

(No Model.)

2 Sheets—Sheet 1.

L. & A. SCHMOLL.
POLISHING AND STAINING MACHINE.

No. 527,889.

Patented Oct. 23, 1894.

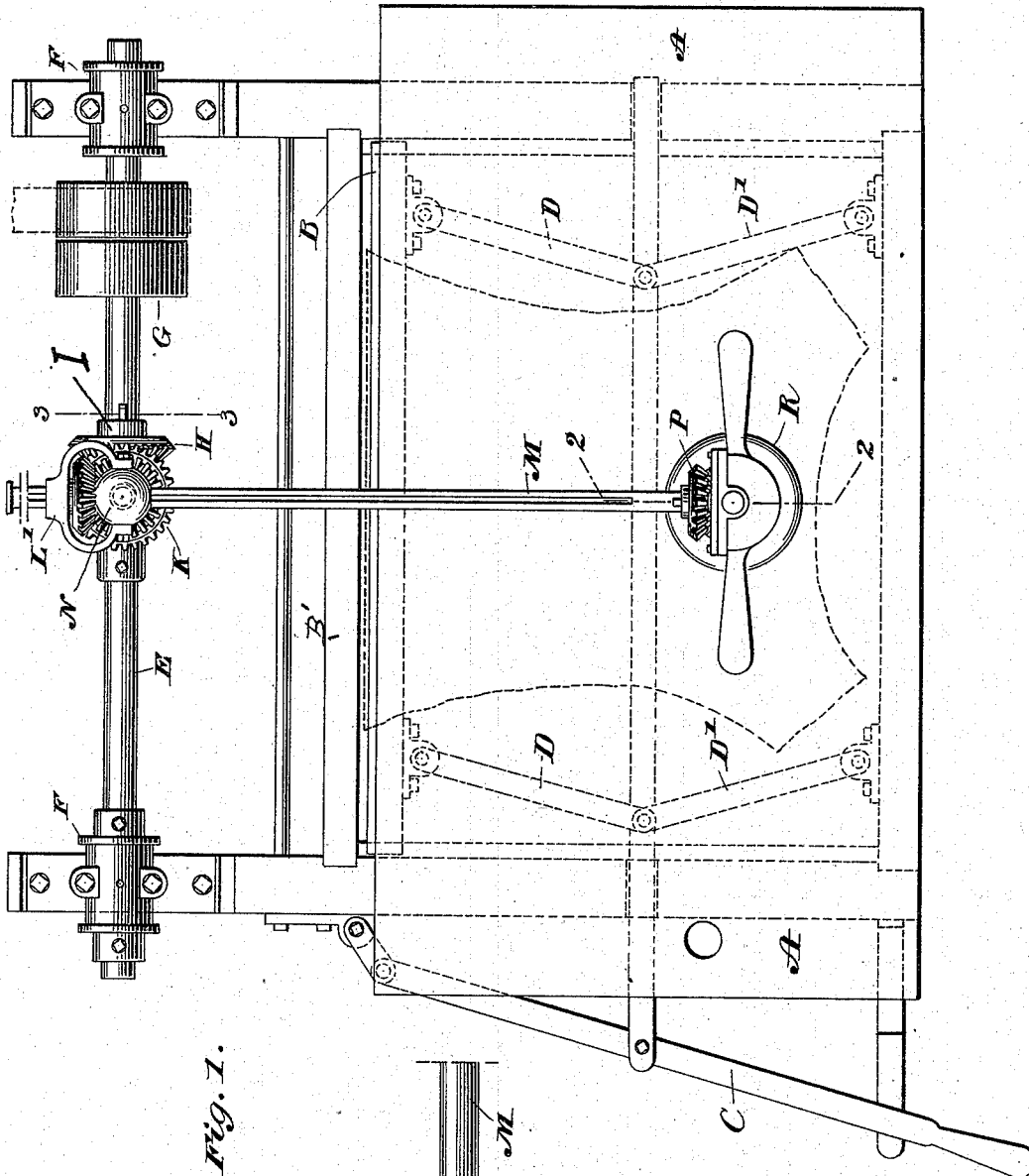


Fig. 1.

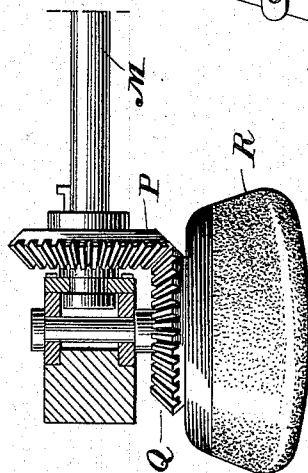


Fig. 2.

