Jan. 25, 1927.

W. SIEBENMORGEN

1,615,524

TWISTING MACHINE

Filed March 31, 1926

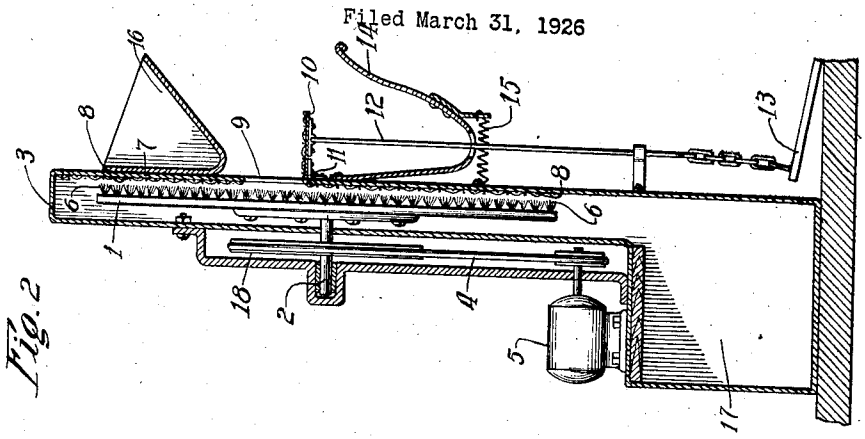


Fig. 2



Fig. 3



Fig. 4

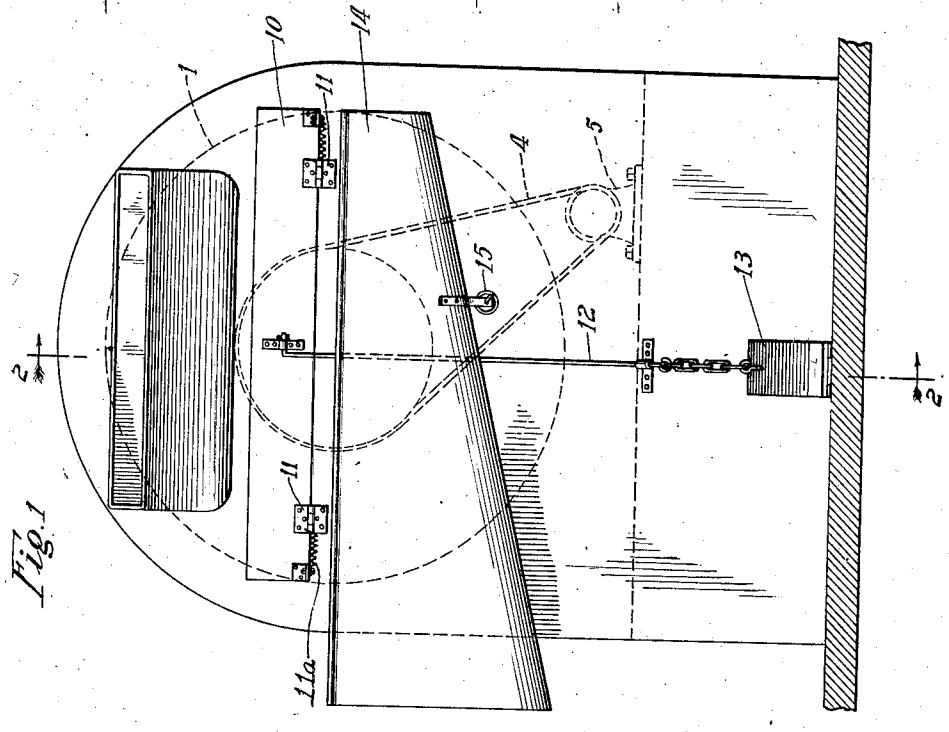


Fig. 1

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UNITED STATES PATENT OFFICE.

WILLIAM SIEBENMORGEN, OF TERRE HAUTE, INDIANA.

TWISTING MACHINE.

Application filed March 31, 1926. Serial No. 98,749.

My invention relates to rag-rug making machines and particularly to machines for twisting the strips of carpet from which the rugs are woven.

The main objects of my improvement are to provide an improved machine in which cut carpet strips can be given a uniform twist from end to end; to provide simple means for inserting the cut carpet strips; to provide improved means for ejecting the twisted carpet strip automatically when the twisting operation is completed; and to provide an improved form of housing whereby the dust and lint are caught and stored in a convenient receptacle.

These objects are accomplished by the device illustrated in the accompanying drawing, in which:

Figure 1 is a front elevation of a strip twisting machine embodying the novel features of this invention.

