July 25, 1944. M. SCHIMMEL 2,354,294

TAPE CUTTING MACHINE

Filed March 30, 1943

Fig. 1.

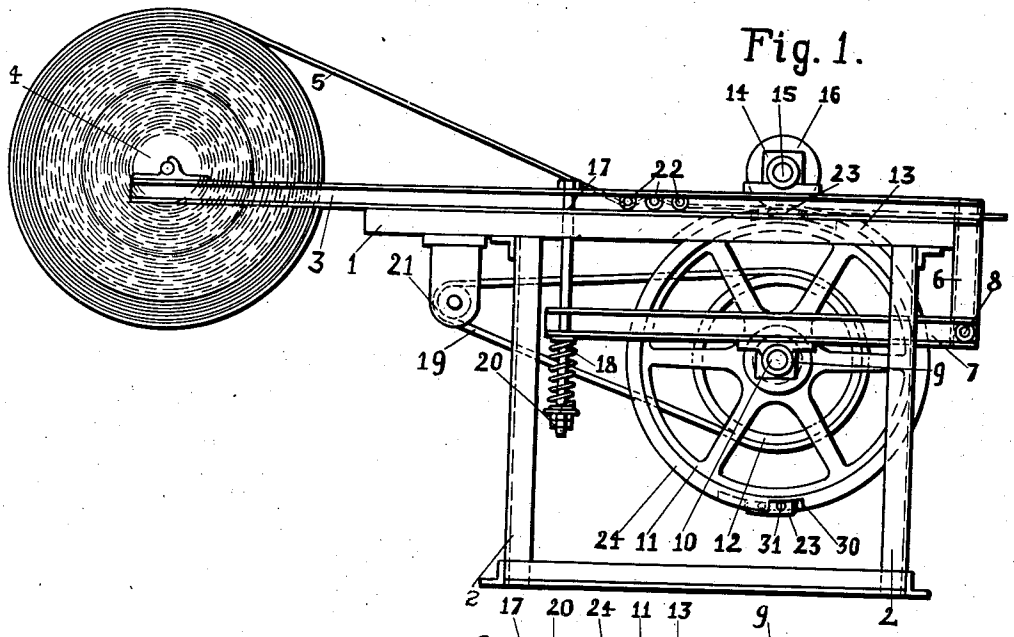
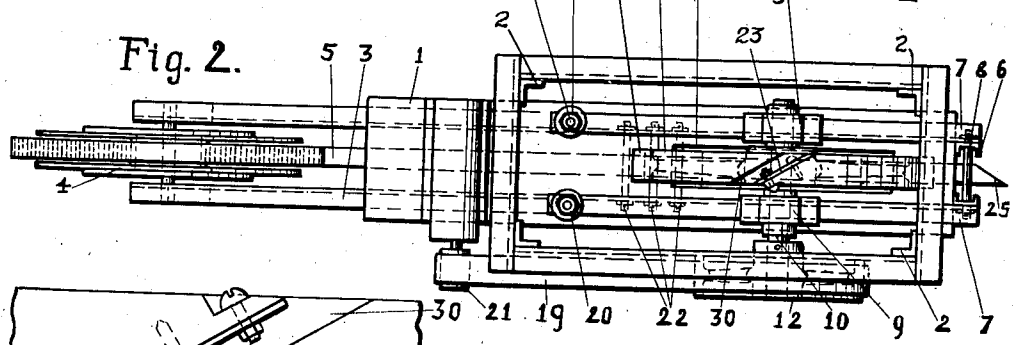


Fig. 2.



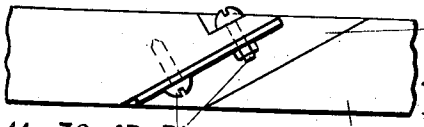


Fig. 3.

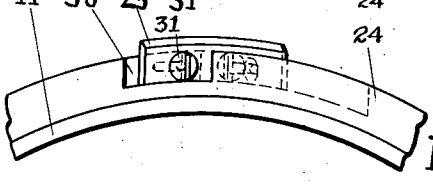


Fig. 4.

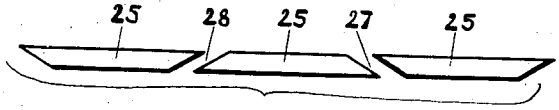


Fig. 5.

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TAPE CUTTING MACHINE

Moe Schimmel, New York, N. Y.

Application March 30, 1943, Serial No. 481,086

1 Claim. (Cl. 164—68)

This invention relates to mechanisms for cutting off pieces of equal length from a long tape which may be wound on a spool.

The primary object of this invention is to provide a cutting machine for the above mentioned purpose having a plurality of cutting blades which are arranged at such angles that the pieces cut off by this device will have trapezoid form.

