

Sept. 2, 1958

W. A. KLEIN ET AL

2,850,157

DISPENSING BOX FOR SHEET WRAPPING MATERIAL

Filed April 10, 1957

4 Sheets-Sheet 1

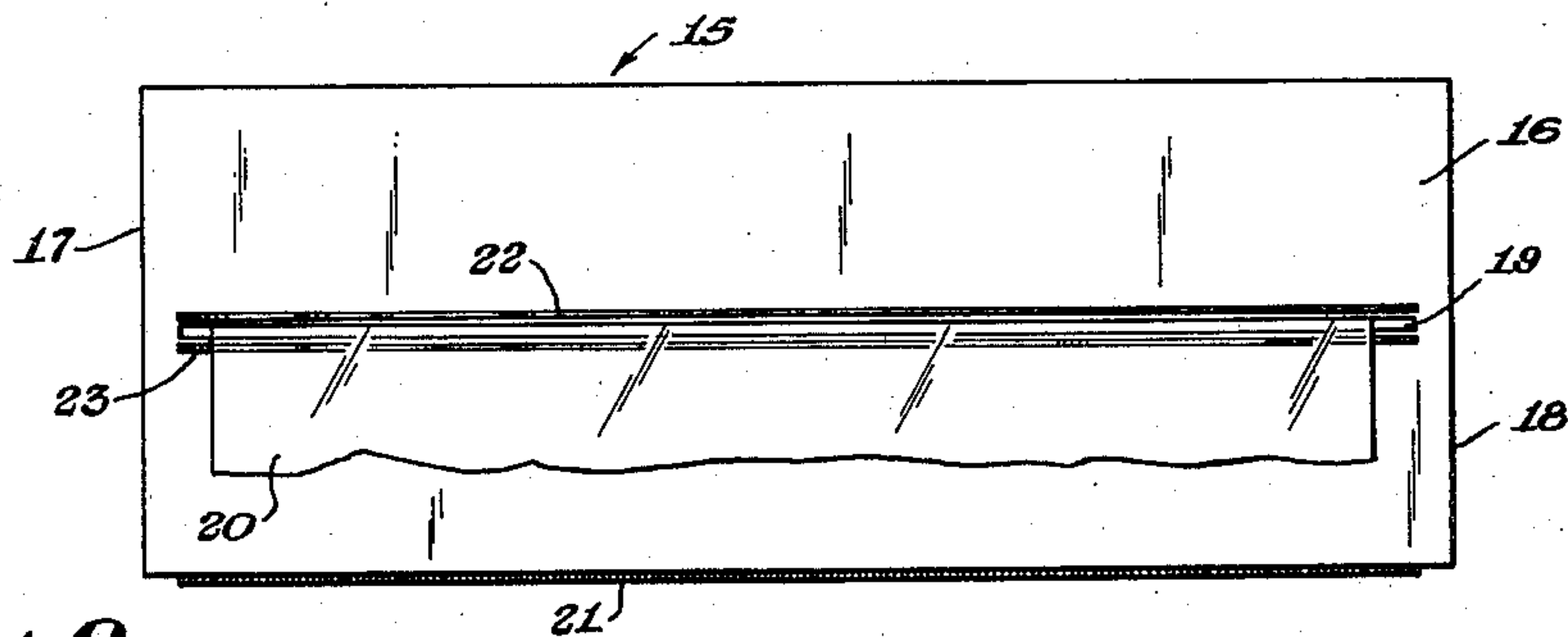


