Nov. 27, 1951 T. H. KRUEGER 2,576,404

ADHESIVE TAPE DISPENSER

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Fig. 1.

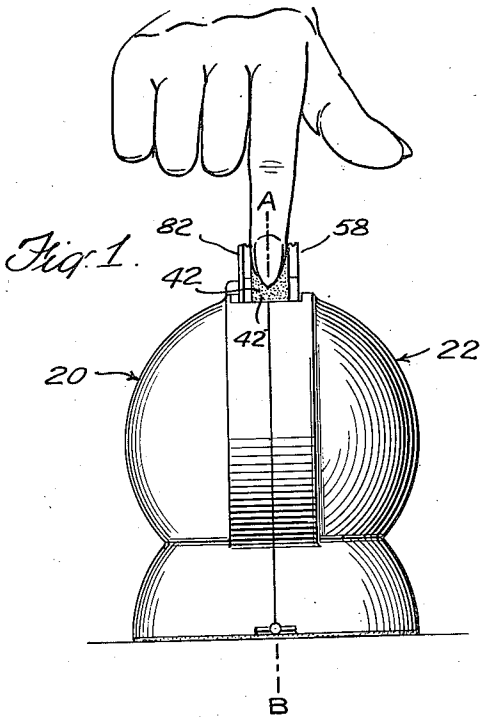


Fig. 3.

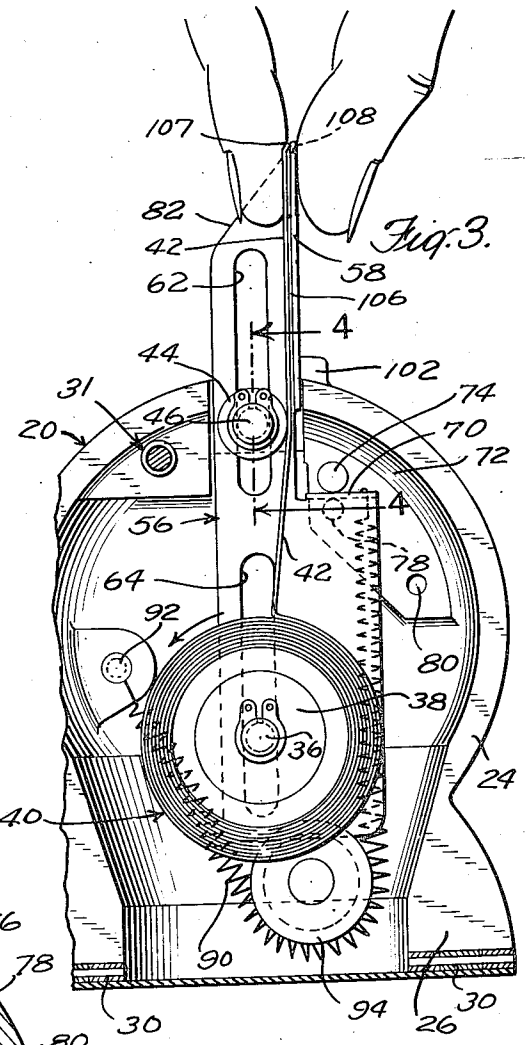


Fig. 2.

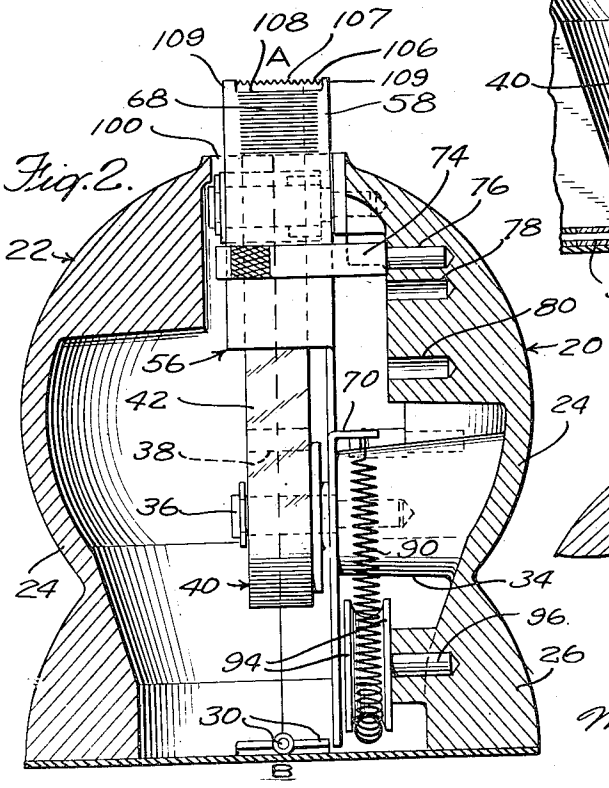
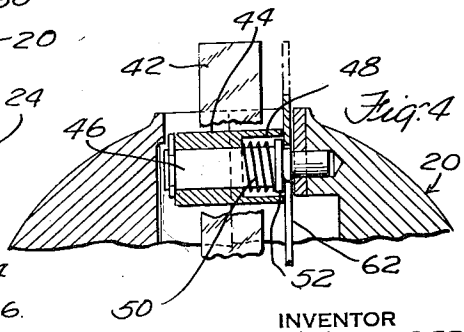


Fig. 4.



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Fig. 5.

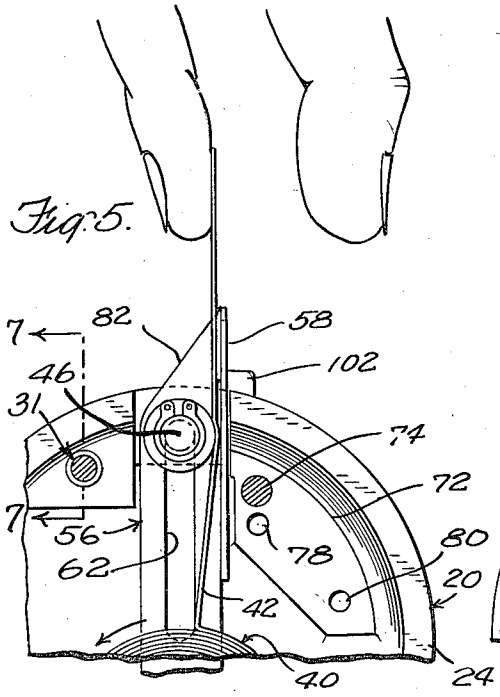
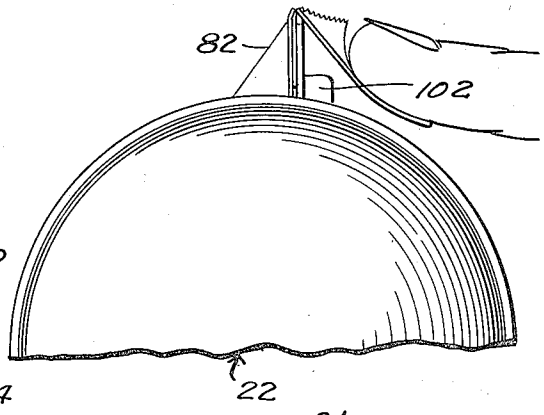


Fig. 6.