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Lucien Schmoll
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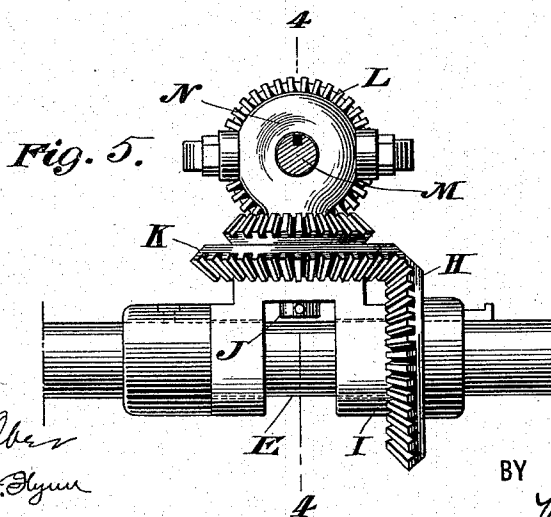
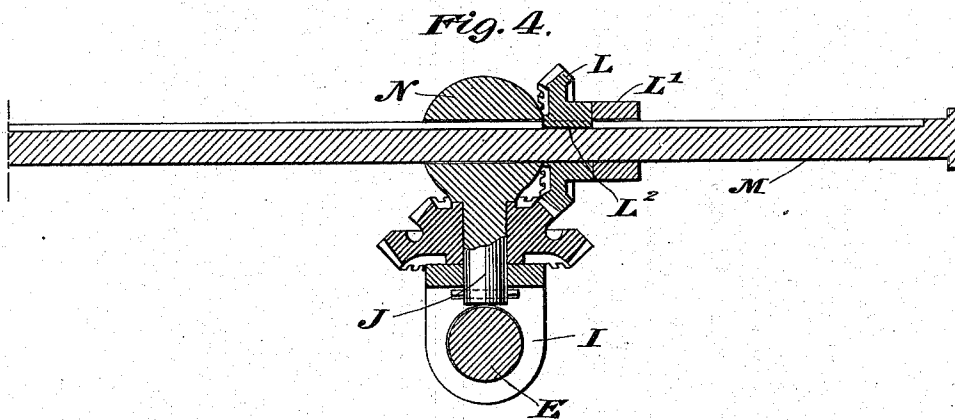
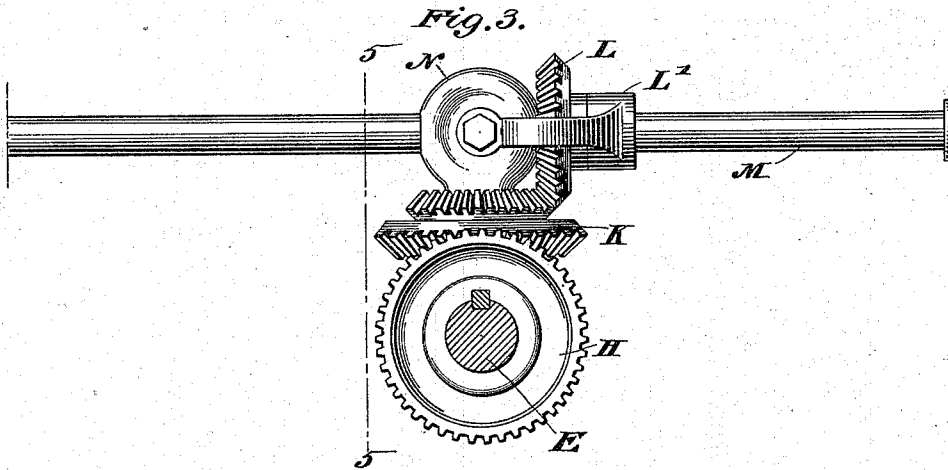
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UNITED STATES PATENT OFFICE.

LUCIEN SCHMOLL AND ARMAND SCHMOLL, OF NEWARK, NEW JERSEY.

POLISHING AND STAINING MACHINE.

SPECIFICATION forming part of Letters Patent No. 527,889, dated October 23, 1894.

Application filed July 14, 1894. Serial No. 517,507. (No model.)

To all whom it may concern:

Be it known that we, LUCIEN SCHMOLL and ARMAND SCHMOLL, both citizens of Switzerland, residing at Newark, county of Essex, State of New Jersey, United States of America, have invented certain new and useful Improvements in Polishing and Staining Machines, of which the following is a full, clear, and exact specification.

Our invention relates to machines used for polishing, staining, and finishing leather, wood work, or other similar materials, and has for its object, to provide a means for rapidly and thoroughly smoothing, polishing, staining and finishing such materials. We attain these objects by use of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the machine. Fig. 2 is a side elevation of a part of the machine, partly in section on the plane of the line 2—2 Fig. 1. Fig. 3 is a side elevation of another part of the invention, partly in section on the plane of line 3—3 Fig. 1. Fig. 4 is a longitudinal section of the mechanism shown in Fig. 3, and Fig. 5 is a cross-section and end elevation of the universal joint mechanism on line 5—5 Fig. 3.

Similar letters refer to similar parts throughout the several views.

In the drawings, A is a table supported upon a suitable base or frame. Upon this table the material to be operated upon is laid.