Fig. 2

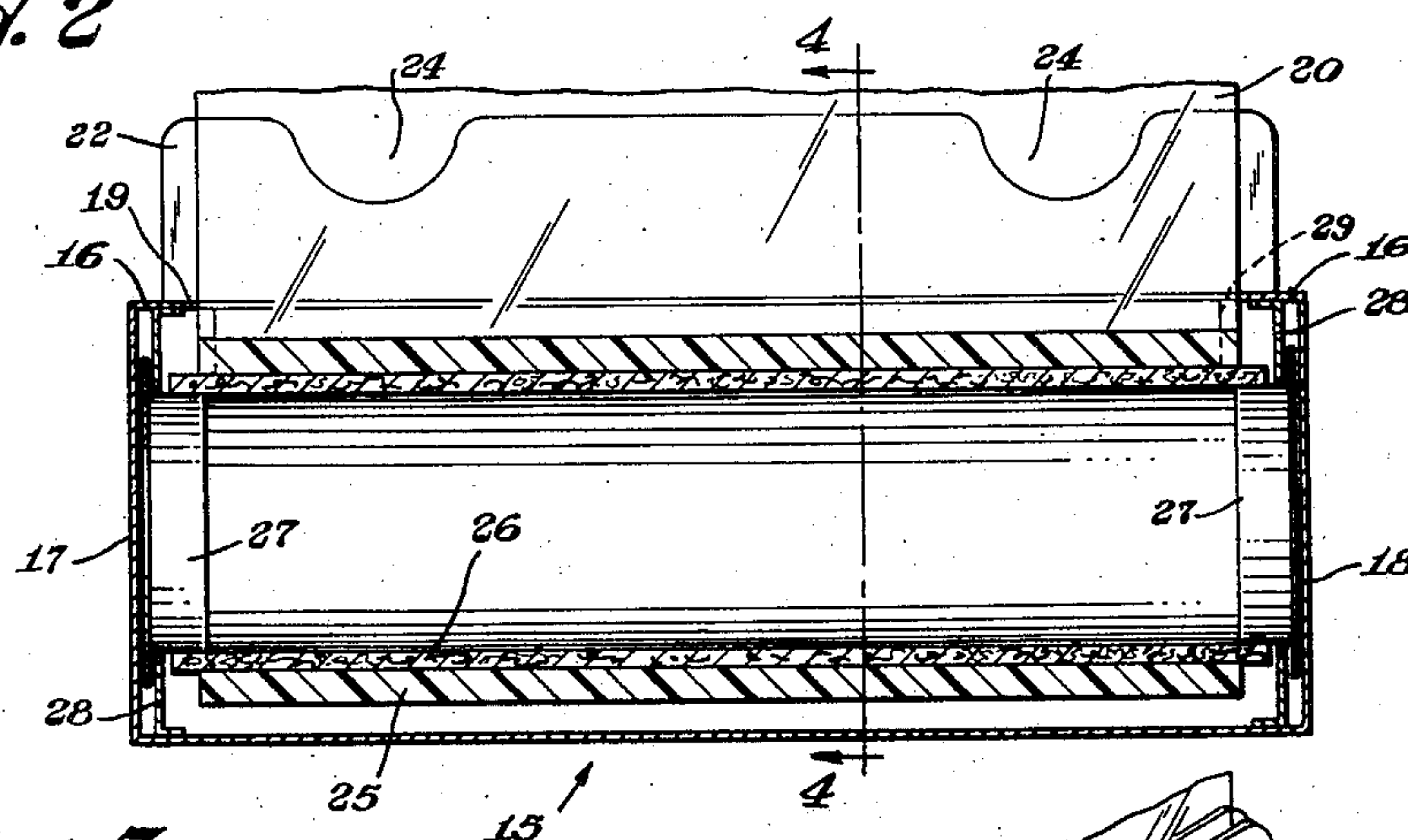


Fig. 3

