

(No Model.)

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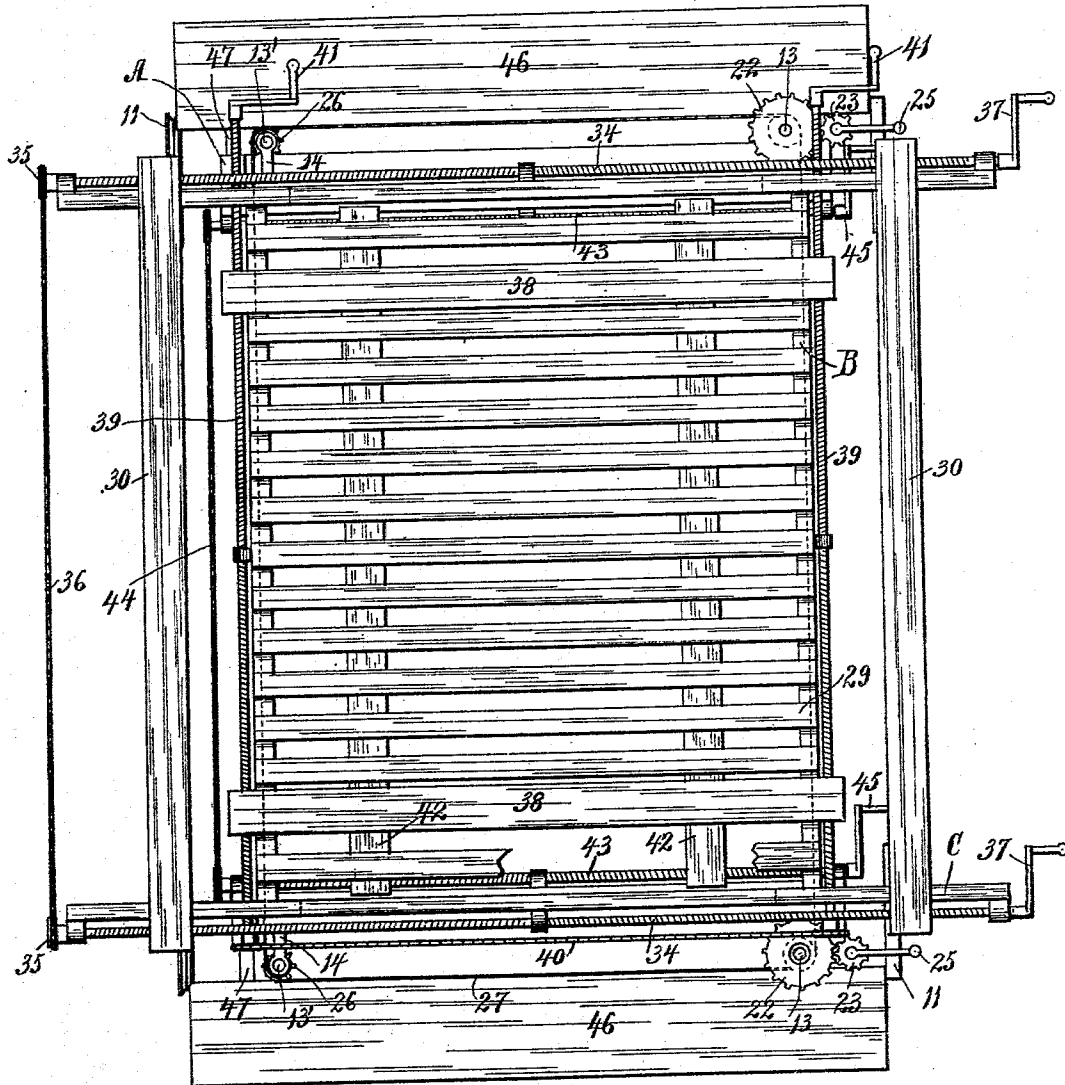
F. H. BARNARD.

ARTICLE HOLDING TABLE FOR POLISHING MACHINES.

No. 515,986.

Patented Mar. 6, 1894.

Fig. 1.



Witnesses.

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(No Model.)