Fig. 2 is a sectional vew of the lines 2—2 of Fig. 1.

Fig. 3 illustrates a portion of the carpet strip as it comes from the cutter and frayer.

Fig. 4 illustrates the carpet strip as it comes from the twisting machine ready for the looms.

In the form shown, a vertically disposed disc 1 is secured to the shaft 2 which is mounted in the case 3 and which forms a housing for the machine. The shaft 2 is driven through a pulley 18 and belt 4 by a motor 5. One face of the disc 1 is covered with flexible bristles 6. Opposite the bristle face is a stationary face plate or wall 7 which is provided with a friction coating 8, such as expanded metal or the like. Extending horizontally across the face plate 7 is an opening 9 which can be closed by a door 10, the face of the door also being covered with a rigid friction coating. The door 10 is mounted on hinges 11 provided with springs 11^a which normally hold the door in a closed position. A link 12 connects the door with a treadle 13 which, when operated, opens the door. Mounted on the face of the machine is a hopper 14 which is normally held under a tension by a spring 15. Attached to the outside of the face plate 7, is a magazine 16. The lower part of the frame 3 forms a receptacle 17.

In operation, strips of cut carpet as they come from the cutter and frayer are placed in the magazine 16. From the magazine the strips are placed one at a time on the door 10 when it is in open position. The operator then releases the treadle 13, the door is closed by the spring hinge and the strip of carpet is placed in contact with the revolving bristle brush face. The center of the strip is placed near the center of the revolving disk and the two ends of the carpet strip are twisted in the opposite direction.

The action of the friction plate 7, with its corrugated face 8 coacting with the revolving brushes, twists the strip and the tendency to revolve at the speed of the brushes is retarded by the stationary plate, so that the actual travel of the strip is much slower than the revolving disk when the twisted carpet strip arrives in the plane of the door or opening 9.

When the door 10 is opened, the resilience of the twisted strip causes it to be thrown away from the revolving brush past the door 10, so that it will be caught in the hopper 14. The bottom of the hopper 14 is placed at an angle and the vibration of the machine will be sufficient to feed the material by gravity through the hopper.

The operation of this machine produces a soft cord-like strip of carpet uniformly twisted from end to end, without loss due to the holding of the ends required in prior twisting machines. The action of the brush and opposed friction surface is to thorougly beat the cut carpet strip and thereby remove the dirt and lint which falls by gravity and is collected in the receptacle 17 at the bottom of the housing 3.

Although but one specific embodiment of this invention has been herein shown and described, it will be understood the numerous details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:

1. In a twisting machine, a rotatable disc, a stationary wall, spaced parallel to said disc, there being an aperture in said stationary wall for inserting material between said disc and said stationary wall.

2. In a twisting machine, a rotatable disc, a flexible bristled brush covering one side of said rotatable disc, a stationary plate provided with rigid friction surfaces and spaced parallel to said rotatable disc, an opening across said stationary plate, a manually operated door for said opening,

said door being adapted to insert strip material between the brush face of said disc and said stationary plate whereby the ends of said strip are twisted in opposite directions.

3. In a twisting machine, a rotatable disc, bristled brushes mounted on said rotatable disc, a stationary plate provided with a friction surface spaced parallel to said disc, an aperture in said stationary plate, means for inserting strip material to coact with said disc and said stationary plate whereby the ends of said strip are twisted in opposite directions.

4. In a twisting machine, relative motion between two friction surfaces a center of said relative motion with opposite directions on the two sides, operative means for placing carpet strips to coact with said friction surfaces whereby the ends of said strips are twisted in opposite directions, and an opening across one of said surfaces through which the twisted strip is thrown into a container.

5. In a carpet twisting machine, a revolving disc, a bristle brush face on said revolving disc, a stationary friction face plate spaced away from said brush face, an opening in said face plate, means to feed carpet strips through said opening to contact with said revolving brush and to coact with the friction face plate, said opening being adapted to eject the finished twisted product and a housing for said revolving disc and face plate, said housing providing an arbor for the shaft of said revolving disc, and a receptacle for dust and lint.

6. In a twisting machine, relative motion between two friction coated surfaces, said relative motion being in one direction on one side of the center, and in the opposite direction on the other side, operative means for centering cut carpet lengths between said friction surfaces whereby the ends of said strip are twisted in opposite directions, and an opening across one of said friction-coated surfaces permitting the release of the twisted strip.

Signed at Terre Haute this 27th day of March, 1926.

WILLIAM SIEBENMORGEN.