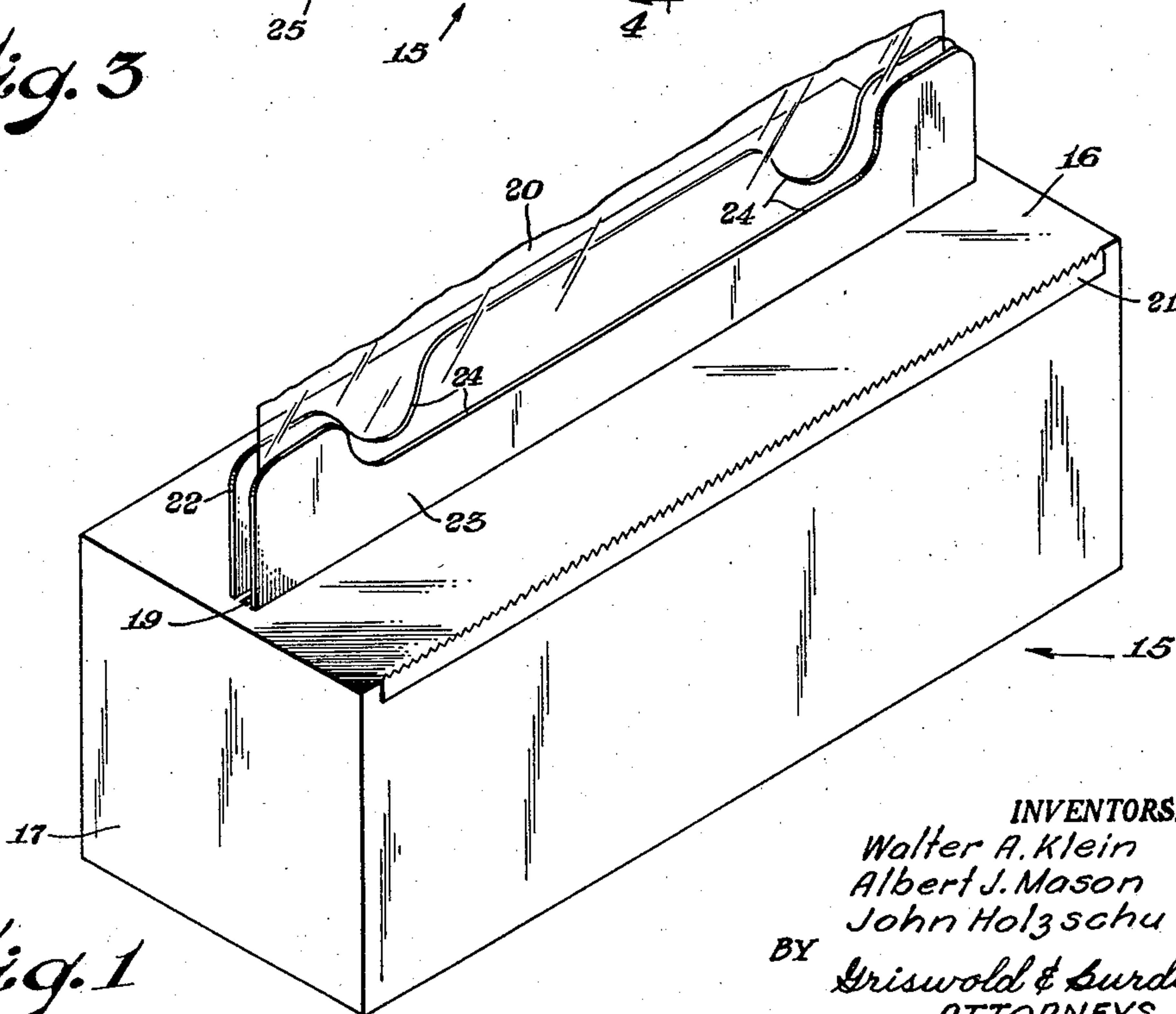


Fig. 1

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