B represents a movable cross-bar at or near one edge of the table and supported by the frame by preference. By means of a lever C co-operating with toggle joints D D' the cross-bar B is moved toward a cross-bar B' fixed in the frame. Between these cross-bars the edge of the material to be polished is held. Although as shown and described the movement of the cross-bar B is horizontal, it would require only the skill of the ordinary mechanic to adjust it so that the movement would be vertical.

E is a shaft mounted in suitable bearings F F on the frame. The shaft E supports the driving pulley G and also a beveled gear H. Upon the shaft E is also a sleeve I free to revolve thereon, but not free to move laterally. This sleeve I loosely supports a bearing pin J upon which loosely turns a second beveled

gear K meshing with the first beveled gear H. The upper side of the beveled gear K is also provided with beveled gear teeth which mesh with a third beveled gear L. This gear L is mounted around a sliding shaft M which passes through a bearing N at the top of the bearing pin J and above the gear K. The sliding shaft M passing through this revolvable bearing N is free to slide therein substantially its entire length. The third beveled gear L is held in position by a collar L' loosely mounted on the shaft M and held in position by arms projecting around and free from the said bevel gear L and secured to the head N of the bearing pin J (see Figs. 1, 3 and 5), so that the bevel gear L will always be in gear with the teeth on the upper surface of the second beveled gear K. The third beveled gear L is provided with a feather spline L² which slides in a groove in the sliding shaft M, so that as motion is transmitted by power applied to the driving pulley G and thereby to the various gears H K L, it will be further transmitted to the sliding shaft M causing the same to revolve. Near the outer end of the shaft M is fixed a beveled gear P. The end of the shaft M loosely bears in a frame or case to which is attached a handle, preferably a double handle as shown in Fig. 1. This frame or case affords a bearing for another shaft which carries another beveled gear Q which meshes with the gear P. To the lower end of the shaft supporting the gear Q or to the lower side of the said gear, is fastened by any suitable holding device, a polishing stone R. In place of the stone, may be substituted when desired, a staining brush or a box containing a polishing material.

It will be readily seen that with a machine so constructed, the polishing or staining agent may be tilted or moved to any part of the table within the radius of the sliding shaft M, this action being permitted by the universal joint and the feather spline L².

In operation the material to be operated upon is laid upon the table and clamped thereto. The mechanism is then set in motion and the rapidly rotating stone is drawn over the surface until the suitable polish is acquired. Stones of varying grain may be substituted one after another if desirable. Instead of polishing the material, on the ta-

ble, it may be stained by substituting a suitable brush containing the staining agent. In other cases the material may be both stained and polished.

5 Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

10 1. A polishing or staining machine, consisting of a table and a revoluble holder, said holder being mounted upon a revoluble and longitudinally movable shaft, and free to be moved in all directions through the medium of a double swivel joint at the point where the power shaft and longitudinally movable
15 shaft cross, with the gearing as described, substantially as and for the purpose specified.

2. A polishing or staining machine comprising a table, a revoluble holder free to be moved in all directions, and actuated through
20 the medium of the power shaft E, and sliding shaft M, as described, co-operating with the said shaft E, through the medium of the double swivel mechanism and the gears arranged contiguous thereto, all arranged to permit
25 universal action of the holder, substantially as described.

3. In a polishing or staining machine, the combination of a sliding shaft M supported by a double swivel joint, and therefore free
30 to swing in all directions, and a holding device carried by said sliding shaft, with gears ar-

ranged around and contiguous to said double swivel mechanism to transmit power from the power shaft to the said holding device, substantially as and for the purpose described. 35

4. In a polishing or staining machine, a power shaft supporting a double swivel joint, and a shaft M, supported in the head N of the swivel-pin J, with a system of gearing H K L located around and contiguous to said
40 double swivel mechanism, the gear L carrying a feather spline moving in a slot in the shaft M, in combination with a revoluble holder located at the end of the shaft L as described, substantially as and for the pur- 45 pose specified.

5. The combination in a polishing or staining machine of a table A, clamping device B B', with the universal joint H K L supporting a longitudinally movable shaft M by
50 means of the bearing N, and with the feather spline L² on the gear L moving in a slot in the shaft M and with gear wheels P Q and the polishing agent R all arranged substantially as and for the purpose specified. 55

In witness whereof we have hereunto set our hands this 22d day of June, A. D. 1894.

LUCIEN SCHMOLL.
ARMAND SCHMOLL.

Witnesses:

FRANK J. MCBARRON,
SOL. WERTHEIM.

It is hereby certified that in Letters Patent No. 527,889, granted October 23, 1894, upon the application of Lucien Schmoll and Armand Schmoll, of Newark, New Jersey, for an improvement in "Polishing and Staining Machines," an error appears requiring correction as follows: In the drawings the reference letter "I" in Fig. 1 should be stricken out, the same having been improperly inserted without the authority of the applicants; and that the drawing and the patent should be read as herein set forth that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 20th day of November, A. D. 1894. /

[SEAL.]

JNO. M. REYNOLDS,
Assistant Secretary of the Interior.

Countersigned:

S. T. FISHER,
Acting Commissioner of Patents.