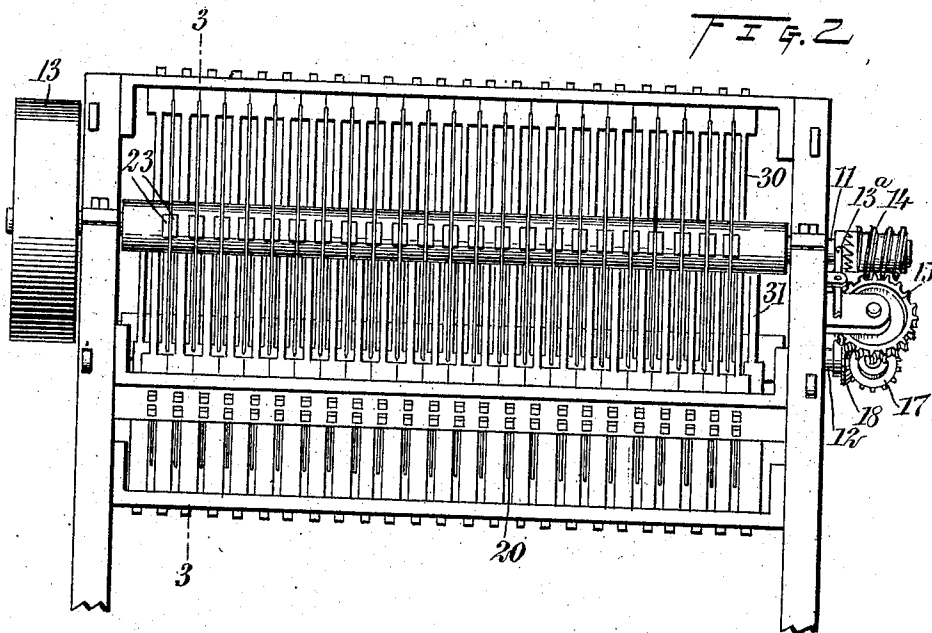
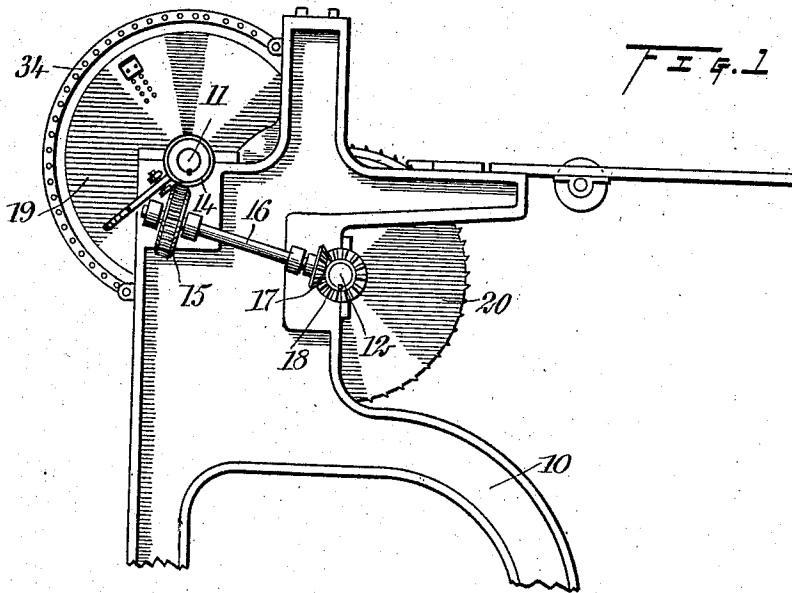


No. 814,947.

PATENTED MAR. 13, 1906.

