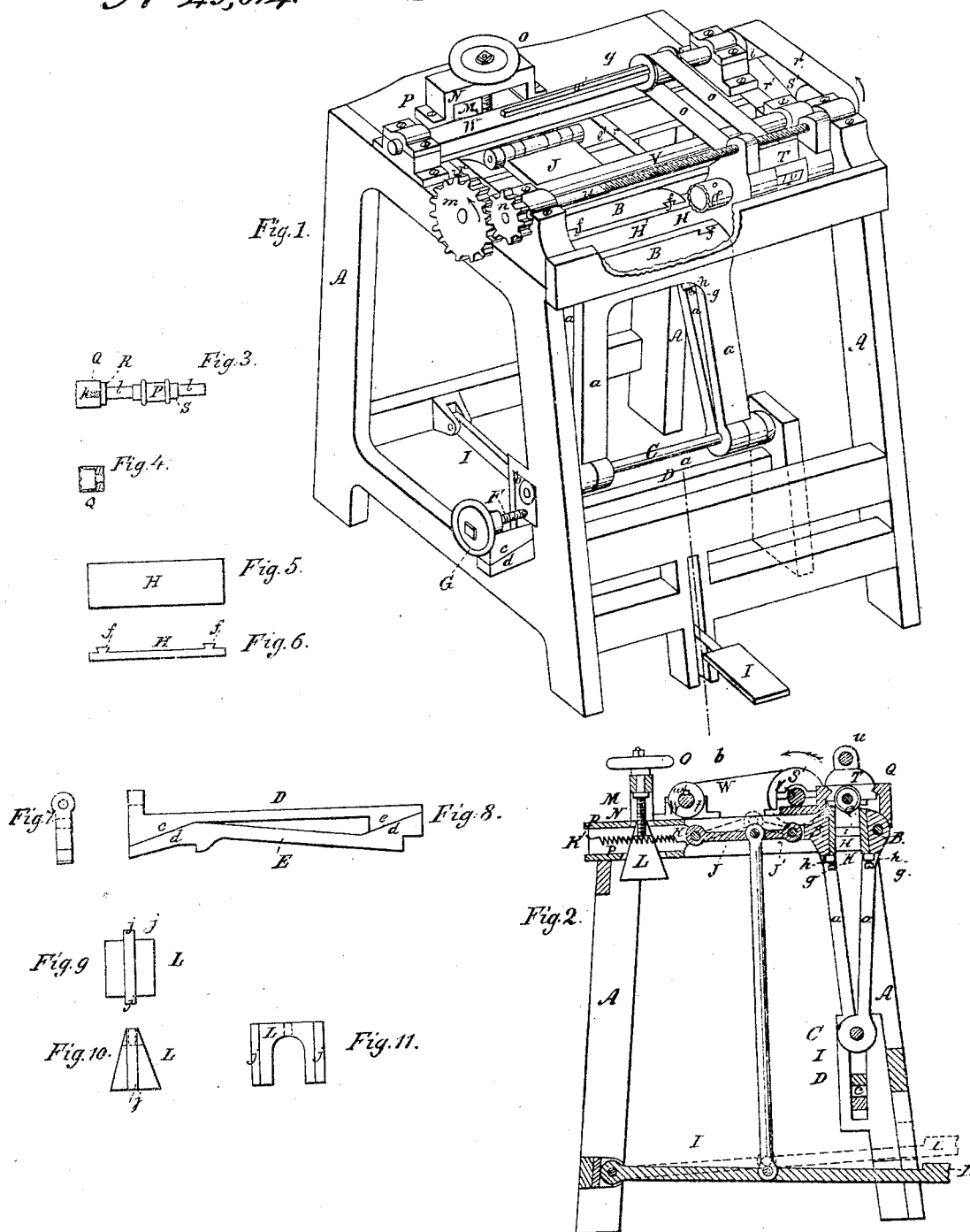


*S.D. Burlock.*  
*Book Cutting Mach.*  
*N<sup>o</sup> 45,314. Patented Dec. 6. 1864.*



Witnesses  
*Stephen Votick*  
*David W. Perkins.*

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# UNITED STATES PATENT OFFICE.

SAMUEL D. BURLOCK, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR CUTTING THE FRONT EDGE OF PHOTOGRAPHIC ALBUMS.

Specification forming part of Letters Patent No. 45,314, dated December 6, 1864.

*To all whom it may concern:*

Be it known that I, SAMUEL D. BURLOCK, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Machines for Cutting or Smoothing the Front Edge of Photograph-Albums and Books; and I 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 perspective view of the machine. Fig. 2 is a vertical section at the line *a b* of Fig. 1. Fig. 3 is a side view of the revolving cutter *Q* and the shaft on which it is situated, detached from the machine. Fig. 4 is a longitudinal section of the said cutter. Fig. 5 is a face view of one of the clamp-facings. Fig. 6 is an edge view of the same. Fig. 7 is an end view of the adjusting-bar *D* and its base *E*. Fig. 8 is a front view of same. Figs. 9, 10, and 11 are a top, an end, and a front view of the adjusting-wedge *L*.

Like letters in all the figures represent the same parts of the machine.

