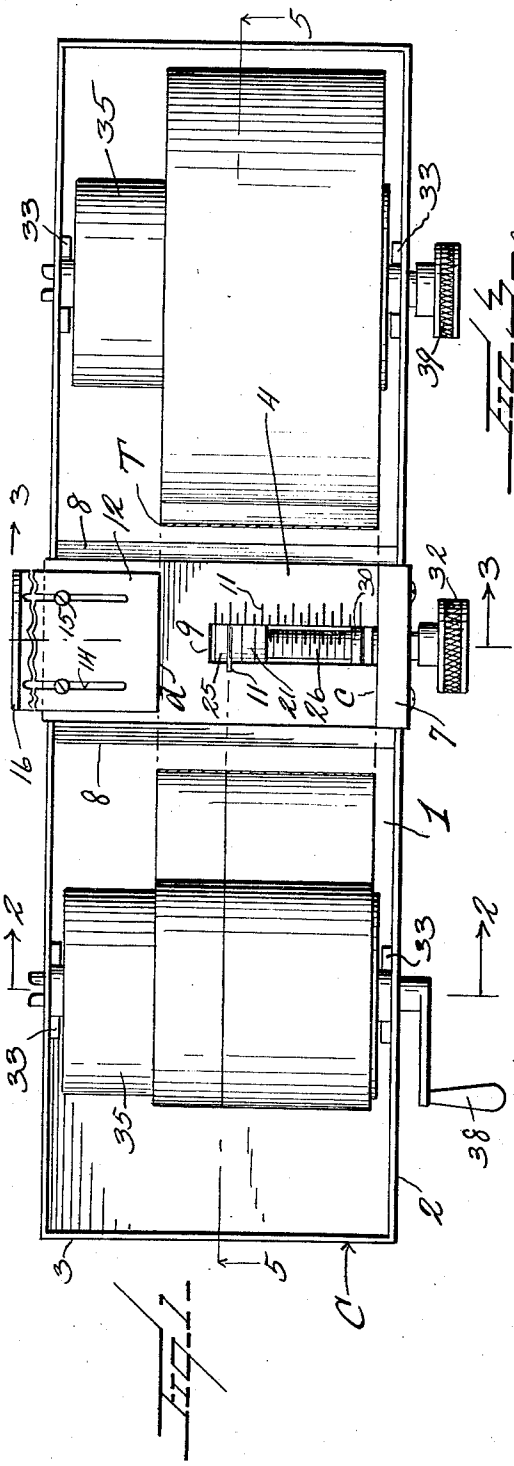
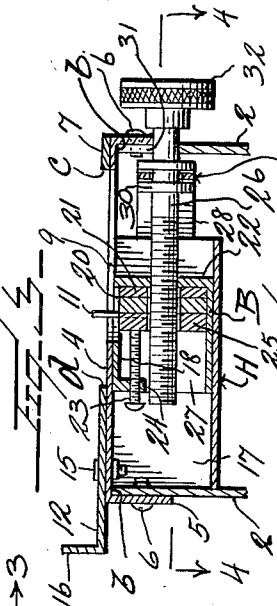
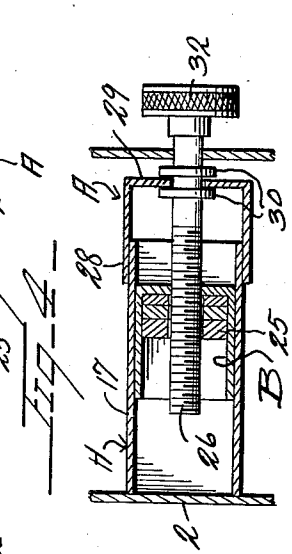
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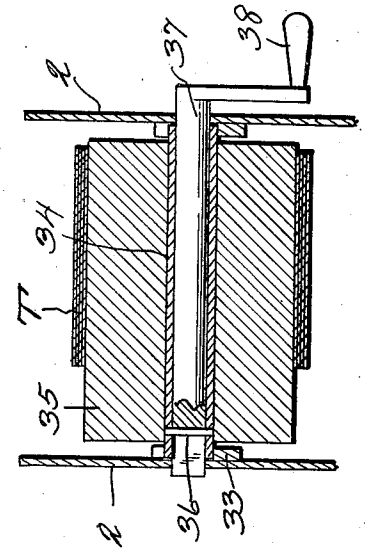
TAPE CUTTING MACHINE

