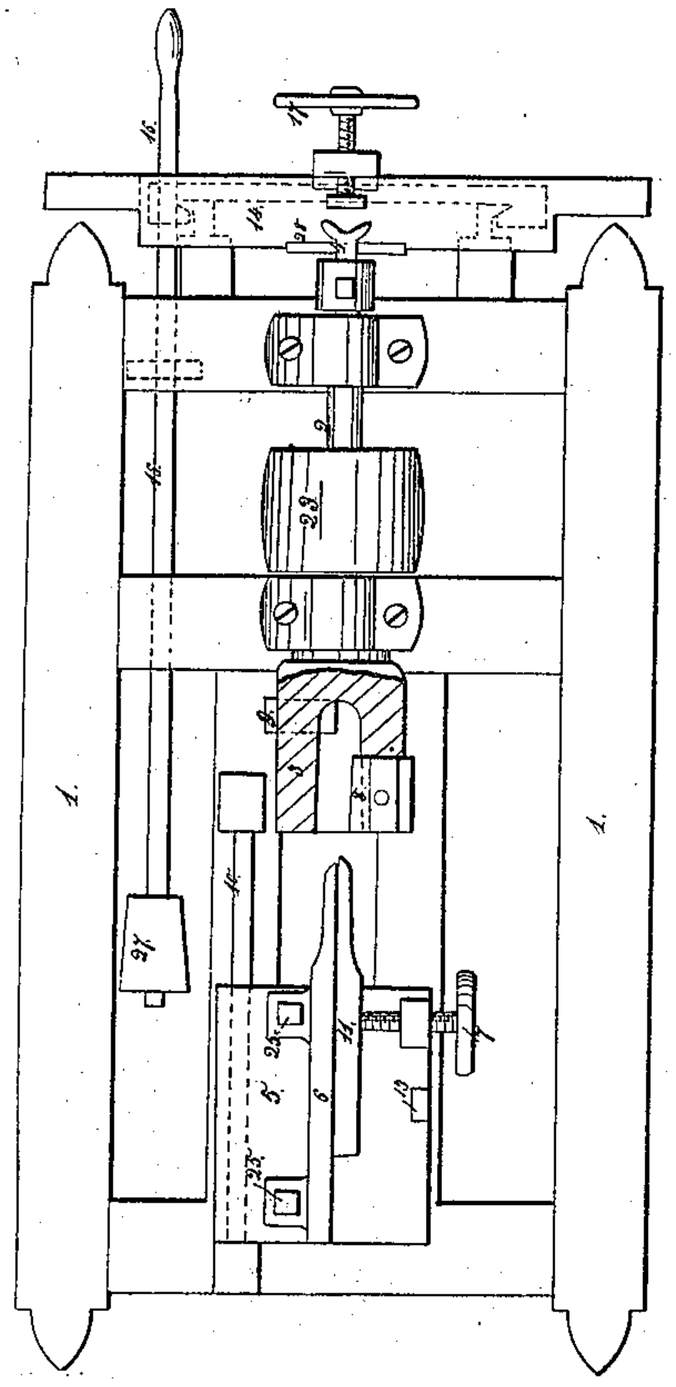
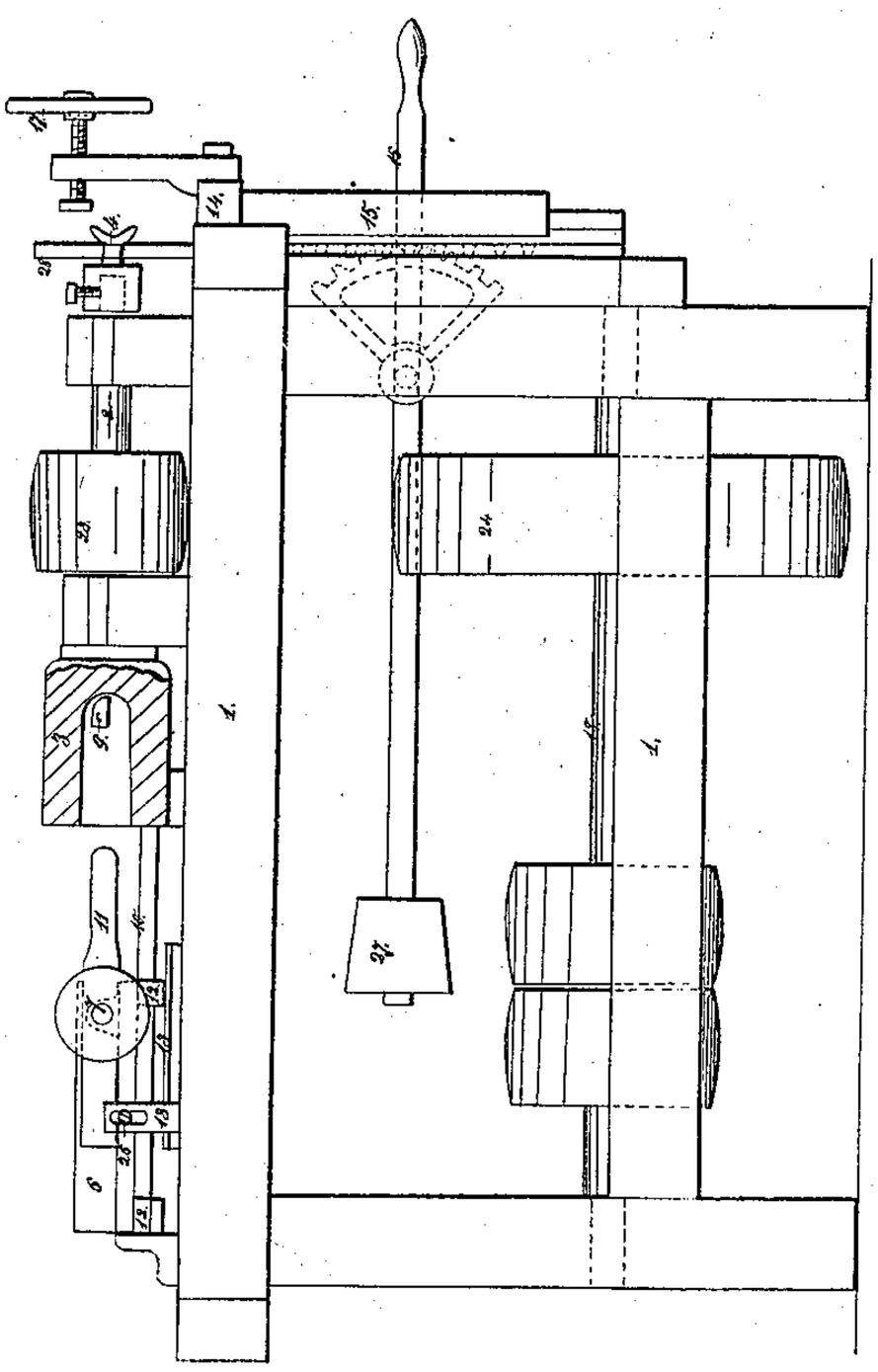