4 Sheets-Sheet 2

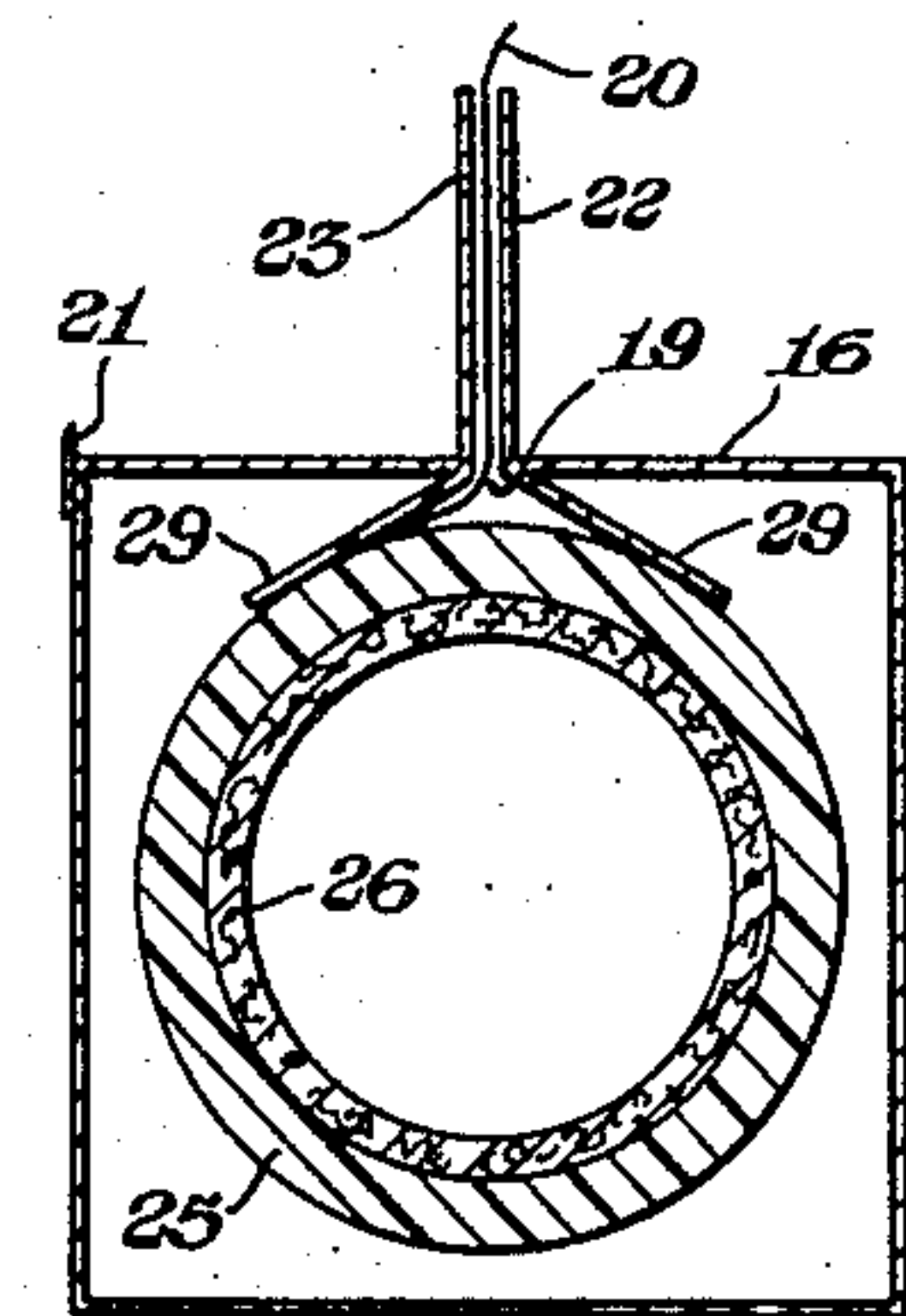


