D. T. BROUGHTON.

Paper-Trimming Machine.

No. 168,963. Patented Oct. 19, 1875.

Fig. 1.

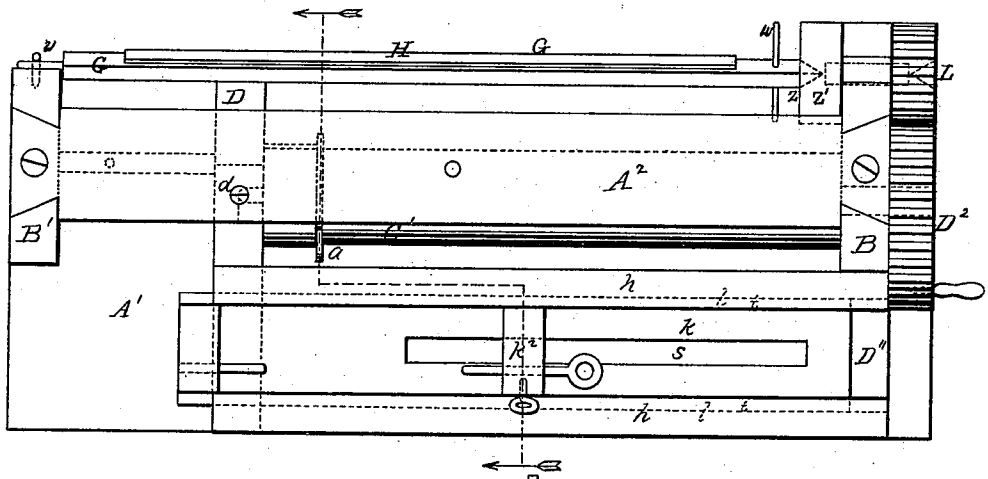


Fig. 3.

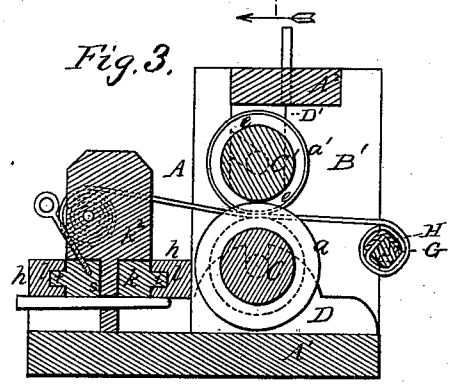
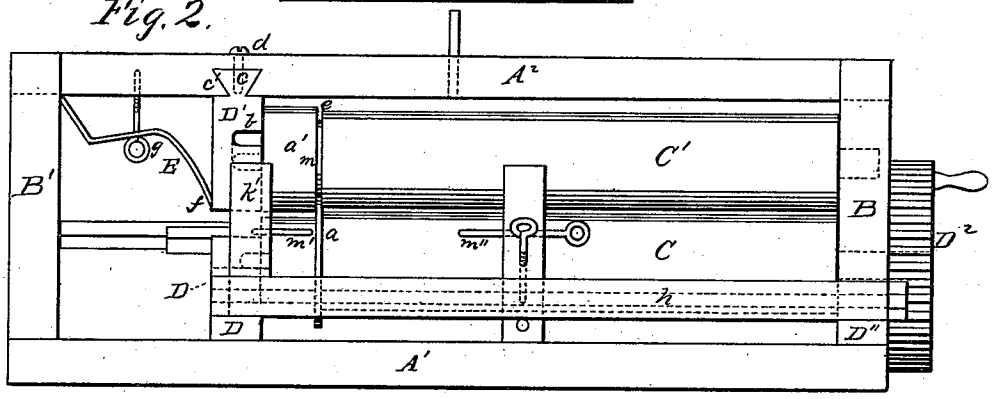


Fig. 4.

Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

DAVID T. BROUGHTON, OF PARKERSBURG, WEST VIRGINIA.

IMPROVEMENT IN PAPER-TRIMMING MACHINES.

Specification forming part of Letters Patent No. **168,963**, dated October 19, 1875; application filed March 27, 1875.

To all whom it may concern:

Be it known that I, DAVID THOMAS BROUGHTON, of Parkersburg, in the county of Wood and State of West Virginia, have invented a new and valuable Improvement in Border-Cutters and Paper-Trimmers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of my machine, and Fig. 2 is a front view of the same. Fig. 3 is a transverse vertical sectional view, and Fig. 4 is a sectional detail view.

