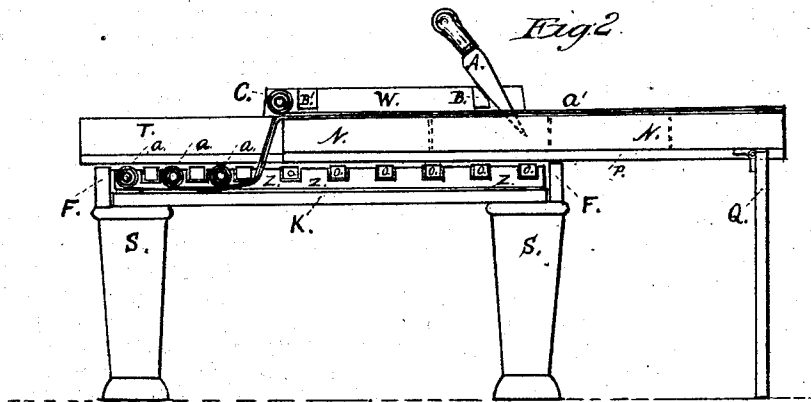
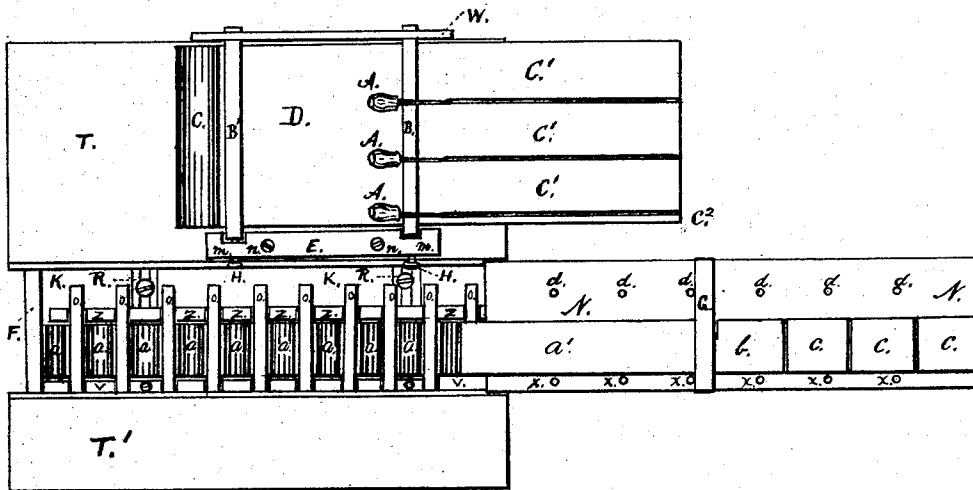


Book-Binders' Cloth-Cutting Apparatus.

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Witnesses:
Theophilus Weaver.
B. H. Smith

Inventor:
Joshua W. Jones

UNITED STATES PATENT OFFICE.

JOSHUA W. JONES, OF HARRISBURG, PENNSYLVANIA.

IMPROVEMENT IN BOOK-BINDERS' CLOTH-CUTTING APPARATUS.

Specification forming part of Letters Patent No. **157,964**, dated December 23, 1874; application filed September 22, 1874.

To all whom it may concern:

Be it known that I, JOSHUA W. JONES, of the city of Harrisburg, county of Dauphin and State of Pennsylvania, have invented a new and useful Improvement in Book-Binders' Cloth-Cutting Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings and the letters marked thereon, making a part of this specification, in which—

Figure 1 is a top view or plan thereof. Fig. 2 is a front elevation of the table, representing the web-dividing device, the roll-rack, and dissecting-board in vertical section.