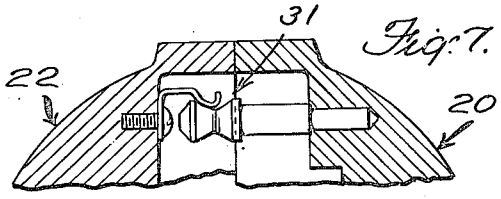


Fig. 7.

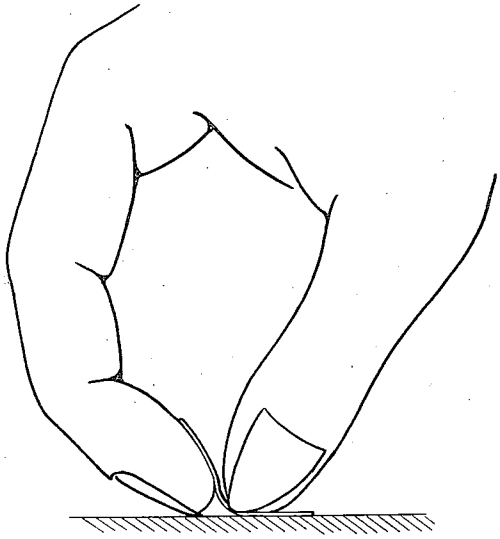


Fig. 8.

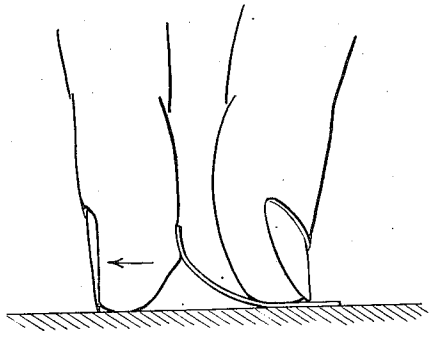


Fig. 9.

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ADHESIVE TAPE DISPENSER

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Fig. 10.

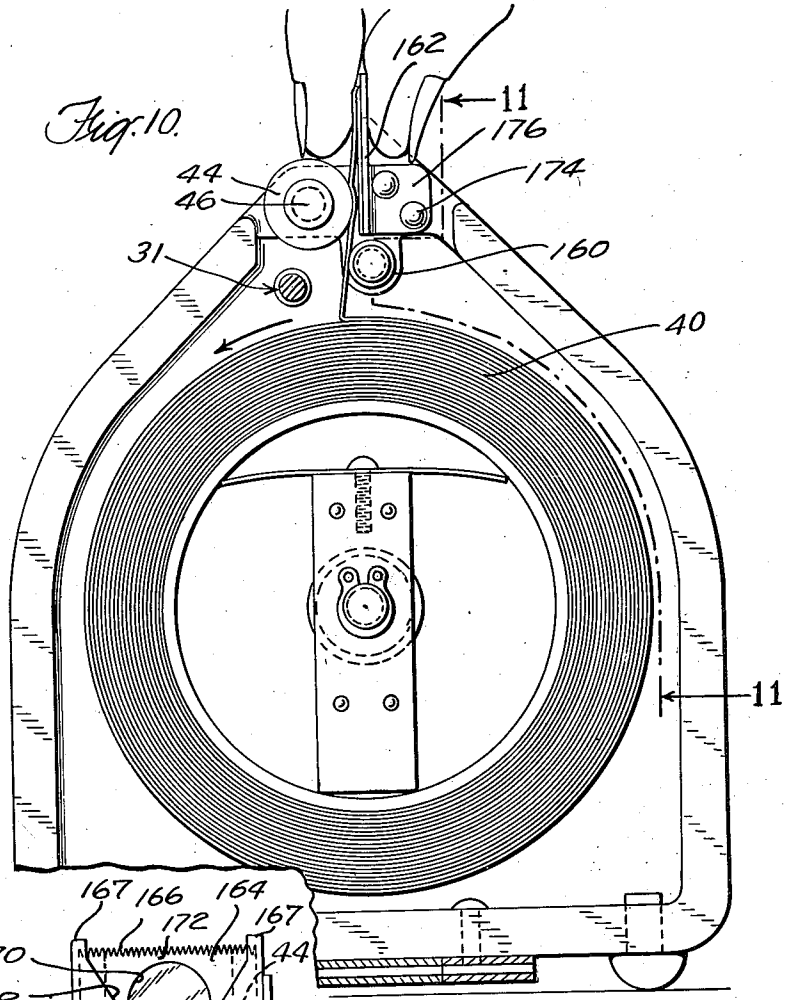
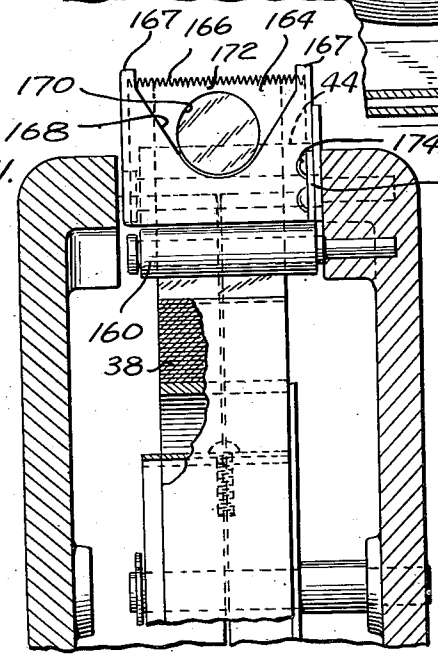


Fig. 11.



