July 18, 1933. A. BECHTOLD 1,918,369

DEVICE FOR CUTTING CHENILLE TEXTURES

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Fig:1

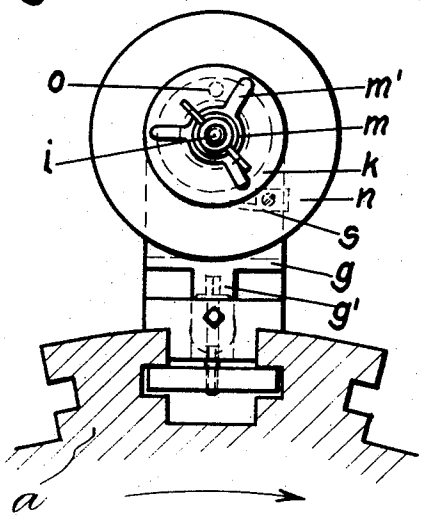


Fig:2

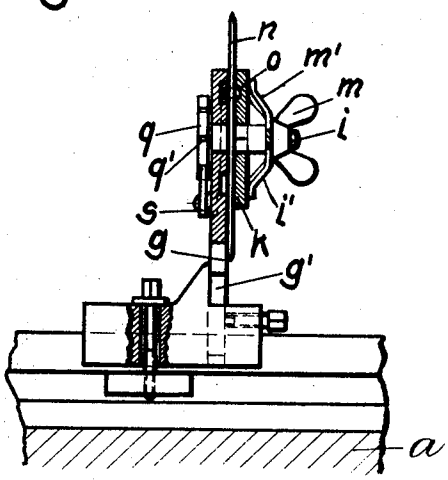


Fig:3

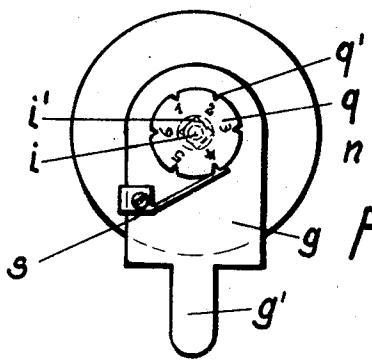


Fig:4

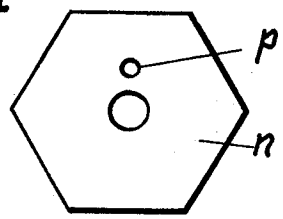
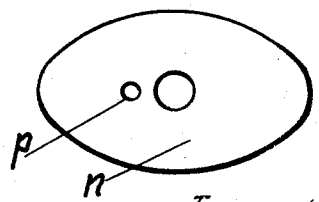