Fig. 4

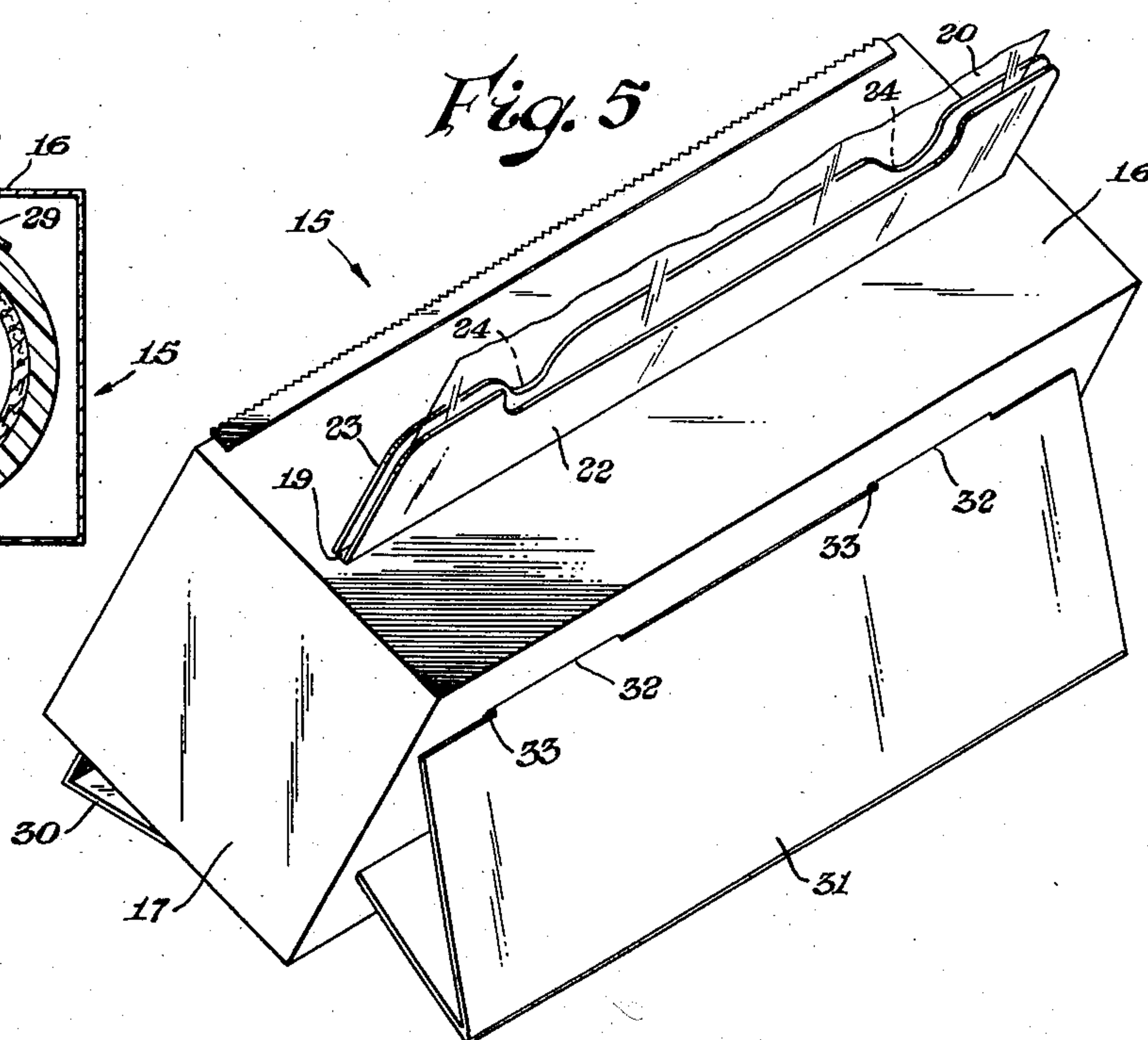


Fig. 5

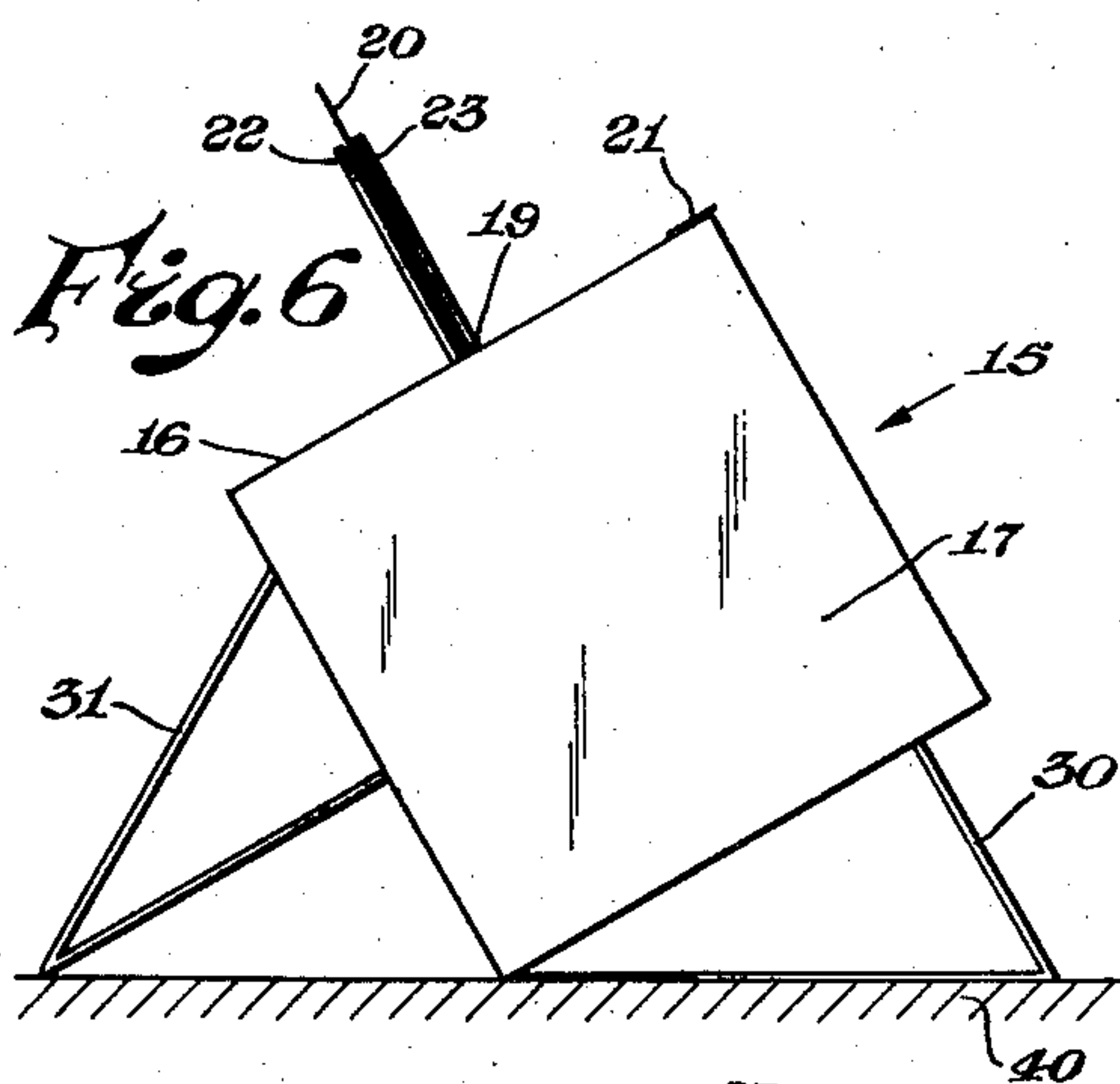