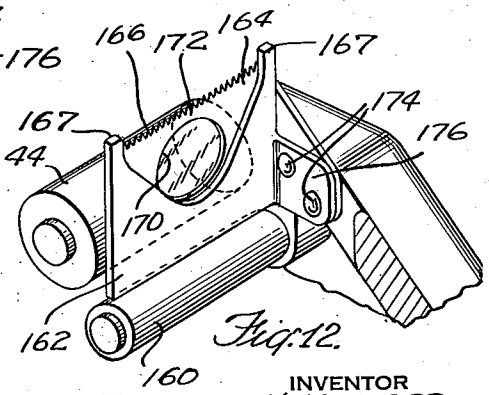


Fig. 12.

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UNITED STATES PATENT OFFICE

2,576,404

ADHESIVE TAPE DISPENSER

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Application August 21, 1945, Serial No. 611,877

22 Claims. (Cl. 242—55.5)

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This invention relates to dispensers for adhesive tape and particularly to dispensers for normally tacky or pressure sensitive adhesive tape which will adhere to whatever it is applied to without preliminary moistening, heating or other treatment. Tape of this character is commonly supplied in rolls, and a characteristic of such rolls of tape is that each layer adheres to the layer beneath it so that a considerable force is required to unwind the tape from the roll. Even with narrow cellophane tape a pull of several pounds is required to detach the tape from the roll. This characteristic of the tape is necessarily an important consideration in the designing of a tape dispenser.

Pressure sensitive adhesive tape is extensively used for sealing parcels or packages, both on store counters and in shipping rooms, and is also used for various industrial purposes in the manufacture of electrical apparatus and other devices. In many cases the amount of space available in which to place a tape dispenser is very limited, and it is important to have a dispenser which will take up the least amount of room. It is also important that the dispenser be of such nature that no unnecessary space need be provided for movement of the hands in dispensing the tape. It is also highly desirable that the dispenser be of such nature that the tape can be withdrawn with the use of only one hand, as this permits the operator to use his other hand for holding the object to which the tape is to be applied, and this facilitates and speeds up the entire operation. In many cases also it is desirable to provide a dispenser which may be merely placed on the counter, table or bench, where it is to be used, and which need not be fastened down in a fixed position. This is particularly true in the case of dispensers for use on store show cases, for instance, which may be made of glass and do not permit of the dispenser being readily attached thereto. Furthermore if the dispenser is not attached in one place it may be moved around as convenience dictates.

It is an object of the present invention to provide a dispenser for adhesive tape which will occupy the least possible space on the counter or support on which it is placed, and which does not require additional space except directly above it, to permit access to the same by the hand of the operator for the withdrawal of tape therefrom.

It is a further object of the invention to provide a dispenser from which tape may be withdrawn in pieces of any desired length, including

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specifically very short pieces, by the use of one hand only.

It is a further object of the invention to provide a dispenser which does not have to be attached to the surface on which it is to be placed, but which will resist by gravity only the pull necessary to withdraw the tape.

It is a further object of the invention to provide a dispenser which is formed in such a way that the operator may grasp the end of the tape to be dispensed with the least possible difficulty, the relation of the end of the tape and of the surrounding surfaces of the dispenser being such that his fingers are guided or directed into the proper position without effort on his part, and in fact in the preferred forms of the invention are such that the operator may grasp the tape without even looking at the dispenser.

It is a further object of the invention to provide a dispenser in which means for cutting off the piece of tape to be dispensed are so located that the tape can be severed in the most simple and advantageous manner.

It is a further object of preferred forms of the invention to provide means for measuring the length of tape to be dispensed so as to insure the dispensing of pieces of the proper length without wastage.

It is a further object of the invention to provide means for presenting the tape to the operator in such manner that he naturally withdraws the same adhered to his finger and extending therefrom in a lengthwise direction, so as to facilitate the application in the most advantageous manner of the same to the article to which it is to be applied.

A further object of the invention is to provide a dispenser for tacky tape in which the roll of tape is completely encased in and protected by the housing of the dispenser, so that the roll of tape cannot be struck by the hand of the operator or any object which might damage the roll by denting it or causing the outer layers of tape to adhere so closely to the under layers that the tape will not properly unwind and pull from the roll. Failure to protect the roll has been a cause of serious difficulty in many prior dispensers.

Other objects and advantages of the invention will appear in the course of the following description.

The above objects are secured in preferred embodiments of the invention by providing a dispenser in which the end of the tape to be dispensed is held in upwardly projecting position

so that it may be grasped from above and withdrawn by an upward pull. Preferably the tape should be pulled in a vertical or nearly vertical direction. If the tape is dispensed by being pulled upwardly a space does not need to be provided in front of or at the side of the dispenser as would be required if the hand in withdrawing the tape had to be moved in a lateral direction. Furthermore upward pull of the tape does not apply a force to the dispenser tending to slide it laterally over the surface upon which the dispenser rests. The upward pull may be resisted solely by the weight of the dispenser which if made heavy enough will resist the force necessary to unwind the tape from the roll. Preferably the distribution of weight in the dispenser should be such that the line of upward pull in withdrawing the tape passes through or near the center of gravity of the dispenser. In this case the whole weight of the dispenser is effective in resisting the upward pull. Furthermore even if a quick upward pull on the tape should momentarily lift the dispenser it would tend to fall back to the same position which it occupied before being lifted. This would obviously not be the case if the tape were pulled laterally because then the dispenser would be moved from position. With an upward pull in line with the center of gravity, a moderate weight is sufficient to resist the tension necessary to unwind the tape from the roll. I have found that when using an ordinary half inch cellophane adhesive tape for example, if the weight of the dispenser is some five or six pounds it will function satisfactorily without being secured to the counter. Obviously if a wider tape requiring more force to withdraw it were used, the machine would have to be made heavier.

In all instances the line of pull need not pass through or near the center of gravity of the dispenser, but in such cases the moment of resistance due to the weight of the dispenser should be sufficient to resist the upward pull of the tape.

A dispenser presenting the tape projecting upwardly so as to be withdrawn by an upward pull is particularly advantageous for use on store counters and the like, where the operator is usually standing. It is very easy for a standing operator to grasp the end of the tape and draw it upward. For many persons the upward pull is also the easiest and most natural movement for the hand and arm.

