(No Model.)

T. REMUS.

GROOVING APPARATUS FOR CARD BOARD, LEATHER, AND LIKE MATERIAL.

No. 385,201. Patented June 26, 1888.

Fig. 1.

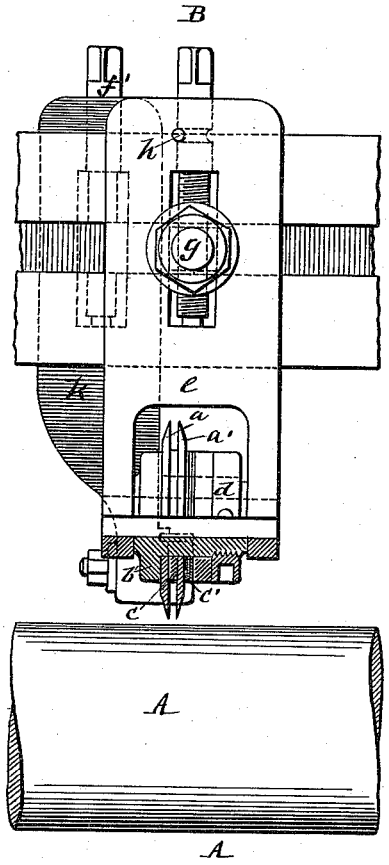


Fig. 2.

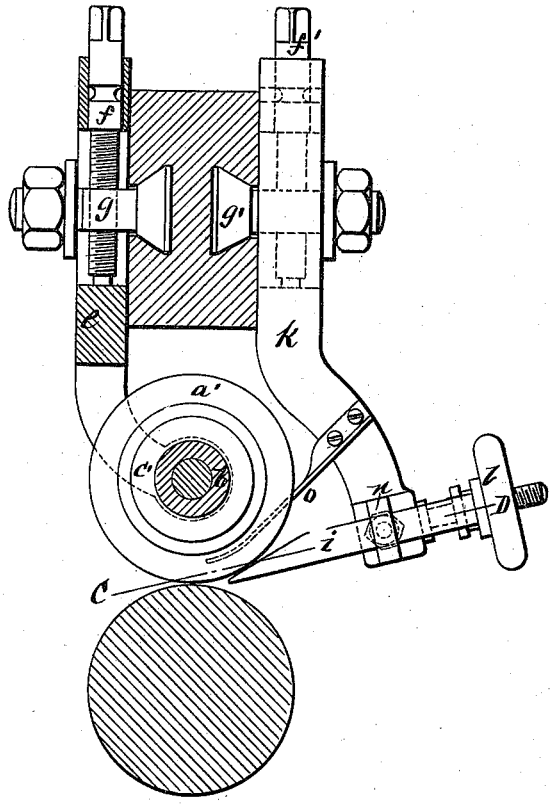
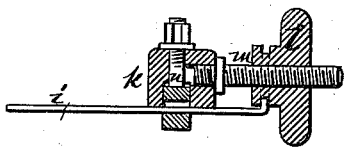


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

THEODOR REMUS, OF DRESDEN, SAXONY, GERMANY, ASSIGNOR OF ONE-HALF TO JEAN SCHERBEL, OF SAME PLACE.

GROOVING APPARATUS FOR CARD-BOARD, LEATHER, AND LIKE MATERIAL.

SPECIFICATION forming part of Letters Patent No. 385,201, dated June 26, 1888.

Application filed May 7, 1887. Serial No. 237,403. (No model.) Patented in England April 30, 1886, No. 5,894; in France March 23, 1887, No. 176,040, and in Belgium March 25, 1887, No. 76,842.

To all whom it may concern:

Be it known that I, THEODOR REMUS, a subject of the Emperor of Russia, residing at the city of Dresden, in the Kingdom of Saxony, Empire of Germany, have invented certain new and useful Improvements in Grooving Apparatus for Card-Board, Leather, and Like Materials, (for which Letters Patent have heretofore been granted to me by the government of France, No. 176,040, dated March 23, 1887, and by the government of Belgium, No. 76,842, dated March 25, 1887, and which has heretofore been patented to me by the government of England, dated April 30, 1886, No. 5,894,) of which the following is a specification.