The nature of my invention will be understood by the following description:

*A* is a standing frame. *B B* are clamp-jaws between which the albums are secured previous to cutting their front edges. The said jaws have legs *a a*, which are jointed to the longitudinal rod *C*, the rod being supported at each end by the boxes *b* and *b'* that are movable on the vertical slots *c c* of the frame *A*. The said boxes are supported by the wedge-bar *D*, which rests on the base-bar *E*, the ends of which are permanently secured in the slots *c c*, there being inclines *d d* on the upper edge of the bar *E*, corresponding to the inclines *e e* on the lower edge of the bar *D*. The construction and arrangement of the said bars in relation to each other are represented by Figs. 7 and 8.

There is a screw, *F*, by which the bar *D* is connected with the box *b*, for the purpose of giving a vertical adjustment to the clamp to regulate its height in relation to the revolving cutter, which I will presently describe. On the outer end of the said screw there is a hand-wheel, *G*, for operating the same, to cause the inclines *e e* of the bar *D* to ascend or descend the inclines *d d* of the bar *E* to effect the said adjustment. In the operation of cutting or smoothing the edges of the albums it is neces-

sary for the upper inner corners of the jaws *B B* to nearly touch the knife *Q*, which I will hereinafter describe, and to avoid accident to the latter, which might arise from its happening to strike them, I provide wooden facings *H H*, which are secured in their places by means of the dovetails *f f f f*, which have an easy fit in corresponding female dovetails in the jaws. One of the said facings is represented in Figs. 5 and 6.

A vertical adjustment is given to the facings by means of the screws *g* in the lugs *h* on the lower edges of the jaws. This adjustment is essential to compensate for the wearing of their upper edges. The clamp is operated by the treadle *I*, which is connected with the toggle-levers *J* and *J'* that are jointed to the slide *K* and the inner jaw, *B*. (See Fig. 2.) There is another slide, *K'*, back of and in line with the slide *K*, to which the rods *r r* are pivoted at their rear ends, their front ends being pivoted to the front jaw, *B*. *L* is a vertical wedge in a corresponding opening between the slides *K* and *K'* for operating the same, to adjust the jaws *B B* to suit the different thicknesses of albums. The wedge *L* has a vertical adjustment by means of the screw *M*, situated at its upper end in the pedestal *N*. *O* is a hand-wheel on the outer end of the screw for operating the same.

The wedge *L* has slides *j j*, which are guided by vertical grooves in the plates *P P*, that are secured at their ends to the inside of the end pieces of the frame *A*. The said plates have vertical openings between the grooves for the free operation of the wedge. As the arrangement of the said wedge for giving a lateral adjustment to the clamp and the wedge-bar *D* for giving its vertical adjustment are similar to the arrangements for the same objects in presses used by bookbinders, a fuller description I deem unnecessary.

*Q* is a revolving cutter, which is made fast to the face-plate *R* on the front end of the mandrel *S* by means of the screw *k*. (See Fig. 3.) The journals *l l* of the mandrel have bearings, as represented in the drawings, on the under side of the carriage *T*. I contemplate, however, making the bearings on the upper side of the carriage. The said carriage is moved backward and forward by means of the longitudinal screw *U*, which is operated by the driving-shaft *V* by means of the toothed

wheels *m* and *n*, and the cutter *Q* is revolved by means of its connection with the intermediate shaft, *W*, there being a belt, *o*, which connects the pulley *p* on the cutter-mandrel *S* with the pulley *q* on said shaft, the pulley *q* fitting loosely on said shaft *W*, and having a free motion backward and forward, permitting it to travel with the carriage *T*, but being compelled to follow the revolutions of the said shaft *W* by means of a feather, *w*, upon said shaft, working in a suitable groove in one side of the central opening or eye through the pulley *q*, as seen in Figs. 1 and 2.

The shaft *W* is connected with the driving-shaft *V* by means of the belt *r'* on the pulley *s'* of the driving-shaft and the pulley *t* of the shaft *W*. I form the edge of the cutter *Q* with corrugations, for the purpose of increasing its smoothness of cutting. There are openings *u* through the shell of the cutter through which the shavings pass out of the chamber of the same.

The operation is as follows: An album being placed in position between the jaws *B B* and firmly clamped by means of the treadle *I*, and the driving-shaft being revolved in the direction of the arrow, the cutter *Q* is made to revolve at a moderate speed by means of its connection with the intermediate shaft, *W*, as above described, and the carrier-screw *U*,

being also operated by means of its connection with the driving-shaft, the carriage *T* is moved forward until the cutter *Q* has passed from end to end of the album and cut or smoothed its edge. Then the carriage *T* is reversed until it gets into the position represented in Fig. 1. The album is then removed and another put in its place to be operated upon in the same manner, and so on in succession.

Having thus fully described the construction and operation of my improvement in machines for cutting the front edge of photograph-albums, what I claim therein as new, and desire to secure by Letters Patent, is—

The combination and arrangement of the revolving cutter *Q* with the clamps *B B* and carriage *T*, by means of the screw-shaft *U*, the intermediate shaft, *W*, and driving shaft *V*, the whole being arranged for joint operation substantially in the manner and for the purpose above set forth.

In testimony whereof I have hereunto set my hand and affixed my seal this 9th day of August, 1864.

SAML. D. BURLOCK. [L. S.]

Witnesses:

STEPHEN USTICK,  
DAVID W. EAKINS.