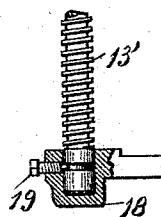
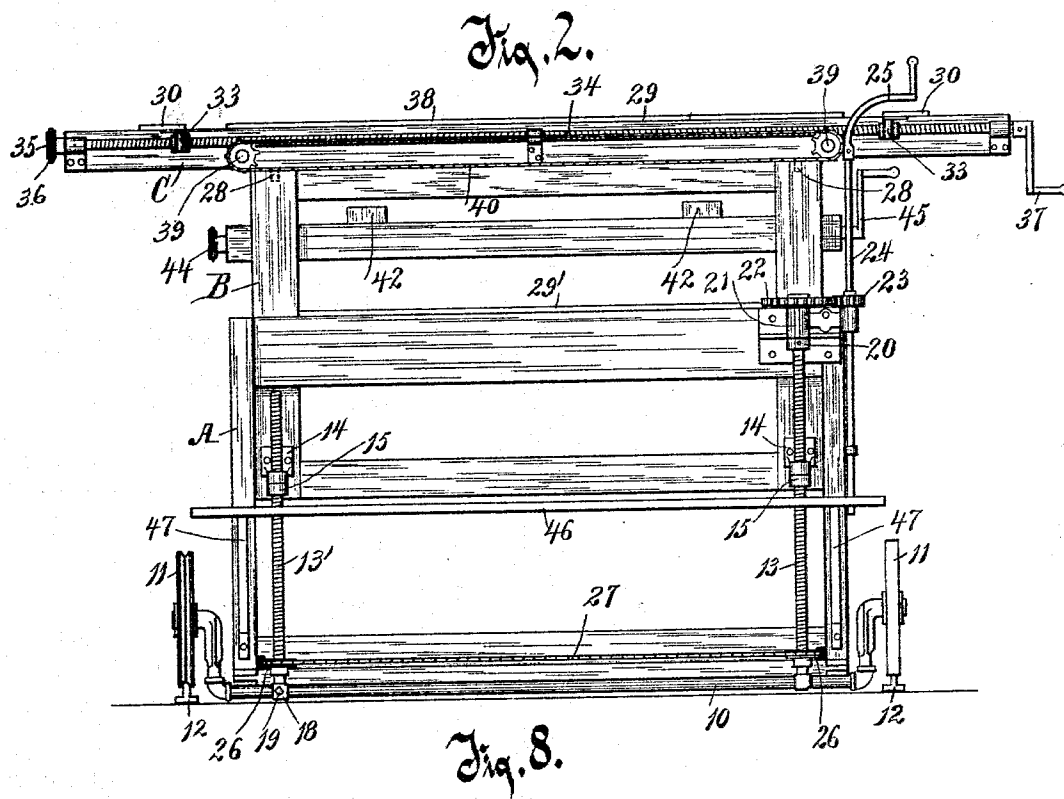
3 Sheets—Sheet 2.

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3 Sheets—Sheet 3.

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ARTICLE HOLDING TABLE FOR POLISHING MACHINES.