This invention relates to that class of machines used for cutting grooves in card-board, leather, and like materials to facilitate bending them for forming boxes, &c.; and the object of my invention is to provide a new and improved machine of this kind in which the cutters can readily and rapidly be adjusted to cut grooves of the desired width and depth.

The invention consists in the construction and combination of parts and details, as will be fully described and set forth hereinafter, and then pointed out in the claims.

In the accompanying drawings, Figure 1 is a front view of my improved machine for cutting grooves in card-board, &c., parts being broken out and others being in section. Fig. 2 is a cross-sectional view of the same. Fig. 3 is a detail horizontal sectional view of part of the mechanism.

Similar letters of reference indicate corresponding parts.

The two cutter-disks *a a'*, which are beveled on their outer surfaces along the edges, are mounted on the shaft *b*, which may be tubular and mounted on a fixed pin, as shown, or it may be solid. Said shaft is provided with a collar, *b'*, against which the outer surface of one of the cutter-disks rests. A washer, *c*, mounted on the shaft is interposed between the two disks *a a'*, and against the outer surface of the other cutter-disk, *a'*, one of a series of washers, *c'*, rests. A nut, *d*, is screwed on the shaft *b*, and serves to press one cutter-disk against the shoulder *b'*, to press the cutter-disks against the washer *c*, and to press the washers *c'* against each other and against the cutter-disk *a'*—that is, to hold the cutters on the shaft.

The cutters can easily be adjusted a greater or less distance from each other, according to the desired width of the groove, by placing more or less of the washers *c'* between the cutter-disks in addition to the washer *c*.

The shaft carrying and supporting the cutters is held in the lower forked end of the holder *e*, held by a bolt, *g*, on a suitable rail, said bolt *g* passing through a longitudinal slot in the holder. In said slot a vertical bolt, *f*, is mounted, which passes through a screw-threaded aperture in the bolt *g*, so that when the bolt *f* is turned in one direction or the other the holder *e* is raised or lowered, and the cutting-edges of the disks *a a'* thus moved a greater or less distance from the card-board resting on the roller A. The slotted holder *k*, held by the screw *g'* on the rail, contains the screw *f'*, which also serves for raising and lowering the holder in the same manner that the holder *e* is raised and lowered.

The plow-knife or gouge *i* is held on the lower part of the holder *k*, and is supported in a slot of a clamping-piece, *n*, provided with a nut. The rear end of the gouge is bent rectangularly and passed into an annular groove in the stem or neck of a nut, *l*, screwed on the screw *m*, projecting from the lower part of the holder *k*. By turning the nut *l* in one direction or the other the gouge *i* can be moved toward or from the cutting-disks *a a'*, and when in the proper position can be clamped in place by means of the nut on the clamping-piece *n*.

A scraper, *o*, is secured on the holder *k*, and projects in between the disks *a a'*, and serves for removing the strip of card-board, &c., cut from the sheet from between the two cutter-disks.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a rail, of a longitudinally-slotted holder, a bolt passed through the slot of the holder into the rail, a bolt

mounted longitudinally in the slot in the holder and passed through a screw-threaded aperture in the bolt that holds the holder on the rail, and cutters on the holder, substantially as herein shown and described.

2. The combination, with a rail, of the holders *e* and *k* on the same, the cutters *a a'*, mounted to turn in the lower forked end of the holder *e*, the clamping-piece *n* on the holder *k*, the screw *m* on the holder *k*, the nut *l*, mounted on the screw *m* and having an annular groove, the gouge *i*, supported by the clamping device *n* and having a bent end inserted in the groove of the nut *l*, and the scraper *o* on the holder *k*, substantially as herein shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THEODOR REMUS.

Witnesses:
PAUL DRUCKMÜLLER,
EMIL DOMSCH.