A preferred form of the improved dispenser meeting the foregoing requirements comprises a small and compact but relatively heavy body having a chamber therein for receiving and holding a roll of tape, and having a tape dispenser opening at the top thereof with means for guiding and supporting the end of the tape in an upwardly projecting position, the end of the tape lying at or near the vertical axis extending through the center of gravity of the dispenser. The lateral dimensions of the dispenser need be no greater than necessary to provide a receptacle for holding a roll of tape of the desired size. Thus the amount of space on the counter or table taken up by the dispenser is a minimum. The weight of the dispenser is made great enough to resist the pull necessary to unwind the character of tape designed to be dispensed therefrom. If the pull is straight upward in the line or approximately the line of the center of gravity, the entire weight of the dispenser is availed of. The roll of tape is preferably completely contained within and protected by the

body of the dispenser, so that it is not subject to injury by being touched or struck by any object which would damage the roll and prevent unwinding of the tape therefrom. Presenting of the end of the tape in an upwardly projecting direction also permits and in effect forces the operator to grasp the same by applying the finger to the end of the tape in such a position that the piece of tape dispensed will project from the end of the finger in line with the finger. This permits the tape to be applied to the surface to which it is to be attached by merely crooking the finger and pressing the thumb on the back of the free end of the tape so that it may be readily applied and at the same time the finger may be withdrawn from adhesive engagement with the face of the tape. This permits the use and ready application of very short pieces of tape, which is often desirable. The dispenser is preferably provided with a cut off blade projecting upwardly alongside the upwardly projecting end of the tape, and owing to the manner of withdrawal of the tape while attached to the end of the finger as described, the tape may be drawn sharply down across the cut off blade in such a way as to be severed in the most effective manner. The cutting off over such a vertically projecting blade results in a sharp, quick cut and does not permit the tape to be pulled out during cutting. There is thus no overfeeding or cutting of the tape on a diagonal line, as often occurs with cut off blades otherwise located. Desirably the dispenser may include a measuring slide, the upper end of which constitutes the cut-off blade and which is drawn upward with the tape for a limited distance, thereby determining the length of the piece of tape dispensed.

While all of the above features are included in the preferred embodiments of the invention, in some instances one or more of such features may be dispensed with, or embodied in dispensers of different constructions.

The dispenser of this invention overcomes numerous disadvantages of tacky tape dispensers of the type at present most widely in use in which the roll of tape is mounted in a trough with the upper part of the roll exposed, and in which the tape is unwound by lateral pull which tends to slide the dispenser along the counter or support on which it rests. Such dispensers usually necessitate the use of both hands, one to hold the dispenser and the other to pull out the tape. Furthermore the pulling of the tape in a lateral direction requires space in front of the dispenser for movement of the operator's hand, so that considerable room must be provided in order to use the dispenser.

Another disadvantage is that in most prior dispensers the cut off blade is mounted in a horizontal plane so that the tape has to be pulled downwardly below the horizontal in order to be torn off. As this is an awkward movement for the operator to make the tendency is to bend the tape over the tear off blade as little as possible. This results in imperfect cutting action and frequently more tape is pulled off than is desired in the attempt to draw the tape over the blade.

Another disadvantage in existing machines which is overcome in the present invention is that in machines in which the tape is withdrawn laterally the end of the tape from which the piece has been dispensed is supported on top of the cut off blade, so that the tape must be grasped by the operator by inserting the finger

under the horizontal part of the tape between the roll and the blade and be grasped between such finger and the thumb, lifted off the blade, and pulled laterally. This method of grasping the tape results in the tape being applied to the finger transversely thereof, which places the tape in an awkward position for application to the article to which it is to be applied. It also prevents the dispensing of very short lengths of tape because if very short lengths are torn off while applied to the finger in this position it is impossible to apply such short lengths to the article and detach the finger therefrom. It will be understood that the position in which the tape adheres to the finger as it is withdrawn from the dispenser is very important when handling tacky or pressure sensitive tape, because the position of the tape with respect to the finger cannot be changed from the time that the tape is grasped in the dispenser until it is applied to the article to which it is to be applied, at which time it is peeled off from the finger.

In the accompanying drawings I have shown certain preferred embodiments of the invention illustrative of the principles thereof but it will be understood the invention may be embodied in other structures.

In these drawings,

Figure 1 is a rear elevation of a dispenser especially adapted for use on store counters, or in similar locations. This figure shows the side of the machine which is normally turned away from the operator although in some cases it may be reversed so that this side is nearest to the operator;

Figure 2 is a transverse vertical section of the machine shown in Fig. 1;

Figure 3 is a side elevation of the machine with one half of the casing removed and showing the inside of the other half of the casing and working parts supported thereby;

Figure 4 is a transverse vertical section of the top part of the machine taken on line 4—4 of Fig. 3;

Figure 5 is a view similar to Fig. 3 showing the top part of the machine and illustrating the position of the measuring and cutting slide after a piece of tape has been pulled out and the slide has been released;

Figure 6 is a side elevation of the top part of the machine showing the operation of tearing off a piece of tape;

Figure 7 is a transverse vertical section of the top part of the machine taken on line 7—7 of Fig. 5 showing the latch construction;

Figure 8 is a diagrammatic view showing the position of the thumb and forefinger when applying the tape to an article;

Figure 9 is a view similar to Fig. 8 showing the tape being applied to the article by the thumb after the end of the tape has been pulled off from the forefinger;

Figure 10 is a longitudinal vertical section of a modified form of the machine;

Figure 11 is a transverse vertical section on line 11—11 of Fig. 10;

Figure 12 is a fragmentary perspective view of the top part of the machine shown in Figs. 10 and 11, parts being broken away.

Referring first to Figs. 1 to 9 inclusive, the machine illustrated is a counter or table model and is so designed that it may be used by being merely placed on the counter or table without being secured thereto. The dispenser shown comprises a massive casing, preferably formed of

two halves 20 and 22, which may be made in the form of castings provided with thick side walls 24 and heavy bases 26. The two castings 20 and 22 are separably secured together in any suitable manner, as for instance by hinges 30 at the bottom and a spring latch connection 31 at the top. Where the two castings are hinged together so as to pivot relatively to one another about a horizontal axis as shown, the two castings tend to stay in closed position by the action of gravity so that the use of a spring latch or separable connection at the top is not required to keep the casing closed when in use. Any other arrangement may be utilized permitting the casing members to be separated so as to permit a new roll of tape to be inserted in the machine when required.