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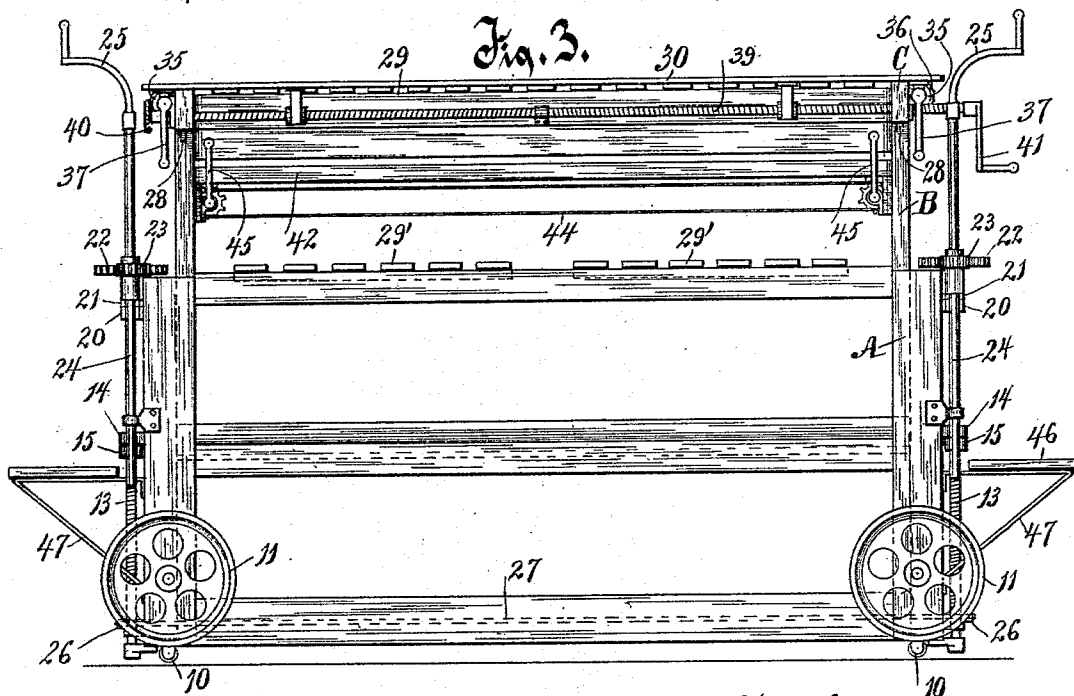


Fig. 4.

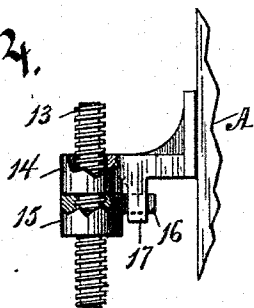


Fig. 6.

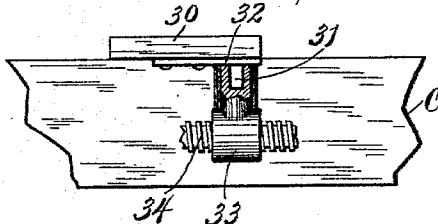


Fig. 5.

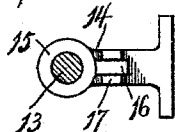
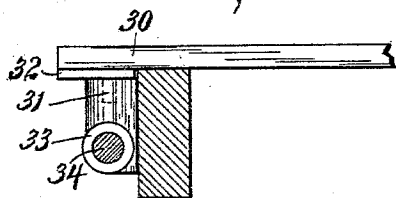


Fig. 7.



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UNITED STATES PATENT OFFICE.

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ARTICLE-HOLDING TABLE FOR POLISHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 515,986, dated March 6, 1894.

Application filed June 28, 1893. Serial No. 479,004. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK H. BARNARD, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and useful Improvement in Article-Holding Tables for Polishing-Machines, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to a table or frame adapted for holding an article, such as a dresser or bureau, while its surface is being polished by the buffer or polisher of a polishing machine. It is especially adapted for use with a polishing machine in which a reciprocating polisher is used.

The object of the invention is chiefly to provide a table or frame to hold a bureau or dresser or similar article while being polished, which apparatus is provided with means for raising or lowering the article supported, and for clamping it securely in position in proper manner for taking the polisher and without injury to the article.

The invention consists of the apparatus and its parts, hereinafter described and claimed, and their equivalents.

Figure 1, is a top plan view of the complete apparatus, a part being broken away for showing the construction below the omitted part. Fig. 2, is a side elevation of the complete apparatus. Fig. 3, is an elevation of the front end of the apparatus. Figs. 4, 5, 6, 7 and 8 are details.

In a general way, the apparatus consists of a main frame mounted on wheels adapted to travel on a track; a movable frame mounted and capable of being raised and lowered on the main frame; a table mounted removably on the movable frame; and elevating and clamping devices.

The main frame A is supported on wheels, and is adapted to travel endwise on a suitable track therefor, at a right angle to the reciprocating motion of the polisher used with it for polishing the article supported on the frame. The movable frame B fits and telescopes vertically in the main frame. The top frame or table C rests and is supported detachably on the frame B.