Fig. B.



UNITED STATES PATENT OFFICE.

EDWARD Q. SMITH, OF CINCINNATI, OHIO.

MANUFACTURING CHAIRS.

Specification of Letters Patent No. 15,530, dated August 12, 1856.

To all whom it may concern:

Be it known that I, EDWARD Q. SMITH, of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Machine for Fitting Pillar-Tops to Chair-Backs by Means of a Dovetail-Machine; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, and to the figures of reference marked thereon, similar figures referring to corresponding parts.

The common method of fitting the tops of chair pillars to the back-pieces, is cutting dove-tails in the back piece and making the top of the pillar of a corresponding shape, which work is ordinarily done by hand, and a sample of which is represented in Figures D, E, and H.

19 represents the back of the chair and 20 the pillar. The drawings fully illustrate the manner of connecting the two pieces, and which requires much labor to make good work.

My improvement consists in an arrangement of machinery for cutting a dove-tail groove in the chair-top, also for forming the pillar-top to fit into said groove.

A specimen of the work is represented in Figs. E and I, the dove-tail being made of a semicircular form, as shown in the sectional view at Fig. E.

To enable others skilled in the art to make and use my improvement, I will proceed to describe its construction and operation by referring direct to the accompanying drawings.

Fig. A is a top view of the machine. Fig. B is a side elevation of the machine. Fig. C is a rear elevation of the same.

1, 1, represents the general frame work of the machine, and is provided with a shaft 2 that runs in suitable bearings and receives motion from the counter-shaft 18 as shown in Fig. B, by means of a belt which will pass around the pulleys 23 and 24. The shaft 2 is provided with a cutter-head 3 and furnished with cutters 8 and 9 (two, four, more or less).

5 is a table made to slide on the rod 18 and guide piece 13.

6 represents an adjustable bar which can be moved transversely by loosening the bolts or set screws 25, in order to place the pillar 11 on the table at the proper point so as to cut it the required shape to fit the dovetail made in the back piece of the chair.

7 represents a clamp wheel and screw for holding the pillar 11, while being operated upon by the cutters 8 and 9. Cutter 8 is used for finishing the sides of the pillar top, and cutter 9 for finishing the end of the pillar. The table 5 is also capable of being elevated or lowered, by means of the screw 26 passing through the sliding piece 13, thereby making a change in the form of the pillar ends for a larger or smaller size. When the table 5 is furnished with a pillar 11 and clamped against the adjusting piece 6, by the screw-clamp 7, it is then moved up to the cutter head 3, and the pillar passes into the recess made in the cutter head at which time the cutters 8 and 9 give it the required shape, after which it is drawn out and another pillar replaced to undergo the same operation.

The adjusting piece 6 serves to hold the pillar steady when the cutters are operating upon it. If desired, there could be a thin strip of metal fitted to the table 5, and a pillar 11, placed on each side of it, and both be cut at once, thus forming and finishing two pillars at one time. But it may be more economical to dress and finish one pillar at a time only. This method of connecting the pillars and back-piece of the chair together, results in a great saving, as one man can do with a machine what six or eight can accomplish in the same time by hand in the ordinary method as shown in Figs. D, E, and H.

The end of this machine will be provided with a vertical sliding table for the purpose of holding and guiding the chair backs for making the semicircular dove tails in them with a properly formed cutting tool, 4, attached to the rear end of shaft 2 as shown in the different drawings.

14 represents the sliding table attached to the vertical sliding piece 15. The chair-backs are held by placing them against the upright piece 28, attached to the table, and clamping them to the proper place with the clamp screw 17. The chair back is then brought in contact with the cutting tool 4,

by elevating the table by means of the lever 16 and quadrant pinion as represented in Fig. B.

27 is a weight for counter balancing the table 14 and its attachments.

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

The arrangement of the sliding table 5, in combination with the cutter-head 3 and cutters 8 and 9, furnished with the adjusting piece 6, for holding the pillar 11 to its proper relative position to the cutter-head, or equivalent means for making the top of the pillar the desired form and size to fit the dove-tail in the chair-back.

EDWARD Q. SMITH.

Witnesses:
L. W. SMITH,
CHARLES H. FOX.