In the construction illustrated all of the working parts of the machine are mounted on the casing member 20, so that they may be exposed to view for assembly, disassembly, cleaning or repair by displacement of the casing member 22. For supporting these working parts the casing member 20 is cast with suitable bosses and projections. For supporting the roll of tape the casing 20 is provided with a boss 34 which carries a stud 36 upon which is rotatably mounted a core 38 which receives a roll 40 of adhesive tape. The strip of tape 42 from the roll is led upwardly and in contact with an adhesion roller 44 which is mounted on a stud 46 carried by the casing member 20. Means are preferably provided for retarding the free rotation of the adhesion roller by producing a frictional braking action thereon. This may be accomplished in any suitable manner as by making a recess 48 in the interior of the roller which receives a spring 50 mounted on the stud 46 and bearing against a collar 52 on the stud. The spring will produce sufficient friction on the adhesion roller to keep the same from becoming accidentally displaced while in engagement with the adhesive surface of the tape. The friction is not sufficient to impose any substantial resistance to the pulling out of the tape but will prevent the roller from accidentally turning backward so as to permit the tape to be drawn or pushed back into the machine. If desired the roller may be provided with a pawl and ratchet mechanism to prevent its backward rotation. The adhesion roller is preferably mounted above and in substantial alignment with the axis of the tape roll so that the path of the tape as it is drawn upward and out of the machine is straight or nearly so.

The position of the adhesion roller is preferably such that the tape is supported in a line more or less closely coinciding with the vertical axis passing through the center of gravity of the dispenser. Such axis is indicated by the vertical line A—B in Figures 1 and 2. Where this condition obtains, the entire weight of the dispenser is available to resist the upward pull, and furthermore if the dispenser is lifted by the upward pull, it will drop back approximately to the position from which it was lifted. If the line of upward pull is at a distance from the axis through the center of gravity, the dispenser should be made heavy enough so that the moment of force resisting the upward pull is sufficient for that purpose.

It will be observed that in the construction shown the roll of tape is completely enclosed within the body of the dispenser, so that it cannot be pressed upon or struck by any object during the use of the dispenser. Even if the dispenser be dropped the tape will not be damaged.

This is important because if a roll of pressure sensitive tape is pressed upon or dented it will sometimes cause the layers of tape to adhere so tightly to one another that the tape cannot be unwound without tearing.

Means are preferably provided for guiding and measuring the tape to be withdrawn. In the construction shown these means comprise a slide in the form of a plate 56 which has a tape supporting flange or plate 58 at right angles thereto. The plate 56 is mounted for movement in the direction in which the tape is to be withdrawn. In the construction shown the plate 56 is mounted for vertical movement and is provided with a pair of slots 62 and 64 which receive and are guided by the studs 46 and 36 respectively. The tape supporting flange 58 is preferably at least as wide as the widest tape which is to be dispensed by the machine and it is placed to travel close to the adhesion roller 44 but spaced therefrom sufficiently to permit the tape to pass between the flange and roller. When the slide is mounted for movement in a vertical direction, as shown, the top part of the plate 56 and of the flange 58 normally project a short distance above the top of the casing, as shown in Figs. 1 and 2. The projection should be just enough to permit the operator to grasp the top of the slide and the tip end of the tape between the thumb and forefinger, so that he may withdraw the tape and slide together as shown in Fig. 3. As the non-adhesive side of the tape faces the flange 58 the adhesive side of the tape is exposed in front of the flange where it will adhere to the operator's forefinger when the latter grasps the top of the tape and slide.

In order to enable the operator to get a better grip on the slide the latter may be provided with knurling or ridges, as indicated at 68 in Fig. 2.

By providing means for limiting the upward movement of the slide it is possible to dispense a measured amount of tape because the tape and slide are drawn up together and only so much tape will be drawn out as is permitted by movement of the slide. As illustrated the plate 56 is provided with a stop flange 70, the corner of which will come up against the surface 72 in the casing, thus limiting the maximum movement of the slide. When it is desired to dispense shorter lengths of tape means may be provided for limiting the slide to a shorter movement. As shown such means take the form of a stop pin 74 which may be placed in a hole 76 or in a hole 78. In cases where it is desired to serve the maximum length the pin can be removed and placed for safekeeping in a hole 80 where it will be out of the way of the flange 70.

The top edge of the plate 56 is preferably sloped as indicated at 82, and merges at its upper end with the top of the flange 58. This upper edge of the slide plate forms a convenient guide for the operator's finger and assists him in locating it properly in engagement with the end of the tape. When the operator releases his grip on the flange 58 the slide will drop back to its lower position by gravity. If desired a spring 90 may be provided to assist the return of the slide. The spring 90 is shown as anchored at one end to a pin 92 in the casing wall and passed under sheave 94 mounted on the pivot 96 set in the casing wall, and the other end of the spring is attached to the stop flange 70. This permits the use of a long spring and gives flexibility and smoothness of action without danger of overstressing the spring.

The slide passes upwardly through a rectangular opening indicated at 100 in the top of the casing. Preferably a pair of bosses 102 are formed on the casing in front of the slide at each forward corner of the opening. These two bosses provide a space between them which assists in guiding the thumb of the operator into engagement with the ribbed surface 68 on the front of the flange 58. The outer surface of the casing between and in front of the bosses 102 is preferably smooth and unobstructed so that the operator's thumb will slide easily into position without encountering any obstacle or roughness.

In the form of dispenser shown in Figs. 1 to 9, the casing is of ball or dome shape so that its upper portion is rounded from all sides towards the tape dispensing slide. This makes it particularly easy for the operator to locate his hand in proper position for grasping the tape as he can slide his fingers along the curved or sloping surfaces and bring them readily to the end of the tape and slide. There is no obstruction either in front or rear of the slide to the free movement of the fingers and it is unnecessary for the operator to reach his fingers down into a recess or opening in order to get hold of the tape and slide.

