

J. A. ROBERTSON & G. A. RIGGS.

TRIMMING MACHINE.

APPLICATION FILED NOV. 7, 1910.

1,064,009.

Patented June 10, 1913.

2 SHEETS—SHEET 1.

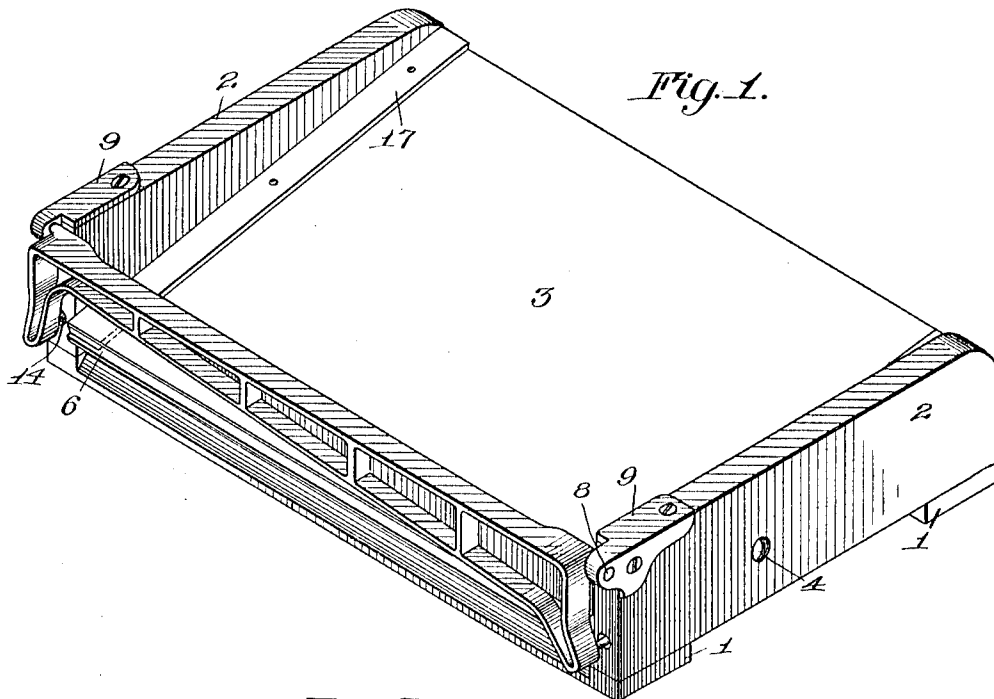


Fig. 5.

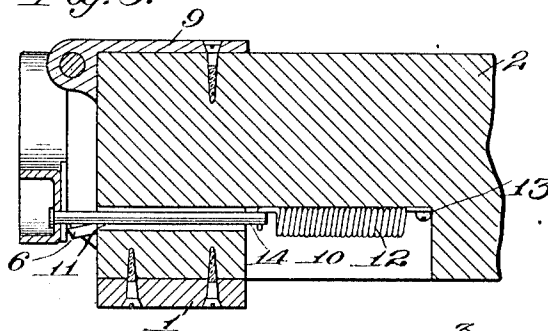
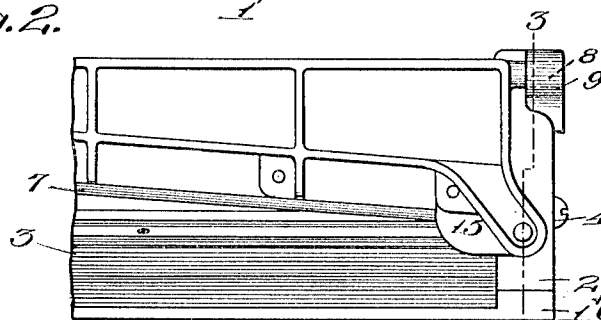


Fig. 2.



Witnesses

Nelson Copp
Russell B. Hiffitt

Inventors

J. A. Robertson

G. A. Riggs

By

Church & Rich

their Attorneys

APPLICATION FILED NOV. 7, 1910.

2 SHEETS—SHEET 2.

Nelson Copp
Russell B. Luff

Inventors
John A. Robertson
+ Garshom A. Riggs

By *Surch & Rich*
their Attorneys

UNITED STATES PATENT OFFICE.

JOHN A. ROBERTSON AND GARSHOM A. RIGGS, OF ROCHESTER, NEW YORK, ASSIGNORS
TO EASTMAN KODAK CO., OF ROCHESTER, NEW YORK, A CORPORATION OF NEW
YORK.

TRIMMING-MACHINE.

1,064,009.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed November 7, 1910. Serial No. 591,044.

To all whom it may concern:

Be it known that we, JOHN A. ROBERTSON and GARSHOM A. RIGGS, both of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Trimming-Machines; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

The present invention relates to sheet severing devices and it has for its object to provide a simple and cheaply constructed machine of this character adapted more particularly for trimming off the edges of paper and other sheets with rapidity and convenience, the improvements being directed in part toward producing an arrangement of the knives or cutters whereby they are maintained in a proper relation to operate at all times with maximum efficiency.

A further object of the invention is to provide an improved means for aiding the operator in making the cut at a given distance from an interior point on the sheet, as, for instance, in cutting a photographic print so as to produce a blank border about the picture area.

