

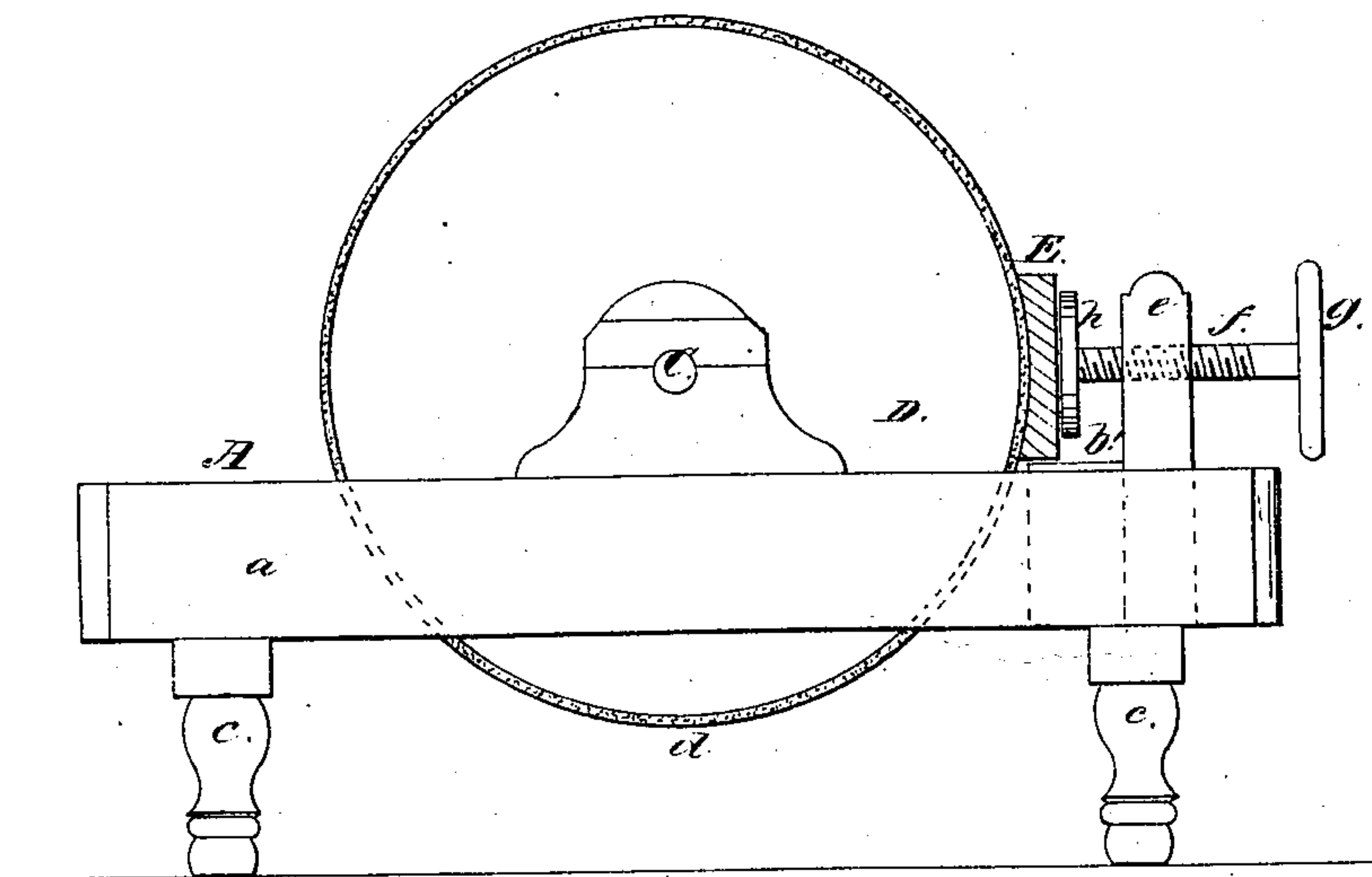
*E. A. & C. Kilburn,*

*Polishing Wood.*

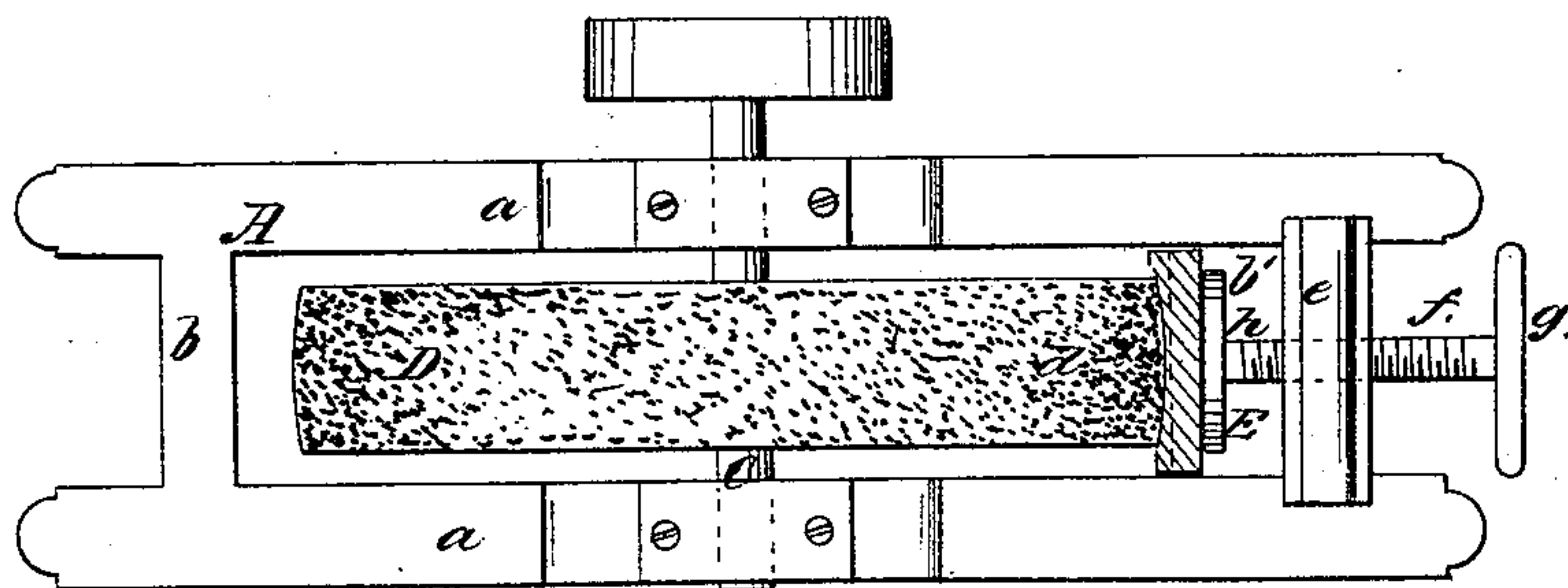
*N<sup>o</sup> 16,800.*

*Patented Mar. 10, 1857.*

*Fig. 1.*



*Fig. 2.*



# UNITED STATES PATENT OFFICE.

E. KILBURN, A. KILBURN, AND C. KILBURN, OF BURLINGTON, VERMONT.

MACHINE FOR FORMING THE CURVED SURFACE OF SOLID WOODEN CHAIR-SEATS.

Specification of Letters Patent No. 16,800, dated March 10, 1857.

*To all whom it may concern:*

Be it known that we, EDWIN KILBURN, ARTEMAS KILBURN, and CHENEY KILBURN, of Burlington, in the county of Chittenden and State of Vermont, have invented a new and Improved Machine for Hollowing Out or Shaping the Upper Surfaces or Face Sides of Chair-Seats; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side elevation of our improvement. Fig. 2 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the two figures—

Our invention consists in hollowing out or shaping the face sides of chair seats by means of a grinding wheel having a convex periphery or edge. The seat being pressed against the surface of the wheel by means of a screw or its equivalent, as will be herein-after fully shown and described.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A, represents a horizontal rectangular frame formed of two side pieces (*a*) (*a*), connected by end pieces (*b*) (*b'*). This frame is supported at a suitable height by legs or pedestals (*c*). On each side piece (*a*) a bearing B, is placed, and in these bearings the axis C, of a wheel D, is placed or fitted.

The wheel D, may be constructed of wood, and its face or periphery is made of convex form, as shown clearly in Fig. 2. The degree of the convexity of the face or periphery of the wheel corresponding to the desired degree of concavity to be given the face or upper surfaces of the chair. This will be understood by referring to Fig. 2. The face or periphery of the wheel D, is covered with sand, emery or other substance (*d*), to give it a cutting or rasping surface.

To one end of the frame A, an upright (*e*) is secured, and through this upright a screw (*f*) passes. The outer end of this screw has a hand wheel (*g*) attached, and the inner end has a circular disk or plate (*h*) attached to it. The screw (*f*) is in line with the center of the wheel D.