In operation it is usually desirable to place the dispenser on the counter or table with the side of the flange 58 away from the tape facing the operator. The tape is thus on the side of the flange 58 furthest from the operator with the adhesive surface facing away from the operator. The operator then reaches out his hand for the top of the machine, as shown in Fig. 1, lays his forefinger upon the exposed adhesive surface of the tape, presses his thumb against the ribbed side of the flange 58 and applies sufficient pressure so that he grips both the end of the tape and the flange. He now draws the tape and flange upwardly as far as the setting of the stop means will permit, this being the position shown in Fig. 3. He then draws back his thumb, as shown in Fig. 5, whereupon the slide will immediately drop down into retracted position. At this time, however, the tape is firmly adhered to the operator's forefinger, so that the tape stays in its projected position while the slide returns. This leaves exposed a measured length of tape which is to be dispensed.

For severing the tape the top of the flange carries at its upper end a severing blade 106, the upper edge of which is preferably serrated as indicated at 107. It is desirable to form the top of the slide and severing blade in such a way as to avoid sharp corners on the severing blade which might cut or scratch the fingers of the operator if carelessly applied when grasping the tape and slide. As illustrated the top of the slide is cut out as indicated at 108 so as to leave protective corner tabs 109 at each end of the severing blade extending up as high or slightly higher than the serrated edge of the latter, as shown in Fig. 2. These corner tabs 109 can be made smooth or rounded, if necessary, so as to protect the fingers. The severing is done by the operator drawing downwardly across the blade the tape adhering to his finger, as shown in Fig. 6. Owing to the fact that the blade projects upwardly, it is easy for the operator to draw the tape sharply down and across the blade so as to get a good cutting action. The tape can in effect be folded down over the blade so that the action is almost like that of a paper cutter when used to cut a folded sheet. This cutting action

is much better than is obtained where the blade is horizontal or in such a position that the tendency is to merely pull the tape against the blade at a slight angle to the plane thereof. Under such conditions the tape may be pulled out to some extent at the same time that it is being cut, thereby giving a diagonal cut or tear. With the upwardly projecting blade of the present invention there is little danger of doing this.

Another advantage of an upwardly projecting tear off blade is that the cutting is done with the downward motion of the hand, which is in effect a return motion following the upward movement of the hand in drawing out the tape. The feed carries the hand straight up and the cut carries it back almost straight down, and towards the package or article to which the tape is to be applied. This combination of movements is a particularly natural, easy and efficient one for the operator.

The operator having severed the tape as described now has a short strip of tape adhered to his forefinger and extending in the same direction longitudinally as his forefinger. Only a small end of the tape adheres to the forefinger, thus leaving a projecting end of gummed tape for application to the article. Owing to this method of applying the finger to the tape the total length of tape can be very short, not more than half or three quarters of an inch, for example. The tape is now in most convenient position for application to the article, as all that the operator has to do is to crook the end of his finger, as shown in Fig. 8, and lay the end of the tape against the article. His thumb is now in just the right position to press down the end of the tape and cause it to adhere to the article, and the operator can now readily manipulate his finger and thumb so as to pull the end of the tape off his finger and press it down upon the article with the thumb. This is shown in Fig. 9. Thus the operator may with one hand pull out a measured length of tape, sever the same and apply it to the article. This leaves his other hand entirely free to hold the article and in the case of a wrapped package for example he can hold the wrapper in place ready to be sealed. Also if he is using a short piece of tape to attach a card to a record sheet for example, he can hold the card and sheet in proper registration in one hand while dispensing and affixing the short piece of tape with the other hand.

In occasional instances it may be desirable to withdraw the tape with the thumb and use the thumb to apply the tape to the article using the forefinger to press the tape down. In this case it is only necessary to turn the dispenser 90° horizontally so that the adhesive side of the tape faces the operator's left.

Figs. 10, 11 and 12 show a modified form of dispenser embodying some of the features of the present invention. The dispenser shown in these figures does not provide for measuring the length of tape withdrawn but permits the tape to be pulled in an upward direction and torn off and applied in the manner already described. The judgment and eye of the operator are relied upon to secure the dispensing of a piece of tape of proper length. In this form of machine the tape is drawn from the roll 40 and passes over a guide roller 160 which engages the non-adhesive side of the tape and then over an adhesion roller 44 similar to the adhesion roller already described. The adhesion roller serves to hold the end of the tape in an upright position and prevent it from dropping back into the machine. The end of the tape lies against a backing plate 162 which carries a cut off blade 164 the upper edge of which is preferably serrated as indicated at 166. The corners of the backing plate may desirably extend slightly higher than the serrated edge as indicated at 167, so as to protect the operator's fingers. An opening is provided through the backing plate and cut-off blade to permit the thumb of the operator to contact the non-adhesive side of the tape. As shown this opening is provided by a notch 168 in the backing plate and hole 170 in the cut-off blade. The top of the hole 170 is near the serrated edge of the cut-off blade so that only a narrow bridge 172 is left between the edge of the hole and the serrated cutting edge. In this form of dispenser the cut-off blade and backing plate are stationary, the backing plate being secured to the frame in any suitable manner, as by means of rivets 174 passing through holes in an ear 176 on the backing plate. The backing plate projects upwardly from the casing, the walls of which slope upwardly towards the front and rear of the plate so as to assist the operator in properly locating his fingers in position to grasp the tape.

In the operation of the dispenser shown in Figs. 10, 11 and 12 the operator places one finger over the exposed adhesive end of the tape and presses his thumb over the hole in the cut-off blade so that it engages the back or non-adhesive side of the tape. The operator now moves his finger and thumb upwardly, the finger adhering to the tape drawing it up while the thumb slides over the bridge 172 engaging the back of the tape as it passes from the cut-off blade. In this way the operator may draw out such length of tape as he requires. He then draws the tape across the cut-off blade. He may do this while holding the end of the tape between his thumb and finger, or he may move his thumb out of the way and rely on the adhesion between the end of the tape and the tip of his finger for pulling the tape across the cut-off blade, similarly to the action shown in Fig. 6. In either event he cuts off the desired length of tape which adheres to the tip of his finger and extends lengthwise thereof, so that it is in a position for immediate application to the article to which it is to be applied in the manner shown in Figs. 8 and 9.

While I have illustrated and described in detail certain preferred forms of my invention, it is to be understood that changes may be made therein and the invention embodied in other structures. I do not therefore desire to limit myself to the specific constructions illustrated, but intend to cover the invention broadly in whatever form its principles may be utilized.