Fig:5



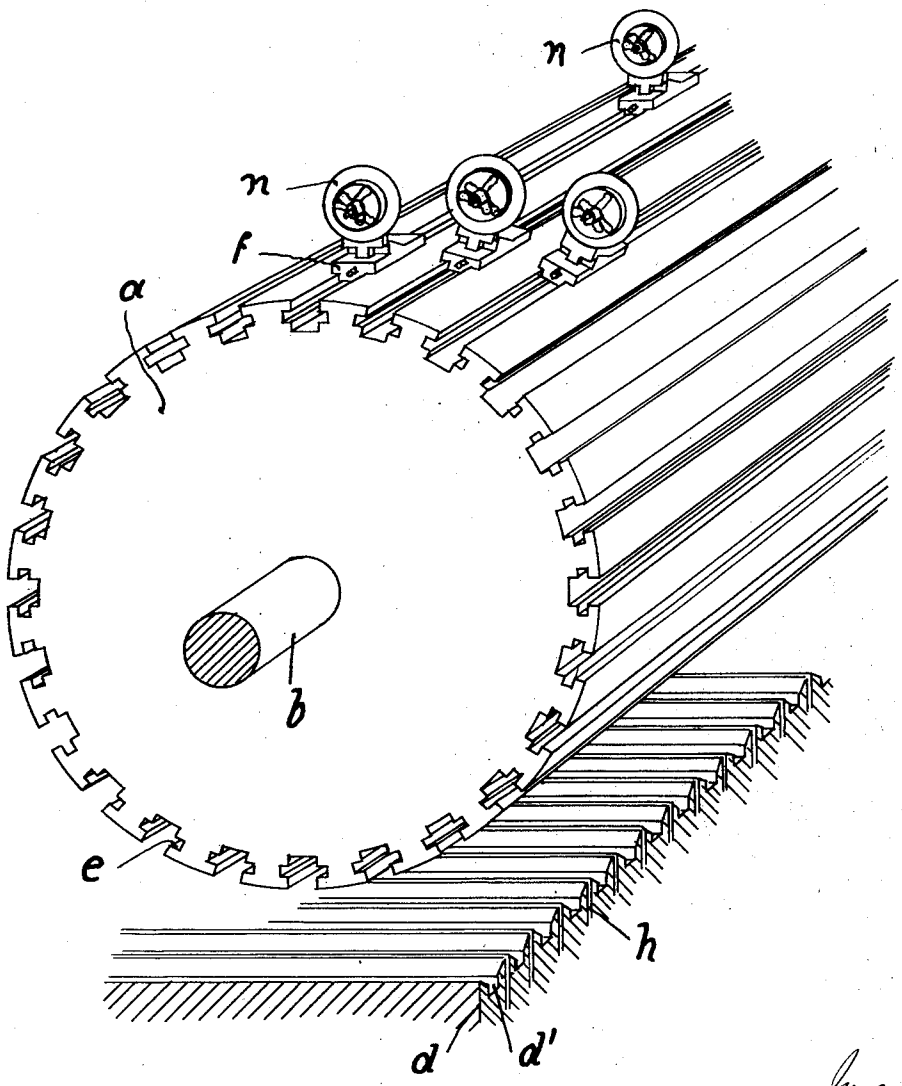
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Fig. 6.



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UNITED STATES PATENT OFFICE

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DEVICE FOR CUTTING CHENILLE TEXTURES

Application filed July 11, 1930, Serial No. 467,244, and in Germany August 10, 1929.

It is an acknowledged fact that the beautiful even appearance of, for example, Axminster carpets largely depends on the correct cutting of the chenille textures used in the making, and it is, therefore, one of the objects of this invention to so arrange the cutting knives or blades as to produce an even clean cutting action on the fibres of the texture.

The said knives or blades in the customary chenille cutting machines are closely arranged upon a rapidly rotating cylinder and co-operate with a number of stationary knives or blades so as to cut the texture into strips or bands. These knives or blades which are usually in the form of forged slashing knives become blunt comparatively soon and, up to the present, had to be reground several times a day by hand, as otherwise the fibres become torn rather than cut, and the carpets made out of such bands will eventually have a rough uneven appearance.

However, regrinding by hand never produces completely accurate cutting edges and the chenille goods easily become uneven in height.

It is, therefore, another object of the invention to remedy this drawback and to provide knives or blades which may always present keen cutting edges to the fibres, and in order to achieve this object, the cutting cylinder, according to the invention, is provided with thin disc-shaped blades adapted to be adjusted about their axes in a manner similar to the known velvet cutting devices, but arranged so as to co-act with a number of stationary blades.

On the occasion of the used part of the knives or blades becoming blunt, they will require merely a moderate turn about their axes and immediately present a new sharp edge to the fibres. In this way much loss of time is prevented as the attendant of a machine provided with knives according to this invention can, by quick readjustment, maintain the full cutting efficiency of his machine. Cutting of the chenille fibres with sharp knives instead of using blunt cutters, evidently leads to clean cuts and, in consequence, proper chenille bands being produced.

The accompanying drawings illustrate the invention by way of example.

Fig. 1 shows a portion of the cutting cylinders and knives in cross section.

Fig. 2 is a longitudinal section therethrough.

Fig. 3 illustrates a back elevation of the blade holder and cutting disc.

Figs. 4 and 5 represent two modified forms of the cutting discs.

Fig. 6 is a view in perspective of a cutting cylinder having the knife mountings thereon and a table in association with which the knives operate.

In these drawings the cutting disc carriers g are arranged so as to fit with their lugs or projections g' readily into the knife holder of the known chenille cutting cylinders a.