The main frame A is fixed to and is supported

directly on the doubly cranked axles 10 provided with wheels 11 which travel on the track, preferably consisting of two inverted T rails 12, 12. These frames A and B, each consist chiefly of side and end rails and corner posts, and are of such considerable length and width as to provide a large central space, adapted on occasion to receive therein a dresser, bureau or similar article of furniture, for being polished. These frames A and B may properly be described briefly, as quadrangular open frames.

For elevating and lowering the frame B four screws 13, 13, and 13' 13', one located near each corner of the frame, are footed and supported vertically in bearings therefor on the main frame. Brackets 14, 14 are secured rigidly to the frame B, and the screws 13, 13' pass loosely through them. Nuts 15 located below the brackets 14 take the thread of the screws, and support the brackets and the frame B thereto affixed, thereon. Each nut 15 is provided with a projection or tang 16 (Figs. 4 and 5) which is received between depending fingers 17 on the bracket 14, whereby the nut is prevented from rotating with the screw. The screws 13', at the rear of the frame have no bearing on the main frame near their upper extremities, and they are prevented from being lifted out of their footings in the brackets 18, secured to the main frame, by pin-pointed screws 19 (Fig. 8) turning through the brackets 18 into an annular groove therefor in the cylindrical lower extremities of the screws 13'. The screws 13 are prevented from being elevated out of their footings, by collars 20 secured conveniently by set screws to the screws 13, immediately below the boxes or bearings 21 secured to the main frame in which the screws 13 rotate.

For rotating the screws 13, 13' and thereby elevating or lowering the frame B, the screws 13 near the front of the frame are each provided with a toothed wheel 22, which meshes with a pinion 23 fixed on a short vertically disposed shaft 24 revoluble and detachable in bearings therefor on the main frame. These shafts are each provided with a detachable crank handle 25. These shafts 24 may be lifted out of their bearings on the main frame and thereby removed from the frame, when

desired. The screws 13, 13' are provided with toothed wheels 26, near their lower extremities, and a sprocket chain 27 runs on and about these wheels, compelling concurrent revolution of the screws.

It will be understood that the operator may at will, raise or lower the frame B by rotating either one of the screws 13, thereby compelling the rotation of the four elevating screws, by turning its crank handle 25.

The frame C, preferably somewhat longer than the transverse width of the frame B, rests and is supported on the top of the frame B, being secured detachably in position by dowels 28 that enter the top of the frame B. This frame C is provided with a slatted removable top or table 29, which rests on the frame C. The slatted table 29 is especially adapted to receive thereon for being polished, thin articles, such as paneled doors, or the flat removable tops of desks, or similar articles. When articles of greater thickness are to be polished, such as a bureau, the table 29 may be removed and placed on side rails or end rails of the frame B nearer its bottom, or other removable temporary tables 29' (Fig. 3) may be used instead. In this manner the bureau may be so supported on the frame that its top surface, which is to be polished, will be in or near the plane of the top of the frame.

For clamping and holding the article to be polished on the table, three independent sets of devices are provided. One set consists of the two parallel clamping bars 30, located parallel to and equidistant on each side of the central longitudinal line of the frame. These bars are each provided near both extremities with dowels 31 (Fig. 6) which are integral with the plates 32 secured rigidly to the bars 30. These dowels enter loosely recesses therefor in projections on the traveling nuts 33. The nuts 33 travel in opposite directions on the shafts 34 reversely screw-threaded from their centers, which shafts are revoluble in bearings therefor fixed on the frame C. These shafts 34 are provided at their rear extremities with fixed toothed wheels 35, and are connected operatively together by the endless sprocket chain 36. At their front extremities each shaft is provided with a crank handle 37. The nuts 33 are located near to the sides of the frame C, and are faced and bear loosely against the sides of the frame, whereby they are prevented when the clamping bars are removed, from rotating with the shafts 34. It will be understood that the operator by rotating one or the other of these handles 37, will compel the concurrent movement of the clamping bars 30 toward or from the central line of the table, whereby the article supported thereon may be clamped in position centrally, against lateral movement, or released therefrom. Another set of clamping devices, consists of the clamping bars 38 arranged parallel to each other and equidistant from the shorter transverse axis of the