Filed April 13, 1939 2 Sheets-Sheet 1









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B. C. Walter

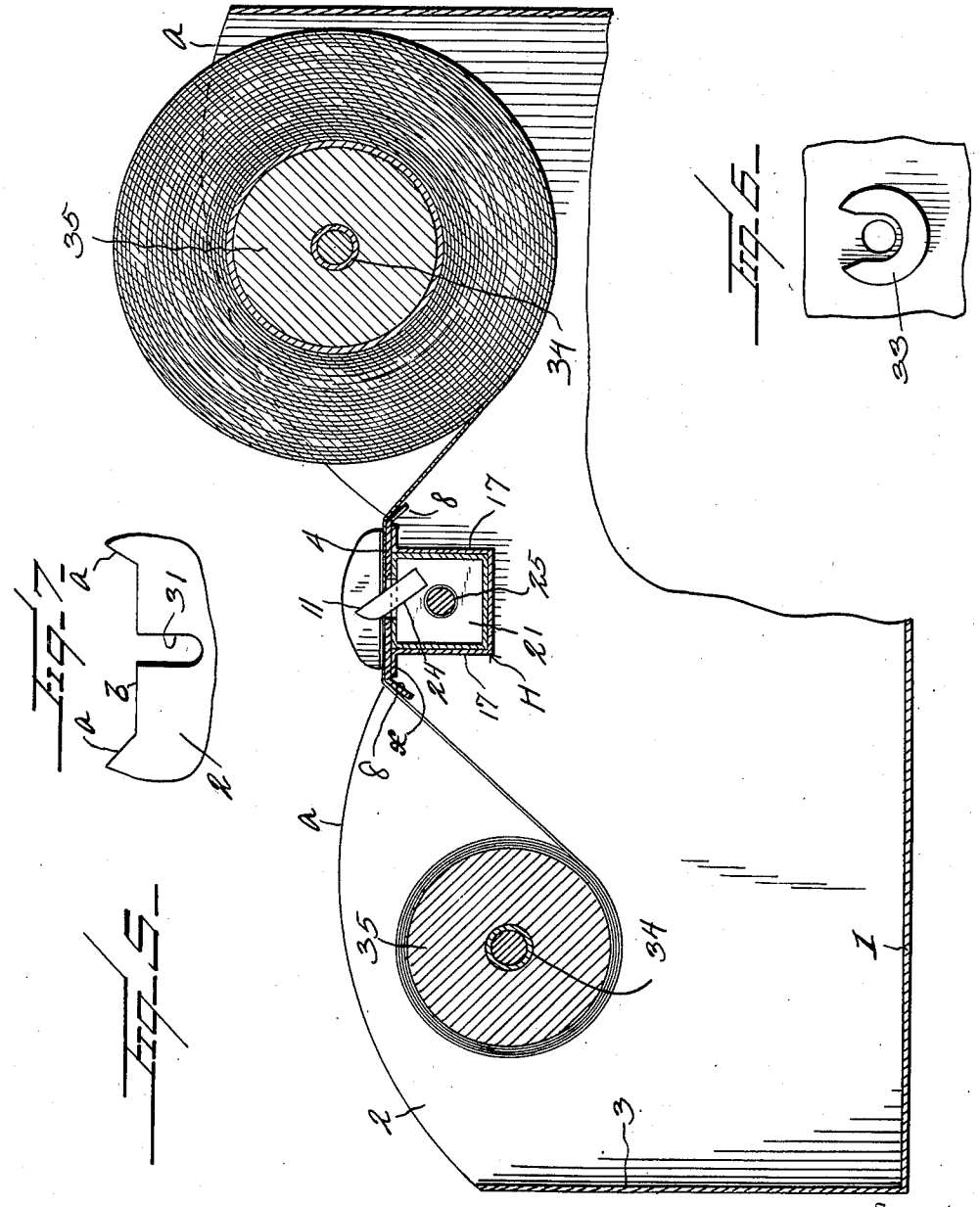
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TAPE CUTTING MACHINE