The object of my invention is to provide any ordinary work-table used in book-binding with a readily-removable apparatus for cutting the cloth covers for books in a speedy manner, and with precision, without pattern or form, and economically, and that may, when the operation of cutting is over, be compactly folded out of the way and leave the table and the room unobstructed for the various other operations incident to book-binding. It consists, first, of a web-holder and sheet-guides on the table, adjacent to a series of knife-points, for dividing the cloth longitudinally as it is unrolled from the web; second, of a series of receptacles for the rolls of the subdivisions of the web, arranged to regularly deliver the cloth in laminated state onto an extension of the table, on which, by suitable spacing devices, and by means of a straight-edge, the cloth is transversely dissected, into rectangular sections, any length desired, the breadth being predetermined in dividing the web longitudinally, as will be more fully hereinafter set forth; third, of a casing arranged in the body of the table to receive the roll-rack, and wherein all the parts of the web-dividing device may be stowed away to clear the surface of the table for use as a work-bench; fourth, of a folding support at the outer end of the dissecting-board, which, when folded, permits the dissecting-board to be used as a lid to close the aperture in the table made for the roll-rack.

I construct my table-top T T' by mounting several surfaced boards longitudinally on sills F, which, as usual, are joined to the table-

supports S. A little distance in from the front edge of the table a longitudinal section of the table-top is made removable. Said section N is termed my dissecting-board, and it consists of transverse boards laid, in floor style, on longitudinal sills P, as shown in Fig. 2. This board is made to complement the table-top when it is in place as a lid to close the aperture in the table-body to insert the roll-rack, as hereinafter set forth. On the rear side of the table-top I mount my web-dividing device, which is composed of the rear ledge W, battens B B', block E, and knives A, shown in position in Fig. 1, with web C inserted, and its unwound end divided into the belts C¹ and selvage C². The ledge W is fixedly attached to the side of the table, and is mortised to admit through it the shouldered ends of the battens B B' loosely, in such position that the lower edges of the battens may nearly rest on the table-surface, so that they may serve to spread or deliver the cloth body D evenly and flatly on the table while it is being drawn by the hands of the operator, by the belts C¹, toward the knives A. The block E has notches at m, into which the inner ends of the battens B B' are laid on the cloth, their outer ends being first thrust into the ledge W. Pins H, in position as shown, serve to engage or readily to disengage the said battens, the operation of inserting the cloth requiring the undoing of the battens to start the web. Wood-screws n hold the block E to its place, which are a ready means to remove the said block and battens from the table when the work of cloth-cutting, which is of short duration, is over, thus freeing the table for other class of work. The knives A may be common shoe-knives, ground to tapering points, as shown in Fig. 2, which are inserted into the table-top at an angle of about sixty degrees with its surface, and close up to batten B, as shown. Said knives are thus slanted, that the cloth may be compelled to travel on the table-surface, and that the dissevered fibers may be delicately crimped downward from the printed upper surface of the cloth to secure proneness along the edge to favor gluing. The batten B' is the web-keeper, and batten B is the

knife and cloth guard. It will be observed that the breadth of the belts C¹ and selvage C² may be varied by any desired position of the knives A, and that the selvage C² remains entire, and may be utilized better, therefore, than when it is cut into fragments, as in the usual mode of cloth-cutting.

Having described my device for dividing the web into belts or ribbons, I proceed to explain the construction of my device for subdividing the belts into sections suitable for any given size of work. In the table-body I form a longitudinal case by means of the end sills F, floor K, and two side boards erected between said floor and the top boards T T', parallel with and a little retreating from their inner edges. In said case I insert my roll-rack, which is composed of the loose transverse bars O, the fixed, notched rail V, and the similarly-notched rail Z, made adjustable laterally by the slotted guides R attached thereto, by which the rail may be clamped in place, binding-screws through the slots holding the guides to the floor K. The rail Z may thus be secured at various distances from the rail V to properly admit the cloth-rolls *a* of various lengths, each being snugly confined in a separate receptacle between the rails and transverse bars. The transverse bars O are a little distance above the floor of the case, thus allowing several folds of the cloth to pass freely under them in the process of unwinding said rolls.