To these and other ends the invention consists in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings: Figure 1 is a perspective view of a cutting machine constructed in accordance with and illustrating one embodiment of our invention; Fig. 2 is a fragmentary rear elevation; Fig. 3 is a vertical section on the line 3—3 of Fig. 2; Fig. 4 is a top plan view, and Fig. 5 is a vertical section on the line 5—5 of Fig. 4.

Similar reference numerals through the several figures indicate the same parts.

The machine illustrated in the present embodiment of the invention is designed especially for trimming photographic prints and comprises a suitable supporting structure 1 having end boards or members 2 between which is arranged a rocking work-table 3 journaled in or pivoted to the members 2 at 4. One side of the table is held

normally depressed by springs 5 interposed between the other side on the opposite side of the pivot 4 and the support 1 and the edge of this normally depressed portion is fitted with a suitable blade 6. A second blade 7, forming a shearing couple with the first is arranged above the same and has its ends 8 journaled in the support 2 or, in the present instance, in brackets 9 thereon so that the blade may swing on a longitudinal axis in a lateral direction.

The supports 2 are provided with recesses 10 preferably opening on the under side and continuing out through one end at 11, in which recesses are housed coil springs 12 attached to the supports at one end at 13 and at the other end to draw heads 14 carried at the respective ends of the blade 7 and removed from the pivots 8 thereof. These springs have a normal tendency to rock the blade inwardly or toward the work table.

The upper blade 7 preferably has its cutting edge arranged at an inclination to the work table in a plane substantially perpendicular thereto in order to produce the well known shearing cut and the blade is also arranged at a slight angle to the cutting edge of the blade 6 in a direction substantially parallel with the plane of the work table so that when the lower end of the blade 7 comes into initial coöperation with the blade 6 to begin the cut the opposite end thereof slightly overlaps the cutting edge of the corresponding end of the blade 6. As the relative movement of the blades is continued to complete the cut, the blade 7 yields in a direction laterally of the plane of cutting movement on its pivot 8 under the contact of the blade 6 so that at the completion of the cutting operation the cutting edges of the other ends of the blades are correspondingly separated, as shown in Fig. 4, though the ends that complete the cut are in proper operative relation. The springs 12 resist this yielding movement and maintain the blades in intimate contact so that while no very fine adjustment thereof is required the cutting edges, even if somewhat roughly formed or worn down, operate with great efficiency at all times.

The lower blade 6 is the one which, in the present instance, is moved relatively to the other and when lowered the blade 7 is prevented from swinging too far inwardly over the same by any suitable means, as by a stop

15 thereon, that coöperates with the table 3, or its blade 6, when the blades are separated. In use, the sheet is held on the table 3 with that portion of its edge which is to be severed projecting beyond the cutting edge of the blade 6 whereat a downward pressure on the table 3 in the neighborhood of the spring 5 rocks the table and operates the shearing couple.

10 At the sides of the work table are guiding strips 16 and 17 against which the sheet is held true, one of them being preferably divided into units of measurement. In the present instance these strips also serve to support, in spaced, parallel relationship with the surface of the table, a third guide or guard strip 18 arranged parallel with and adjacent to the shearing couple beneath which guard the sheet is passed and which is useful, for instance, when the print being operated upon has a tendency to curl. In the further practice of our invention we construct this strip of transparent material such as clear celluloid and place thereon a plurality of series of marks A, B, C, D, the series being spaced longitudinally of the strip and the units of each series being spaced transversely of the strip. By the aid of these marks the operator is able to trim the prints with a border of uniform width on all sides to do which he simply brings the edge of the picture area into register with one of the marks which is removed a given distance from the cutting edges of the blade whereat the cut will be made at a corresponding distance and a border will be left of the desired width.

The reason for not extending the marks or lines continuously throughout the length of the strip rather than dividing them up into a number of detached rows or series is to prevent the operator from being misled by a confusion of lines and to the same end we prefer to make the alternate lines or marks of each series of different colors from the intermediate lines so that each mark will be

of a color contrasting with that of the adjacent one. Thus in Fig. 4, the marks 19 are red while the marks 20 are blue.

We claim as our invention:

1. In a trimming machine, the combination with a pair of supporting members having recesses therein opening at the ends thereof and a rocking work table arranged between them and having a cutting edge, of a blade forming a shearing couple with the latter having its ends journaled in the supports at the open ends of the latter and at points above the table permitting it to turn on a longitudinal axis and to yield laterally of the plane of cutting movement by the engagement of the work table during the cutting operation, downward extensions at the ends of the blade in alinement with the recesses of the support and coil springs housed in the recesses of the supports and connected to the extensions at the respective ends of the blade acting to resist such yielding movement of the latter.

2. In a trimming machine, the combination with a pair of supporting members having recesses therein opening at the ends thereof and a rocking work table arranged between them and having a cutting edge, of a blade forming a shearing couple with the latter having its ends journaled in the supports at the open ends thereof and above the recesses permitting it to turn on a longitudinal axis and to yield laterally of the plane of cutting movement by the engagement of the work table during the cutting operation, draw heads on the respective ends of the blade and coil springs connected to the draw heads and housed within the recesses of the supports, said springs acting to resist the yielding movement of the blade.

JOHN A. ROBERTSON.
GARSHOM A. RIGGS.

Witnesses:

RUSSELL B. GRIFFITH,
LUCY A. VAN COURT.