Filed April 13, 1939 2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,224,070

TAPE CUTTING MACHINE

Benjamin C. Walter, Blairsville, Pa.

Application April 13, 1939, Serial No. 267,728

3 Claims. (Cl. 164—38)

This invention relates to a tape cutting machine, and a particular object of the invention is to provide a machine of this kind especially designed and adapted for use in cutting adhesive tape to a desired width as may be required in making what is commonly known as "masking tape" used largely in the automotive painting industry.

In the painting of automobiles it is now a general custom to use adhesive tape to mask off surfaces such as chromium plated parts, etc. which are not intended to be painted. Owing to the vast difference in the trim of automobiles it is not now possible to purchase tape to exactly meet the various requirements. It is an object of the present invention to provide means whereby a standard width of tape may be readily cut to produce a tape of a width to properly meet a particular requirement.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved tape cutting machine whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a view in top plan of a tape cutting machine constructed in accordance with an embodiment of my invention;

Figure 2 is a transverse sectional view taken substantially on the line 2—2 of Figure 1;

Figure 3 is a detailed sectional view taken substantially on the line 3—3 of Figure 1;

Figure 4 is a sectional view taken substantially on the line 4—4 of Figure 3;

Figure 5 is a sectional view taken substantially on the line 5—5 of Figure 1;

Figure 6 is a fragmentary elevational view illustrating one of the supporting bearings as herein embodied;

Figure 7 is a fragmentary elevational view of the upper central portion of one of the side walls of the case or body member.

It is preferred wherever possible that the different parts of my improved machine be formed from sheet metal but, of course, I do not wish to be understood as limiting myself in this respect.

As disclosed in the accompanying drawings, C denotes a case or body member including a bottom plate 1, side plates 2 and the end plates 3. The top of the case or body member C is open.

One end portion of this case or body member C, as illustrated in Figure 5, is higher than the other and the upper marginal edges *a* of the side walls 2 as disclosed in the drawings are disposed on a curvature with the inner or opposed ends of said edges having interposed therebetween the straight edge portions *b*. These straight edges *b* provide supports for a transversely disposed plate 4 resting from above upon the edges *b* and having end flanges 5 overlying the side faces of the side walls 2 and anchored thereto by the stud bolts 6 or otherwise as may be preferred.

Welded or otherwise securely anchored to one end portion of the plate 4 is a transversely disposed strip 7. This strip 7 is relatively narrow and has its inner edge *c* straight from end to end and disposed parallel to the longitudinal axis of the case or body member C whereby said straight edge *c* constitutes a guiding shoulder for the tape T as will hereinafter be more particularly referred to.

The longitudinal marginal portions of the plate 4 between the side walls 2 are provided with the downwardly and outwardly inclined flanges 8. At substantially its transverse center the plate 4 is provided therealong with a slot 9 leading from the edge or shoulder *c* of the strip 7 to a point beyond the center line between the side plates 2. The upper face of the plate 4 immediately adjacent to and along the side of the slot 9 is provided with the linear graduations whereby may be readily determined the desired spacing of the cutting blade 11 with respect to the edge or shoulder *c* for reasons to be hereinafter pointed out.