A further object of this invention is to provide a cutting machine of the above mentioned character which affords facilities for changing the angles at which the tape is cut and for changing the length of the tape pieces which are cut off, by substituting one part of the machine by another, similar part.

Other objects and advantages of the invention will become apparent during the course of the following description, taken with the drawing, wherein,

Figure 1 is a side elevation of the entire machine;

Figure 2 is a bottom plan view of the entire machine;

Figure 3 is a top plan view of a detail of the machine partially broken away;

Figure 4 is a side elevation of the detail shown in Fig. 3; and

Figure 5 is a plan view of several tape pieces cut off by the machine.

Similar numerals refer to similar parts throughout the several views.

The table or plate 1, its legs or standards 2, and the rails 3, which carry a reel or spool 4 upon which the tape 5 is wound, constitute the framework of the machine. The rails 3, which are attached to the top of the table 1, carry a hanger 6 preferably consisting of two rails as shown in Figs. 1 and 2. Rails 7, which are parallel to the rails 3, are pivotally secured to the hanger 6 at 8. The rails 7 carry bearings 9 in which turns the shaft 10, to which the wheels 11 and 12 are secured. Bearings 14, in which turns a shaft 15 carrying a roller 16, are secured to the top of the rails 3 in such a manner that the roller 16 is adjacent to the face of the wheel 11. The rails 7 are biased upwardly by any suitable means, preferably by bolts 17 which extend through the rails 3 and 7 and which are provided with springs 18 between the rails 7 and the nuts 20 at the lower end of the bolts 17, so that an adequate pressure of the wheel 11—which extends partially through a slot 13 in the table 1—against the roller 16 will always be assured. The wheel 11 and the shaft 10 may be driven by a belt 19 passing round the wheel 12 and the pulley 21, which may be turned by an electro-motor or by any other source of power.

The tape 5 is guided toward the wheel 11 and the roller 16, preferably by rolling pins 22 or in any other suitable manner, and is led between the roller 16 and the wheel 11 so that it will be taken along and will be wound off the spool or reel 4 when the wheel 11 revolves in a clockwise direction.

A plurality of knives or cutting blades 23, two in the present instance, are mounted on the face of the wheel 11 in such a manner that the tape 5 will be cut to trapezoid pieces 25, as indicated in Fig. 5, when the tape 5 passes between the revolving wheel 11 and the roller 16.

I prefer to carry out this feature of my invention in the manner shown in the drawing, where it will be seen that the wheel 11 is provided with a rim 24, preferably consisting of a tough material having a rough surface such as wood, hard rubber, or the like; that the cutting blades or knives 23 are secured to the rim 24 at equal distances from each other; that the cutting blades or knives 23 protrude slightly over the face of the rim 24; and that they are angularly disposed to the axis of the wheel 11. The angle at which one cutting blade 23 is disposed to the axis of the wheel 11 differs from the angle at which the next following cutting blade is disposed to the axis of wheel 11 so that if, for instance the first cutting blade carries out a cut 27 (Fig. 5), that then the next following cutting blade carries out a cut 28, so that the cut pieces 25 will be of a trapezoid form.

The cutting blades 23 can be secured to the rim 24 in any suitable manner, for instance they can be imbedded in angular slots and can be held by screws or by any other means. In order to facilitate the interchanging of cutting blades—for instance for the purpose of replacing worn out blades or for changing the length of pieces which are to be cut off—I prefer to provide the rim 24 with angularly disposed open recesses 30 and to secure a cutting blade 23 to one of the upright walls of each recess 30 by means of screws 31.

In order to change the angle at which the tape is being cut, I remove the rim and replace it by another rim which is provided with differently inclined recesses 30; or, if the cutting angle is to be changed only slightly, I insert a wedge (not shown) between each blade and the adjacent upright wall of the recess 30.

If the rim 24 has four, six, eight, or more re-

cesses 30, the length of the pieces which are to be cut off can be changed simply by attaching cutting blades to more or to fewer recesses 30. For instance, if the rim 24 has eight recesses 30, the length of the cut pieces will be one eighth of the outer circumference of the rim 24 if each recess is provided with a cutting blade 23; or, the length of the cut pieces 25 will be one fourth of the outer circumference of the rim 24 if only each second recess 30 is provided with a cutting blade, and so on.

It is to be understood that various shapes of cutting blades may be employed in this device and that the form of the invention herewith shown and described is to be taken as a preferred example or embodiment of the same.

What I claim as my invention and desire to secure by Letters Patent in the United States is:

In a tape cutting machine, the combination of a wheel having a series of premade demountable rims each of which is provided with a plurality of recesses at different angles from each other, with a plurality of cutting blades each of which is held in a recess of a demountable rim, and a resilient opposing roller adapted to press a material on said cutting blades, said recesses of each demountable rim being at varying angles from each other, all substantially as set forth.

MOE SCHIMMEL.