R. E. & W. A. DUBE.
CARPET CUTTING MACHINE.
APPLICATION FILED JUNE 2, 1905.

2 SHEETS—SHEET 1.



WITNESSES:
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A. E. Fay

Fig. 5

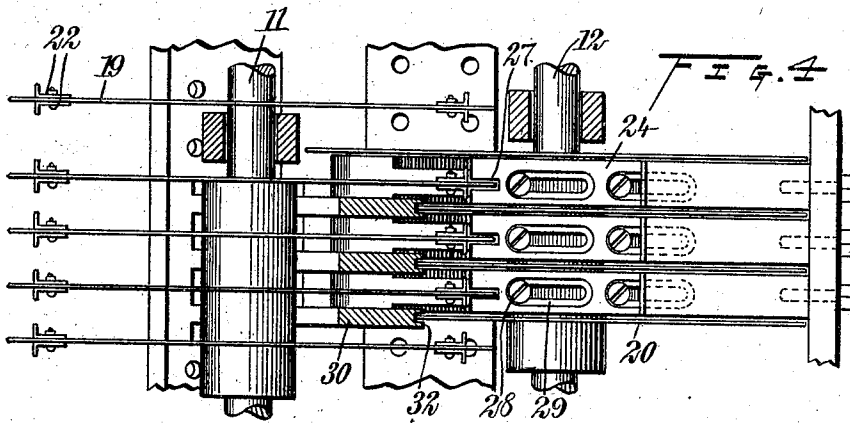
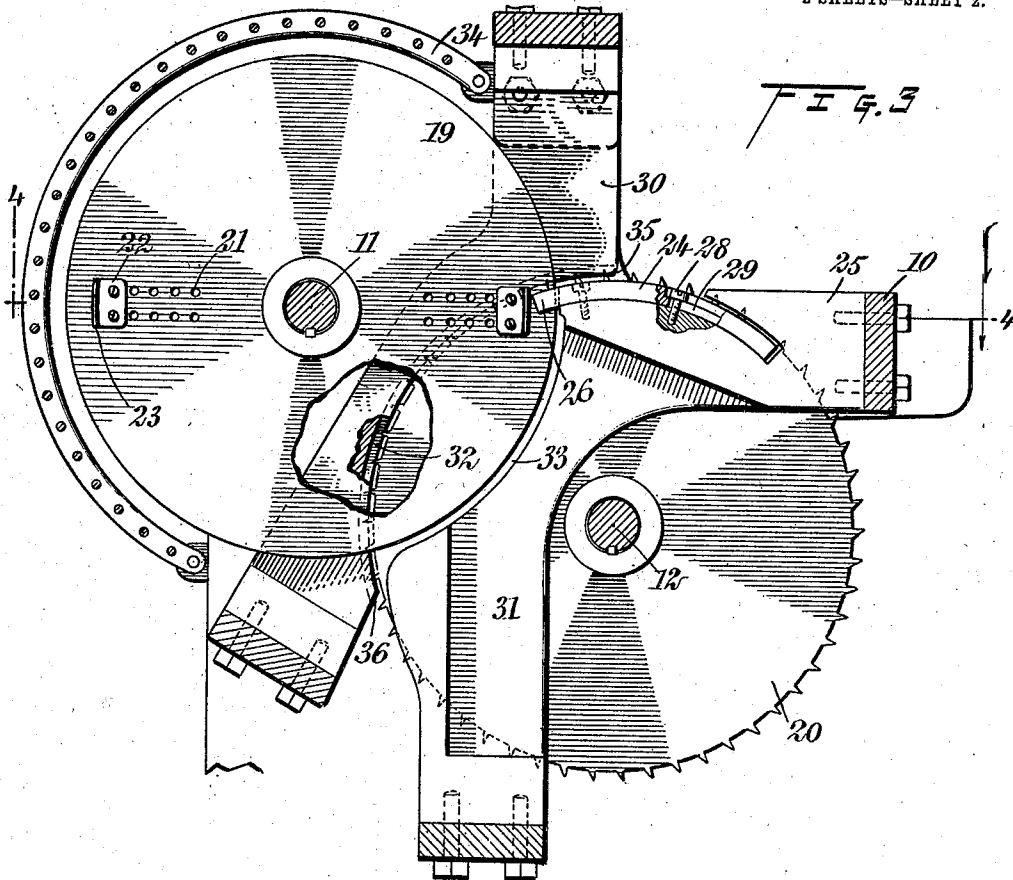
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UNITED STATES PATENT OFFICE.

RAPHAEL E. DUBE AND WILFRID A. DUBE, OF FARIBAULT, MINNESOTA.

CARPET-CUTTING MACHINE.

No. 814,947.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed June 2, 1905. Serial No. 263,397.

To all whom it may concern:

Be it known that we, RAPHAEL E. DUBE and WILFRID A. DUBE, citizens of the United States, and residents of Faribault, in the county of Rice and State of Minnesota, have invented a new and Improved Carpet-Cutting Machine, of which the following is a full, clear, and exact description.

It has been customary to cut up old carpets and similar articles into strips and to reweave these strips to form carpets, rugs, and the like. In order to provide a nap for such articles woven from old materials, the strips are slashed on their edges. The operation of cutting the strips and slashing the edges is such as to consume considerable time, and the regularity of slashing is a matter that is likely to be neglected when cheap labor is employed to do it.

It is the principal object of the present invention to provide a machine which will simultaneously cut up old carpets and fabrics of all kinds into longitudinal strips and slash the edges thereof regularly and uniformly.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a machine, showing the principle of the present invention. Fig. 2 is a front elevation thereof. Fig. 3 is a sectional view on the line 3 3 of Fig. 2 on an enlarged scale. Fig. 4 is a sectional view on the line 4 4 of Fig. 3, and Fig. 5 is a sectional view of one of the knives employed.