What is claimed is:

1. A device for serving strips of tacky material including a casing, a support for a supply of tacky material in the casing, and a member projecting from the casing having a surface adapted to engage and support the non-adhesive side of the tape, and having a tear-off edge, the outer wall of the casing surrounding said projecting member being smooth and unobstructed so as to assist in guiding the fingers of the operator into engagement with the projecting member and with the tape supported thereby.

2. A device for serving strips of tacky material including a casing, a support for a supply of tacky material in the casing, and a member projecting from the casing having a surface adapted to engage and support the non-adhesive side of

the tape and having a tear-off edge, the outer wall of the casing in front and rear of said projecting member sloping towards the member so as to assist in guiding the fingers of the operator into engagement with the projecting member and with the tape supported thereby.

3. A device for serving strips of tacky material including a casing having a dome-shaped top, means in the casing for holding a supply of material to be served, and a member projecting upwardly from the dome-shaped top of the casing having a tape tear-off edge at the outer end thereof and having a surface for engaging and supporting the non-adhesive side of the tape.

4. A device for serving strips of tacky material including a casing having a dome-shaped top, means in the casing for holding a supply of material to be served, a member projecting upwardly from the dome-shaped top of the casing having a tape tear-off edge at the outer end thereof and having a surface for engaging and supporting the non-adhesive side of the tape, and finger locating means on the outside of the casing adjacent to said projecting member for assisting in locating a finger or fingers of the operator in position to grasp the tape and projecting member.

5. A device for serving strips of tacky material comprising a casing, means for supporting a supply of tacky material in the casing, said casing having an opening in a wall thereof, a slide mounted to reciprocate in and out of said opening, the end of the slide projecting a short distance out of the casing when the slide is in its inward position, means for limiting the outward movement of the slide, said slide being formed with a tape tear-off edge at its outer end, and having a surface for engagement with the non-adhesive side of the tape, and an adhesion roller adjacent to the slide engaging the adhesive side of the tape and holding the tape in juxtaposition to the tape supporting surface of the slide.

6. A device for serving strips of tacky material comprising a casing, means for supporting a roll of tacky material in the casing, said casing having an opening in the top thereof, a slide mounted to reciprocate up and down in said opening, the end of the slide projecting a short distance out of the casing when the slide is in its downward position, means for limiting the outward movement of the slide, said slide being formed with a tape tear-off edge at its outer end and having a surface for engagement with the non-adhesive side of the tape, and an adhesion roller mounted adjacent to the opening in the top of the casing and engaging the adhesive side of the tape so as to support the tape adjacent to the projecting end of the slide.

7. A device for serving strips of tacky material comprising a casing, means for supporting a supply of tacky material in the casing, said casing having an opening in a wall thereof, a slide mounted to reciprocate in said opening, means for limiting the outward movement of the slide, said slide being formed with a tape tear-off edge at its outer end, and an adhesion roller mounted adjacent to the slide and engaging the adhesive side of the tape for holding the tape in a position adjacent to the slide prior to the drawing out of the slide, said adhesion roller being provided with means for exerting a braking action thereon.

8. A device for serving strips of tape having a tacky side and a non-tacky side comprising a casing, means for supporting a roll of such tape in the casing, said casing having an opening in the wall thereof, a slide mounted to reciprocate in and out of said opening, said slide having a surface movable in a plane parallel to the axis of the roll of tape for engaging and supporting the non-tacky side of the tape, and an adhesion roller mounted in the casing on an axis parallel to the axis of the tape roll and adapted to engage the tacky side of the tape and support the tape in juxtaposition to the tape supporting surface of the slide.

9. A device for serving strips of tape having a tacky side and a non-tacky side comprising a casing, means for supporting a roll of such tape in the casing, said casing having an opening in a wall thereof, a slide mounted to reciprocate in and out of said opening, said slide having a surface movable in a plane parallel to the axis of the roll of tape for engaging and supporting the non-tacky side of the tape, and an adhesion roller mounted in the casing on an axis parallel to the axis of the tape roll and adapted to engage the tacky side of the tape and support the tape in juxtaposition to the tape supporting surface of the slide, the reciprocating movement of the slide being in a substantially vertical direction and the adhesion roller being mounted above the tape supply roller.

10. A device for serving strips of tape having a tacky side and a non-tacky side comprising a casing in the form of two massive castings each forming approximately half the casing, one of said castings having means for supporting a roll of such tape and means for supporting and guiding a reciprocating slide, said slide having a surface for engagement with the non-tacky side of the tape, said surface having a tape tear-off edge at its outer end, said casting also carrying a pivoted adhesion roller adapted to engage the tacky surface of the tape and support the same adjacent to said tape supporting surface on the slide.

11. A device for serving strips of tape having a tacky side and a non-tacky side comprising a casing in the form of two massive castings each forming approximately half the casing, one of said castings having means for supporting a roll of such tape and means for supporting and guiding a reciprocating slide, said slide having a surface for engagement with the non-tacky side of the tape, said surface having a tape tear-off edge at its outer end, said casting also carrying a pivoted adhesion roller adapted to engage the tacky surface of the tape and support the same adjacent to said tape supporting surface on the slide, said casting also carrying spring means for retracting the slide and adjustable stop means for limiting the outward movement of the slide.

12. A device for serving strips of tape having a tacky side and a non-tacky side comprising a casing having an opening therein, a slide mounted to reciprocate in and out of said opening, a stud mounted in the casing having means thereon for supporting a roll of such tape, a second stud mounted in the casing having an adhesion roller pivoted thereon for engagement with the tacky side of the tape, said slide having guideways therein mounted to slide upon said studs.

13. A dispenser for serving strips of tacky material from rolls thereof in which each convolution adheres to the underlying convolution so that substantial force is required to strip the material from the roll comprising a casing having an opening in the top thereof, means for mount-

ing a supply roll of tape in the casing, means adjacent to the opening in the casing for presenting an upwardly projecting end of the tape in position for grasping and removal, the end of the tape projecting near the vertical axis passing through the center of gravity of the dispenser, the device being sufficiently massive to resist movement by its weight alone when the tape is pulled upwardly from the tape supply roll.

