G. PELSTRING.

Machine for Polishing Wood.

No. 224,473. Patented Feb. 10, 1880.

Fig. 1

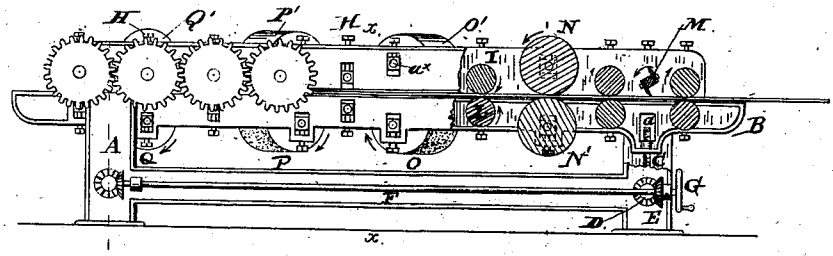


Fig. 2.

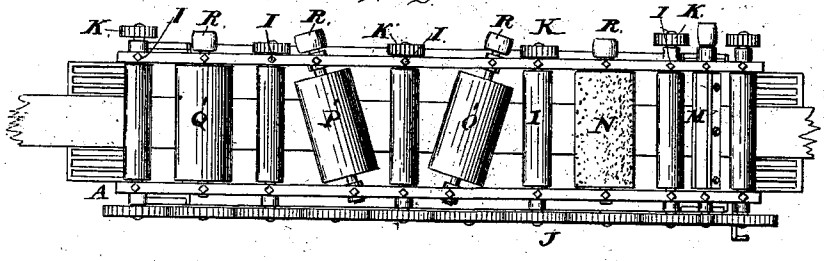
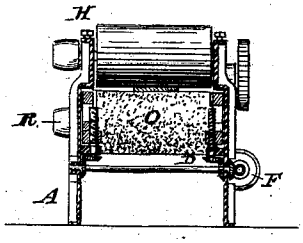


Fig. 3.



Attest:
Chas J. Gooch
G. T. Smallwood Jr.

Inventor
George Pelstring
By Knight Bros
Attys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D.C.

UNITED STATES PATENT OFFICE.

GEORGE PELSTRING, OF CINCINNATI, OHIO.

MACHINE FOR POLISHING WOOD.

SPECIFICATION forming part of Letters Patent No. 224,473, dated February 10, 1880.

Application filed October 21, 1879.

To all whom it may concern:

Be it known that I, GEORGE PELSTRING, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Combined Planing, Smoothing, and Polishing Machines, of which the following is a specification.

My invention, in its preferred form, is designed to effect, in a single machine and by a continuous operation, the planing and polishing on one side and the smoothing on the other of ordinary sawed boards or planks.

A useful purpose of my invention, and that for which it is more particularly devised, is the production of cigar-box lumber so polished on its front surface as to be ready either for immediate use or to receive any desired staining or graining, and so divested of the saw-marks and other asperities of its rear surface as to get rid of useless material without unnecessary sacrifice of lumber, and to adapt such surface for the paper or other lining with which it may be desired to be covered.

My machine comprises, in a single frame, a series of paired feed-rollers with interposed planing, polishing, and smoothing or other finishing rollers or cylinders, each finishing-roller being opposed on the reverse surface of the board with a suitable idler or pressure-roller, such as are customarily employed in devices of this class.

In the preferred form of my improvement two or more of the finishing-rollers with their corresponding idlers are set at reversed obliquities, and are separated by a finisher and idler, which revolve parallel with the feed, in order to more effectually efface the marks left by the saw, the planing-bits, or by the preceding finishing-rollers.

In the accompanying drawings a machine embodying my invention is represented by the following figures:

Figure 1 is a partially-sectioned side elevation. Fig. 2 is a top view. Fig. 3 is a transverse section at the line *x x*, Fig. 1.

A suitable frame, A, supports a vertically-adjustable bed-piece, B, that contains the journal-boxes of my lower range of rollers, to be presently described. The bed-piece B rests upon screws C, whose bevel-gears D engage with similar gears E upon a horizontal shaft, F, terminating in a hand-wheel, G, conveniently located for the operator, who, by turning the wheel G to the right or to the left, elevates or depresses the said bed-piece and its train of rollers. In the upper part of the frame are other vertical slots, $a^{\times}$, for the journal-boxes of the upper tier or train of rollers.

Set-screws H, tapped in the frame, enable the depression, at the discretion of the operator, of any one or more of the upper rollers.

I I represent the upper feed-rollers, having the represented geared connection J with the planer-shaft. These rollers are so geared (K) to their corresponding lower rollers, L, as to compel isochronous rotation of the rollers of each pair.

M is a rotary planer, and N an emery or other abrading or scraping cylinder.

O P Q are abrading-cylinders of gradually-finer texture toward the delivery. Of these cylinders, two, O and P, are preferably journaled in the represented reversely-oblique positions in the frame, while cylinder Q is, on the contrary, parallel with the feed-rollers, as shown. Each cylinder N, O, P, and Q has a pulley, R, for belt-connection with any suitable driver, and each is accompanied by a corresponding idler-cylinder, N′ O′ P′ Q′, to which it is so geared as to secure co-rotation of the cylinders composing each respective pair.

Powdered glass, emery, or other customary or suitable abradants may be employed, either applied to the peripheries of the polishing and smoothing cylinders or incorporated into their substance.

The adjustable bed-piece B and its described accessories enable the apparatus to be promptly adapted to the thickness of the lumber undergoing operation.

The above-described illustration of my invention may be varied in non-essential particulars. For example, instead of separate belt-connection with a common driver, the various cylinders and rollers may be rotated by geared connection with each other and with the planer-shaft. A greater or less number of planing, of polishing, and of smoothing cylinders may be employed. The planing and finishing cylinders M N may be located on the delivery instead

of on the receiving side of the smoothing-cylinders O P Q, or said cylinders M N may be located beneath and the cylinders O P Q be located above.

I am aware that it has been proposed to plane and polish doors, &c., on both sides; but such an operation would involve an expenditure of power and sacrifice of material not required for many purposes, such as cigar-box lumber. My device is intended, while planing and polishing one side of such lumber, to merely remove the grosser asperities from the other side, and the above-described mechanical appliances are directed solely to the accomplishment of these diverse results on the two sides of the stuff.

I claim as new and of my invention—

The machine herein described for planing and polishing one side and abrading the other side of lumber, having the feed-rollers I, rotary planer M, and polishing-cylinder N journaled in the upper part of the frame and the feed-rollers L and abrading-cylinders O P Q journaled in the lower part or bed of the frame, the cylinders O P being journaled in a reversely-oblique direction, while the cylinder Q is journaled directly transverse of the length of the machine, as and for the purpose set forth.

In testimony of which invention I hereunto set my hand.

GEO. PELSTRING.

Attest:

GEO. H. KNIGHT,

FRANK J. JONES.