Resting upon the end portion of the plate 4 remote from the strip 7 is a guide plate 12. The inner end edge *d* of this plate 12 is parallel to the edge or shoulder *c* and constitutes a second guiding shoulder for coaction with the tape T. This plate 12 is intended to be selectively adjusted in a direction lengthwise of the plate 4 as may be required. This plate 12 is provided therealong with the spaced parallel slots 14 thru which freely pass from above the clamping screws 15 each of which threads through the plate 4. These screws 15 coact with the side edges of the slots 14 to assure the maintenance of the edge or shoulder *d* at all times in parallel relation with the edge or shoulder *c* of the strip 7. These screws 15 further provide means for holding the plate 12 in desired selective adjustment with respect to the strip 7.

The outer marginal portion of the plate 12 is provided with a transversely disposed flange 16 to facilitate the adjusting of the plate 12.

Depending from the plate 4 is an elongated housing H substantially U-shaped in cross section and which has the upper marginal portions of its side members 17 defined by the outstanding flanges X welded or otherwise securely attached to the plate 4. This housing H is disposed lengthwise of the plate 4 and has its side members or walls 17 at opposite sides of the slot 9 and materially spaced therefrom as is clearly illustrated in Figure 5 of the accompanying drawings.

In the present embodiment of my invention, one end of the housing H has close contact with the side wall 2 of the case or body member C remote from the strip 7 with the opposite end of the housing H terminating at a point beyond the longitudinal center of the slot 9.

Snugly and slidably mounted within the housing H is a hollow block B having its top wall 18 provided with a slot 20 for register with the slot 9. Snugly fitting within the box B are the plates 21 of desired thickness and which are tightly held against the outer or front wall 22 of the block B by the shank 23 threading through the rear wall 24 of the block B and having required contact with the outermost plate 21.

One of these plates 21 is provided in a face thereof with a suitably arranged recess in which fits the shank end portion of the cutting blade 11. This recess is so arranged as to assure the cutting edge of the blade 11 being disposed as desired. By using a plurality of plates 21 as may be required an initial selective positioning of the cutting blade 11 may be obtained although it is to be stated that under certain conditions it may be preferred to clamp the plate 21 carrying the blade 11 directly against the outer end wall 22 of the block B.

The central portions of the plates 21 are provided with the openings 25 through which freely passes the elongated adjusting shank 26 which threads through the end wall 22 of the block. The rear wall 24 of the block B only partially closes the rear end of the block and is positioned entirely to one side of the shank 26 so that said end wall 24 will offer no hindrance or obstruction to the desired adjustment of the block B within the housing H. The opening 27 at the rear of the block B is sufficient to allow the application or removal of the plates 21.

Extending outwardly from the forward end of the housing H is a substantially U-shaped bracket A, the side arms 28 of which overlap the forward end portions of the side members or walls 17 of the housing H and welded or otherwise securely fastened thereto. The shank 26 is freely directed through the intermediate or base member 29 of this bracket A and said shank 26 at opposite sides of the member 29 and closely adjacent thereto is provided with the surrounding flanges 30 whereby the shank 26 is held by the bracket A against endwise movement yet is free for rotation in either direction. By proper turning of the shank 26 the block B will be adjusted to a desired selective position within the housing H to bring the cutting blade 11 into proper spaced relation with respect to the shoulder c in accordance with the proper width of tape to be cut. The shank 26 is of a length to have its outer end portion extend at all times exteriorly of the case or body member C and for which reason the side wall 2 of the case or body member C adjacent to said outer end of the shank 26 is provided with an open recess 31 to receive an outer portion of the shank 26. The outer end portion of the shank 26 carries a knurled head 32 or the like to facilitate the desired rotation of the shank 26.