Upon a frame 10 two shafts 11 and 12 are journaled. Power is applied to these shafts in any way—as, for example, by means of a pulley 13, mounted upon one of them—and they are geared together in such a manner as to impart the necessary rotation from one to the other. The gearing shown for this purpose comprises a clutch 13^a, a worm 14 on the shaft 11, a worm-wheel 15 upon a third shaft 16, a bevel-gear 17 upon the same shaft, and a bevel-gear 18 upon the shaft 12. On the shaft 11 are mounted a series of circular slitting-knives 19, and on the shaft 12 a series of feeding devices, preferably in the form of disks 20, having saw-teeth upon their peripheries. These disks are located between the several circular knives, and the shaft 12 is preferably geared to the shaft 11 in such a manner that the feeding-saws will advance

the carpet one inch to three revolutions of the circular knives.

Each circular knife is provided with a series of perforations 21 or other devices by means of which fraying-knives 22 can be secured in adjusted positions. These fraying-knives have blades 23 extending at right angles to the surface of the circular knives, and any desired number of them can be mounted upon the circular knives. They are preferably placed opposite each other on both sides of the knives 19. In the form shown two fraying-cutters are used upon each side of the circular knives, and with the parts geared in the manner mentioned above these knives would produce six slits in every inch of the edge of the strip produced by the circular knives.

In order to provide an abutment for holding the strips while the fraying-knives are cutting through the edges thereof, an adjustable plate 24 is mounted upon a portion 25 of the frame of the machine. This adjustable plate is arc-shaped in form and has an end or projection 26 extending to a point near the path of the cutting edges of the knives 23 and holds the strips in the proper position for fraying. This projection also affords a support for the carpet while it is being slitted by the circular knife, and it has a slot 27 for receiving the edge of said knife. Its adjustment is preferably secured by a screw 28, having a head located in an elongated slot 29 and passing into the portion 25 of the frame.

The frame is provided with cross-bars 30 and 31, having circular slots 32 and 33, respectively, for receiving the edges of the feeding-wheels and the circular cutters. The purpose of adjusting the plate 24 and the knives 22 is to provide for the wear of the circular knives 19. It will be seen that they can both be moved inwardly toward the shaft 11 as the edge of this cutter is worn away by grinding it. In setting up the machine also these adjustments are of advantage. The frame is preferably provided with a guard 34 for preventing the operator from coming into contact with the rapidly-rotating knives.

The operation of the machine will be readily understood. The carpet or other fabric is fed in at the top of the feeding-wheels and is carried by them from a point 35 to a point 36, where it is discharged in the form of frayed strips. As the carpet advances into contact with the rapidly-rotating knives 19

it is longitudinally slitted, and being held by the feeding-wheels the knives 23 cut each side of the strips, so that the material will easily pull out. The feed-wheels holding the central part of each strip, this fraying operation is easily accomplished and a firm center the width of the teeth on the feed-wheels is left to form a body for reweaving. The strips may be cut in any width, but are preferably made about five-eighths of an inch.

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

1. A cutting-machine, comprising a series of rotary cutters each having a blade secured thereto at an angle to its surface, and a series of rotary feeders mounted between the cutters.

2. A carpet-cutting machine, comprising a rotary knife, an adjustable plate mounted in stationary position adjacent to the knife and having a slot for receiving the knife, and an end adapted to support material adjacent to the knife.

3. A carpet-cutting machine, comprising two sets of rotary knives, one adapted to cut longitudinally and the other transversely, a series of feeders mounted between said knives, an adjustable plate mounted in stationary position between the knives and each having a slot for receiving the longitudinal cutting-knife, and an end adapted to support material adjacent to one of said transverse knives.

4. A cutting-machine comprising a series of rotary knives, a curved plate adjustably mounted between each two adjacent knives, said plate having a longitudinal slot, a curved support for said plate, and means passing through said slot for securing the support to the plate..

5. A carpet-cutting machine, comprising a frame, two rotary shafts journaled thereon, means for transmitting the motion of rotation from one shaft to the other at a different rate of speed, a series of circular cutting-knives upon one of said shafts, and a series of circular feeding devices upon the other.

6. A carpet-cutting machine, comprising a frame, two rotary shafts journaled thereon, means for transmitting rotation from one shaft to the other at a different rate of speed, a series of circular knives upon one of said shafts, a series of circular feeding devices upon the other shaft, a series of cross-bars upon the frame mounted between said knives and each of said cross-bars having a circular depression for receiving the edges of the knives and feeding devices.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

RAPHAEL E. DUBE.
WILFRID A. DUBE.

Witnesses:

P. F. RUGE,
N. S. HEAD.