14. A dispenser for serving strips of tacky material from rolls thereof in which each convolution adheres to the underlying convolution so that substantial force is required to strip the material from the roll comprising a casing, means for mounting a supply roll of tape in the casing, means for presenting an upwardly projecting end of tape in position for grasping and removal, the position of the upwardly projecting end of the tape with relation to the vertical axis through the center of gravity of the dispenser and the weight of the dispenser being such that the moment of mass resisting the upward pull on the tape is sufficient to resist such pull so that the dispenser can be used without being fastened to a support.

15. A dispenser for dispensing strips of tacky tape comprising a compact heavy casing of sufficient size to contain a roll of adhesive tape approximately centrally thereof, having an opening in the top thereof, and means for presenting an end of the tape projecting upwardly out of said opening in position for grasping and removal, said tape presenting means including an adhesion roller mounted above the roll of tape and adapted to support the end of a roll of tape by adhesion thereto, the projecting end of the tape being supported substantially in line with the vertical axis through the center of gravity of the dispenser.

16. A dispenser for dispensing strips of tape having a tacky side and a non-tacky side comprising a base having means thereon for supporting a roll of tape, an upright tear off blade mounted on the base and having a tear off edge at its upper end, and means for supporting the leading end of the tape with its non-tacky side adjacent to the side of the upright blade and its tacky side facing away from the blade in such position that it and the upper end of the blade may be grasped between the thumb and finger, the means for supporting the leading end of the tape permitting the tape to be drawn upwardly and cut off, the leading end of the remaining tape after the piece has been dispensed continuing to be supported in position adjacent to the side of the tear off blade in position for a subsequent dispensing operation.

17. A dispenser for dispensing strips of tape having a tacky side and a non-tacky side comprising a heavy base, means on the base to support a roll of adhesive tape, a cut off blade supported on the base and projecting therefrom in an upward direction, and having a cut off edge at the top thereof, and supporting means for the leading end of the tape engaging such leading end by adhesion to the tacky surface thereof, said supporting means permitting the tape to be pulled out while in contact therewith, said supporting means supporting the tape with its non-adhesive side adjacent to the side of the cut off blade.

18. A device for serving strips of tacky material comprising a casing formed of two massive bodies each forming approximately one-half of the casing, said bodies being hollow so as to provide a chamber of such size as to completely enclose a roll of tacky strip material, means for supporting said roll inside of said chamber for rotation about a horizontal axis, said casing having an opening in the top thereof through which the tacky material may be withdrawn, said massive bodies having bottom surfaces adapted to be set upon a table or other support, and being connected together near said bottom surfaces by hinge means pivotal about a horizontal axis, said casing being of sufficient weight to resist the force necessary to unwind the tacky material from said supply roll when it is pulled upwardly through the opening in the top of the casing.

19. A device for serving strips of tacky material comprising a casing in the form of two massive hollow bodies each forming approximately one-half of the casing, one of said bodies carrying means for supporting a roll of tacky material and means for supporting and guiding a reciprocating slide, said slide being mounted to reciprocate in and out of an opening in the upper part of the casing, the end of the slide projecting out of the casing when the slide is in its inward position, and means in the casing for normally supporting the leading end of the tacky material in a position to project upwardly through the opening in the casing along side of the reciprocating slide, so that the slide and tacky material may be simultaneously grasped, said casing bodies being hinged together at their lower ends by hinge means having a horizontal axis.

20. A device for serving strips of tacky tape including a casing having an opening in the top thereof, said casing having a chamber in the interior of sufficient size to completely enclose a supply roll of tacky tape, means in the casing for rotatably supporting said roll of tape, said casing having an opening in the top thereof for withdrawal of the tape, means for supporting the leading end of the tape with its upper extremity projecting upwardly out through the opening in the top of the casing, a measuring slide disposed in a generally upright attitude within the casing, means guiding the slide for reciprocation in an up and down direction, said slide having a tape supporting portion at the top thereof projecting at all times above the top of the casing so that the projecting end of said slide and the leading end of the tape may be grasped simultaneously and drawn out to feed tape, stop means for limiting the distance by which the slide may be drawn upwardly, so that the slide may be used to measure the length of tape drawn out, and means for severing the measured length of tape, said device being sufficiently massive to resist by its weight alone the force necessary to be exerted on the tape to cause it to unwind from the supply roll when it is pulled upwardly from the supply roll.

21. A dispenser for dispensing strips of pressure sensitive adhesive tape comprising, a casing, means in the casing for rotatably supporting a roll of pressure sensitive adhesive tape, said casing having an opening therein, and means for presenting an end of the tape projecting out of said opening, in a position for grasping and removal, said tape presenting means including an adhesion roller mounted adjacent to the opening in the casing and adapted to support the end of a roll of tape by adhesion thereto, said adhesion roller having mechanism associated therewith and

acting directly thereon for preventing free turning of said adhesion roller in at least one direction.

22. A device for serving strips of tacky material comprising a casing formed of two massive bodies each forming approximately one-half of the casing, said bodies being hollow so as to provide a chamber of such size as to completely enclose a roll of tacky strip material, means for supporting said roll inside of said chamber for rotation about a horizontal axis, said casing having an opening through which the tacky material may be withdrawn, said opening being bounded on one side by parts of one of said bodies and on the other side by parts of the other body, so that when said parts are separated, the walls of the opening are spread apart, said massive bodies having bottom portions adapted to be set upon a table or other support and being connected together at said bottom portions by hinge means pivoted about a horizontal axis, whereby when said casing is set upon a table, gravity tends to hold said massive bodies together in closed position, an adhesion member carried by the casing adhesively supporting the tacky material

in position to be withdrawn through said opening and tape severing means carried by the casing for severing the material withdrawn from the supply roll.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
Re. 22,732	Krueger	Mar. 19, 1946
Re. 22,733	Krueger	Mar. 19, 1946
466,426	Richtmann	Jan. 5, 1892
1,092,909	Hardy	Apr. 14, 1914
1,708,701	McHenry	Apr. 9, 1929
1,827,029	Marcalus	Oct. 13, 1931
2,178,722	De Mattia	Nov. 7, 1939
2,221,213	Borden	Nov. 12, 1940
2,272,628	Anderson	Feb. 10, 1942
2,300,423	Holben	Nov. 3, 1942
2,334,458	Van Tuyl	Nov. 16, 1943
2,366,971	Krueger	Jan. 9, 1945