The operation is as follows: The chair seats E are placed, one at a time, on the end

piece (*b'*) between the face or periphery of the wheel D, and the disk or plate (*h*); the face or upper surface of the seat being against the periphery of the wheel. Motion is given the wheel D, in any proper manner. The face of the seat is pressed up against the periphery of the wheel by turning the screw (*f*), and the face of the seat will be cut or hollowed out by the rasping surface of the wheel; the seat being fed to the wheel as fast as the wheel cuts, by turning the screw (*f*), by-hand.

This machine has been practically tested and it operates well. The machines now used for hollowing out chair seats are quite complicated and expensive. In these machines cutters are employed and so arranged as to perform the work, and after the seats are hollowed out by the cutters they require to be polished or sand-papered and consequently the seats are twice operated upon before being completed. By our improvement the seats are rapidly shaped and are finished at one operation; no smoothing is required, because the wheel D cuts perfectly smooth, leaving the seats as perfectly finished and as smooth as those produced in the ordinary way.

Our device may be cheaply constructed; there are no parts liable to get out of repair and the attendance of a skilful or experienced mechanic is not required.

We do not claim a wheel having its periphery or face coated with sand or emery, for such wheels have been previously used for polishing; but

Having thus described our invention, what we claim as new and desire to secure by Letters-Patent, is:—

Shaping or hollowing out the faces or upper sides of chair seats by means of a grinding or cutting wheel D, when said wheel has a convex face or periphery coated with sand, emery, or other suitable substance, and using, in conjunction with said wheel, the screw (*f*) or its equivalent, with the circular plate or disk (*h*) attached; substantially as described.

EDWIN KILBURN.  
ARTEMAS KILBURN.  
CHENEY KILBURN.

Witnesses:

T. E. WALES,  
E. H. LISCUM.