table, and at right angles to the clamping bars 30. These clamping bars are mounted so as to be movable concurrently toward and from each other on the reversely screw threaded shafts 39, in substantially the same manner that the clamping bars 30 are mounted on the shafts 34. The shafts 39 are mounted revolubly on the frame C and are connected together operatively by the endless sprocket chain 40. These shafts 39 are also provided with detachable crank handles 41. By means of these clamping bars 38 an article being polished may be clamped against endwise movement on the frame. Another set of clamping devices, consists of the clamping bars 42, supported directly on the frame B below the frame C. These bars may be used when the table 29 is removed and the article to be polished is supported on the table 29', or even when the frame C is removed from the frame B. The bars 42 are parallel and equidistant from the longitudinal axis of the frame, and are mounted so as to move concurrently toward and from each other on the reversely screw threaded shafts 43, in substantially the same manner as the bars 30 are mounted on the shafts 34. The shafts 43 are mounted revolubly in bearings therefor on the frame B, and are connected operatively so as to have concurrent revolution by the endless sprocket chain 44. These shafts are also provided with crank handles 45.

Foot boards 46 at the ends of the frame, are supported by brackets 47 fixed on the frame A. These are for the convenience of the operator.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a main frame of the character described having supporting wheels traveling on a track thus providing for the movement reciprocally of the frame horizontally in one direction, another frame substantially as large horizontally as and telescoping vertically in the main frame, means for raising and lowering the telescoping frame, and opposite parallel clamping bars, substantially as long as the frames mounted on the telescoping frame, and means whereby the bars can be coincidently moved toward and from each other, said bars by their length and adjustments being adapted to clamp large articles of furniture on the frame, as set forth.

2. The combination of a quadrangular open main frame, a quadrangular open frame telescoping vertically in the main frame, means substantially as described for elevating and lowering the latter frame, clamping bars mounted in the telescoping frame below its top, arranged to move concurrently toward and from each other, means for operating the clamping bars, and a table or bottom in the telescoping frame below the clamping bars, substantially as described.

3. The combination of a quadrangular open main frame, a quadrangular open frame tele-

scoping vertically in the main frame, an independent removable frame supported on the telescoping frame, said last mentioned frame having a removable table or top and independent clamping devices, substantially as described.

4. In an article-holding quadrangular open frame for a polishing machine, the combination with the article-supporting frame, of parallel clamping bars above and substantially as long as the frame, mounted on a plurality of reversely screw-threaded shafts connected with each other operatively, and means for rotating the shafts, substantially as described.

5. In an article-holding frame for a polishing machine, the combination with the article-holding frame, of a plurality of parallel clamping bars above the frame, mounted on a plurality of reversely screw threaded shafts connected with each other operatively, and other parallel clamping bars also above the frame mounted at right angles to the first mentioned set of clamping bars, on a plurality of reversely screw threaded shafts connected to each other operatively, substantially as described.

6. In an article holding frame, the combination with a quadrangular open main frame and a quadrangular open frame telescoping vertically in the main frame, of a plurality of vertically disposed screws footed and mounted on the main frame at the corners thereof respectively, a sprocket chain connecting the screws operatively with each other, nuts trav-

eling on the screws which nuts support the telescoping frame thereon and movable vertically therewith, substantially as described.

7. In an article holding frame, the combination with a quadrangular open main frame and a quadrangular open frame telescoping vertically in the main frame, of a plurality of vertically disposed screws footed and mounted on the main frame at the corners thereof respectively, a sprocket chain connecting the screws operatively with each other, nuts traveling on the screws, which nuts support the telescoping frame thereon, and a vertical shaft having bearings on the main frame and provided with a crank handle and with a pinion meshing with a toothed wheel on one of the vertical screws, substantially as described.

8. The combination with a quadrangular open main frame and a vertically telescoping frame, of a screw 13 having its bearings revolvable in the main frame, a bracket 14 on the telescoping frame through which the screw passes loosely, a nut traveling on the screw which nut is provided with a tang 16, and fingers 17 on the bracket, adapted to receive the tang and prevent the nut from rotating with the screw, substantially as described.

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

FREDERICK H. BARNARD.

Witnesses:

OLIVER M. CAMPBELL,
J. F. CHESEBRO.