The cutting disc n is fastened to the cutting disc carrier g by means of a screw i and wing nut m; a washer k and a dished pressure m' being interposed. The head q of the screw i is notched to form a ratchet with which a resilient pawl s on the carrier g is adapted to engage. A portion of the shaft of the screw i is made of square section so as to cause the disc k taking part in the movement when the wing nut m is turned. For this purpose the said disc k is provided with a square hole adapted to fit over the square shank of the shaft.

On the disc k there is provided a pin o which takes into a hole p of the cutting blade n which is thereby caused to follow on the nut m being turned. Any other means to effect such follower movement may of course be resorted to; for example the cutting blade m may be provided with a square central hole and thus be turned directly by the square portion of the shaft i. The notches q' of the ratchet q may be marked by numbers, or otherwise, which would simplify to the machine attendant the work of readjusting and to indicate which parts of the circumference of the blades have been brought into operative relation to the table for cutting the material. It is the purpose of the inventor that

when a certain part of the blade has become dulled, the blade may be turned to bring a sharp portion of the circumference into operative relation with the table and the blade is held at the different positions of adjustment in the manner stated. When the last numbered notch is reached during the adjustment and that portion of the blade which has been in operation becomes dulled, the attendant will know that removal of the blade for resharpening is demanded.

The cutting cylinder *a* and its shaft *b* having slots *e* for attachment of the mountings for the knife are of conventional type and it is shown in Fig. 6 as associated with a table *d* arranged under the cylinder, and the said table has a plurality of slots *h* for guiding the cutting knives. The upper surface of the table has transversely disposed grooves *d'* on each side of the slots and parallel therewith and when the fabric to be cut is supported on the table, the warp threads of the fabric are guided in the said grooves *d'*, whereas the knives, of course, cut through the material and the slots are clearances in which the knives travel.

What I claim is:—

1. In a device for cutting chenille goods, a cutting cylinder, means in coactive relation therewith for supporting material cutting blades on said cylinder, means to turn said cutting blades so as to present new portions of cutting edges to the fibres to be cut, and means for securing said blades in their adjusted position, incuding means for indicating what parts of the cutting blades have been used.

2. In a device for cutting chenille goods, a cutting cylinder, means in coactive relation therewith for supporting material, a carrier attached to said cutting cylinder, a cutting blade turnably fixed to the carrier, said cutting blade and carrier each having a hole, a screw associated with the carrier adapted to pass through said holes, and means to exert resilient pressure against the cutting blade and the carrier and to maintain their relative positions.

3. In a device for cutting chenille goods, a cutting cylinder, means in coactive relation therewith for supporting material, a carrier attached to said cutting cylinder, a cutting blade turnably fixed to the carrier, said cutting blade and carrier each having a hole, a screw adapted to pass through said holes, and a wing nut and a spring adapted to exert resilient pressure against the cutting blade and the carrier.

4. In a device for cutting chenille goods, a cutting cylinder, means in coactive relation therewith for supporting material, a carrier attached to said cylinder and having a hole therethrough, a cutting blade having a central hole and an out-of-the-centre hole therethrough, a screw adapted to pass through a hole of the blade and the hole of the carrier and having a portion of its shank of different cross section to its other round portion, a washer engaging the cutting blade and having a pin to fit the second-named hole thereof, means to turn said washer, and means to indicate and arrest the position of the cutter.

5. In a device for cutting chenille goods, a cutting cylinder, means in coactive relation therewith for supporting material, a carrier attached to said cutting cylinder and having a hole therethrough, a cutting blade having a central hole and an out-of-the-centre hole therethrough, a screw adapted to pass through a hole of the cutter and the hole of the carrier and having a portion of its shank of different cross section to its other round portion, a washer engaging the cutting blade at the side opposite the carrier and having a pin adapted to fit the second-named hole thereof, a spring and wing nut adapted to exert resilient pressure against the cutting blade and the carrier, notches in the head of said screw, and resilient means to co-operate with said notches to indicate and arrest the position of the cutter after every partial turn of the screw.

6. In a device for cutting chenille goods into bands, a cutting cylinder having longitudinal ways formed therein, brackets separately adjustable in the ways of the cylinder, a circular blade mounted on each bracket, means to rotatably adjust each cutter about its centre, and a support for the goods to be cut having slots into which the peripheries of the cutters extend in operation.

ARTHUR BECHTOLD.