This invention has relation to means for trimming and dividing paper and for cutting borders thereon; and it consists in the construction and novel arrangement of the feeding-rollers carrying the cutters, the adjustable roll-holder, and the receiving-shaft, as hereinafter fully shown and described.

In the accompanying drawings, the letter A designates the frame, consisting of the base A^1, the top A^2, and the standards or end pieces B B′ connecting the two. C C′ designate the feeding and guiding rolls between which the paper passes from the roll-holder to the receiving-shaft. The lower roll C is journaled at one end in a seat in the cleat D, which is secured to the base A^1 transversely. The seat is open to the top of the cleat to facilitate the removal of the roll when necessary. The other end of the roll or roll-shaft is journaled in the end wall B, and is extended to receive the driving-pulley D^2. Near the cleat this roller is provided with the annular disk-cutter *a*. The upper roll C′ is located immediately over the lower roll C, and is also journaled in the end wall B. The opposite journal of this roll is seated in a pendent bracket, D^1, being let into its seat laterally, the opening of the seat being seen at *b* on the side of the bracket. This bracket is provided with a dovetail tenon, *c*, at its upper end, designed to be let into a dovetail groove, *c′*, in the top bar A^2 from the side, and secured by a screw, *d*. This upper roll C′ is grooved, at *e*, to receive the edge of the disk-cutter *a*. Around the roll at its end, outside the groove *e*, and having its inner edge *m* in cutting contact with the disk-cutter *a*, is located the band-cutter *a′*.

In order to regulate the cutting-friction, and to keep the bracket D^1 steady, a spring-brace E is secured to the frame and so arranged that its end bearing *f* will be at the lower part of the bracket opposite the cutting-edges of the cutters, or as nearly so as may be convenient. In order to regulate the pressure of this brace an adjusting clamp-screw, *g*, is provided. In front of the rollers C C′ are secured, upon the front portions of cleats D D″, parallel rails *h h* forming a raised track for the carriage *k* of the paper roll, which is provided on each side with longitudinal tenons *t*, adapted to slide in grooves *l* in the inside faces of the rails *h*. At one end of this carriage a standard, k^1, is provided, having a journal-pin, *m′*, designed to be introduced into the roll of paper at one end. Arranged to slide in a slot, *s*, at the other end of the carriage, is an adjustable standard, k^2, provided with an adjustable journal-pin, *m″*, which serves to hold the other end of the roll of paper. It is apparent that within the limits of the frame the roll of paper may, by means of this carriage and its track, be located, so that the cutters will be opposite any desired point.

In rear of the rolls C C′ is located the receiving-shaft G. This shaft is square in its sectional form in order that its purchase may be sufficient, and it is provided with a metallic cap or half-sleeve, H, which embraces it on three sides, and serves to clamp the end of the paper strip. One end of the reel-shaft G is journaled in a seat, *v*, connected with the standard B′ of the frame in such a manner that it can be readily removed from its seat. The other end is squared and adapted to be introduced into a squared central aperture, *z*, in a wheel or head-piece, *z′*, attached to the inner end of the shaft of the friction-wheel L, which is provided with a rubber or other suitable arming, and engages with the driving-wheel at the end of the machine; or gear-wheels may be employed.

The paper roll having been mounted on the journal-pins of the carriage, and adjusted in proper position, its end is carried between the rolls C C′ and secured to the shaft G. Then

the cutting is completed by turning the driving-wheel. If the receiving-shaft turns too slow, so that the paper is wound loosely, it may be turned up by means of the lever *w*. As the bracket and cleat, to which the inner ends of the rolls are journaled, are not in contact, there is provided a sufficient space for the passage of that part of the paper which is cut off from the main strip, should it be of sufficient width to extend beyond the ends of the rolls.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a paper-trimming machine, the frame A, consisting of the base A^1, the top A^2, and the standards B B′, with cleat D and pendent arm D^1, in combination with the feeding and guiding rolls C C′, journaled and supported in the manner described.

2. The roll C′, in combination with the pendent bracket D^1 and the adjustable spring-brace E, substantially as and for the purpose set forth.

3. The square receiving-shaft G, provided with a metallic cap or half-sleeve, H, substantially as and for the purpose set forth.

4. The parallel rails *h h* forming a raised track for the carriage *k* of the paper roll, the latter provided with longitudinal tenons *t*, adapted to slide in grooves *l* in the inside faces of the rails *h*, said carriage *k* being provided with standards $k^1 k^2$, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

DAVID THOMAS BROUGHTON.

Witnesses:
JACOB B. BLAIR,
P. D. GAMBRILL.