The side walls 2 of the case or body member C fore and aft of the plate 4 are provided with the bearing members 33 which may be welded or otherwise fixedly held in desired position upon the inner or opposed faces of the side walls 2. Each of these bearing members 33, as herein disclosed, is substantially in the form of a horseshoe with its open portion upwardly directed so that the extremities of a sleeve 34 of a tape roller may be readily dropped within a pair of transversely aligned bearing members 33 and be rotatably supported thereby. The sleeve 34 is disposed axially through the cylindrical core or roller 35 upon which a standard width of tape T is initially placed or upon which is wound the tape T after being cut. The members or cores 35 are each of such radius and the bearing members 33 are so positioned upon the opposed faces of the side walls 2 to assure the lower portion of the member or core 35 being positioned below the plate 4.

Each of the sleeves 34 has its bore intersected by a transversely disposed pin 36 carried by the sleeve and when a sleeve 34 is operatively engaged with a pair of bearing members 33 each end of the sleeve 34 registers with an opening 37 provided in a side wall 2. This opening 37 permits the ready insertion of a shaft through an opening 37 into the sleeve 34. The inserting end of the shaft, as herein disclosed, is bifurcated to provide a kerf to receive the pin 36 whereby the sleeve 34 and the shaft are keyed for unitary rotation. As herein disclosed, one end portion of the shaft carries a crank 38 to provide means for rotating the shaft and the member or core 35 mounted thereon. It is to be understood, however, that other means, such as a knurled head 39, may be employed in lieu of a crank 38.

In practice, a standard spool of tape is operatively engaged with the bearing members 33 in advance of the plate 4 and the plate 12 is adjusted to space the guiding edge d of the plate 12 from the guiding edge c of the strip 7 in accordance with the initial width of the tape T so that as the tape T is drawn over the plate 4 it will move in a fixed path of travel. Before the tape T is disposed over the plate 4 the cutting blade 11 is adjusted into desired selective position. The tape T after being disposed over the plate 4 is engaged with a cylindrical member or spool 35 rotatably engaged with the bearing members 33 aft of the plate 4. As this second member or spool 35 is properly rotated the tape T will be drawn across the plate 4 and the cutting blade 11 caused to cut such tape into a desired width. It is to be noted that the bearing members 33 are so positioned as to assure the tape T as it is drawn across the plate 4 having effective contact therewith as well as effective coaction with the cutting blade 11.

From the foregoing description it is thought to be obvious that a tape cutting machine constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from

the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:

1. A tape cutting machine comprising a suitably supported plate provided with a slot, means for drawing tape across the plate in a direction at right angles to the slot, a housing depending from the plate, a hollow block slidably engaged within the housing, a wall of said block having a slot registering with the slot in the plate, plates removably insertible within the block, a cutting blade extending out through the registering slots of the block and plate, means for clamping the end portion of the blade between adjacent plates within the block, and means for moving the block in either direction within the housing to bring the blade to a selected position along the slot of the plate.

2. A tape cutting machine comprising a suitably supported plate provided with a slot, means for drawing tape across the plate in a direction at right angles to the slot, a housing depending from the plate, a hollow block slidably engaged within the housing, a wall of said block having a slot registering with the slot in the plate, plates removably insertible within the block, a cutting blade extending out through the registering slots of the block and plate, a member threading through a wall of the hollow block for contact with an end plate for forcing all of the plates toward a second wall of the hollow block to provide means for clamping the end portion of the blade between adjacent plates within the block, and means for moving the block in either direction within the housing to bring the blade to a selective position along the slot of the plate.

3. A tape cutting machine comprising a suitably supported plate provided with a slot, means for drawing tape across the plate in a direction at right angles to the slot, a hollow block, means for slidably supporting the hollow block by and below the plate, a wall of said block having a slot registering with the slot in the plate, plates removably insertible within the block, a cutting blade extending out through the registering slots of the block and plate, a member adjustable through a wall of the hollow block for contact with an end plate for forcing all of the plates toward a second wall of the hollow block to provide means for clamping the end portion of the blade between adjacent plates within the block, and means for moving the block to selective positions along the slot of the plate.

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