The manner of inserting the rolls into the several receptacles is as follows: The bars O being all removed, the roll *a* on the extreme left is inserted, having sufficient cloth unwound to reach out to a point, *a'*, for example, on the board N. The bar O on the extreme left is next inserted on the rails V Z. The next roll, *a*, on the left, is inserted in the next space, having also sufficient cloth unwound to reach to the said point on board N and its bar O, or keeper is inserted.

In this manner all the rolls are inserted in the rack, each having a sufficient part unwound to reach a certain limit on said board, the order of insertion being from left to right, or in the direction of the dissecting-board N, in order that draft to bring the cloth on the said board may not disturb the even plication of the stuff. The lower fold, having the weight of all the rest on it, serves as a carrier-belt to convey those superimposed thereon.

The board N being extended as shown in Fig. 1, the body of cloth at *a'* is moved forward to reach the extreme right end of the board. Any size of blank, O, being determined, the breadth of the straight edge G is added to the length of the said blank, as a measure to set up the first pins *d* and *x* on the extreme right. Then from these, with compasses set to measure the length of blank C, all the points are stepped off, to erect the two series of pins *d d*, &c., and *x x*, &c.

Said pins are designed to be of round stuff,

flatly pointed, that they may let the cloth pass smoothly, and that they may enter the board N without marring the fibers of the wood.

The series of pins *x x*, &c., align close up to the near edge of the cloth, and serve to guide the cloth in drawing it forward and to retain it on the board without slipping in the act of cutting.

The series of pins *d d*, &c., are aligned a little distance away from the other edge of the cloth, to allow the cloth to be unobstructedly drawn forward.

The straight-edge G, placed against two pins, *d x*, as shown in Fig. 1, is employed to insure a clean straight cut with any ordinary knife, a shoe-knife being generally found a suitable one.

The straight-edge G serves to compress the cloth, as well as to guide the knife, which is, in part, guided also by the fiber of the transverse boards of which the dissecting-board is made.

It may be observed that this mode of cutting the blanks C is also a ready means of counting the same, as the number of folds is multiplied by the number of pins in one of the series.

It may also be stated that this mode of cutting by a drawn cut from the side *d* to the side *x*, the edge of the knife being slanted, also cleanly cleaves the cloth-edges, as already stated.

It must also be stated that in winding the rolls *a* from the belts *c'* a reverse roll is given to the cloth—that is, the end that was the core of the original web becomes the core of the rolls *a*, rolled reversedly, that, when it is delivered therefrom for dissection, it may lie flat upon the board and be free from kinks.

In Fig. 2, the dissecting-board N is shown only partially extended, which in some instances may be the manner of using it, when a limited number of cover-blanks is to be cut, or when factory space is crowded.

The board N may also be used on the table without extending it at all, if a suitable delivery-aperture be made under it in the table side, and the board may then be stepped off from its opposite end for the erection of the pins *d* and *x*; but the extended board N, as shown in Fig. 1, is preferred, as then the movements of the rolls *a* may be noticed, and any irregularities thereof corrected. A folding support, Q, is therefore attached to the board N, as shown, to support its outer end, which is hinged to its under side between the strips P thereon, and folds flush with them.

It is evident an ordinary book-binder's table need be modified but little to apply my apparatus to it, and need not be changed at all, if the roll-rack is simply superimposed.

Having thus fully and clearly described my invention, what I regard as new and useful, and what I desire to secure by Letters Patent of the United States, is—

1. In a book-binder's cloth-cutting apparatus, the roll-holding rack, composed of the removable bars O, the fixed rail V, and the adjustable rail Z, provided with the slotted guides R, in combination with the rolls and the board N, substantially as herein set forth.

2. The table T, constructed with the receptacle F K, in combination with the rack O V Z and board N, as and for the purpose set forth.

In testimony that I claim the foregoing as my invention, I have hereunto set my hand and seal this 18th day of September, 1874.

JOSHUA W. JONES. [L. s.]

Witnesses:

THEOPHILUS WEAVER,
W. H. SMITH.