Fig. 6

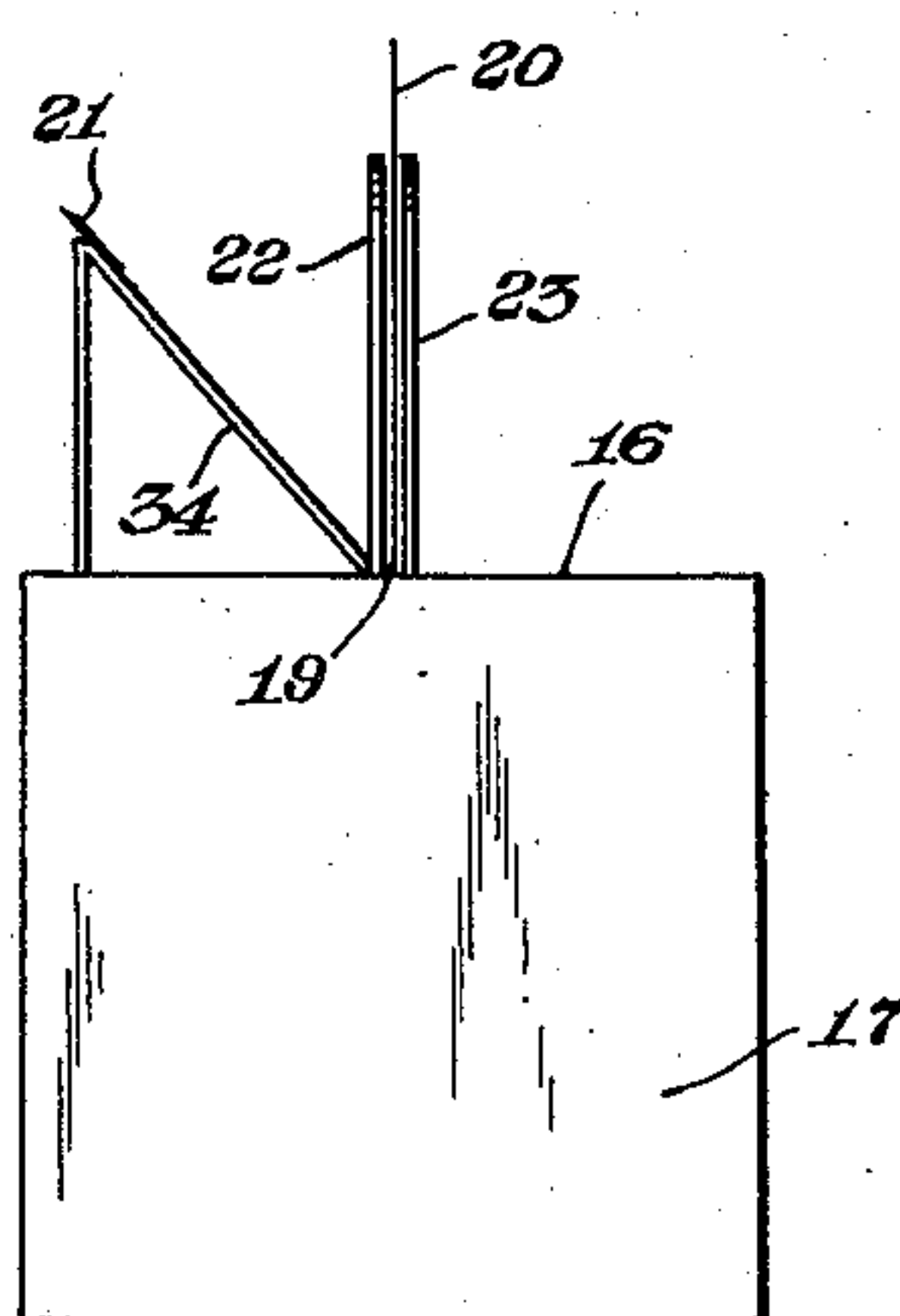


Fig. 8

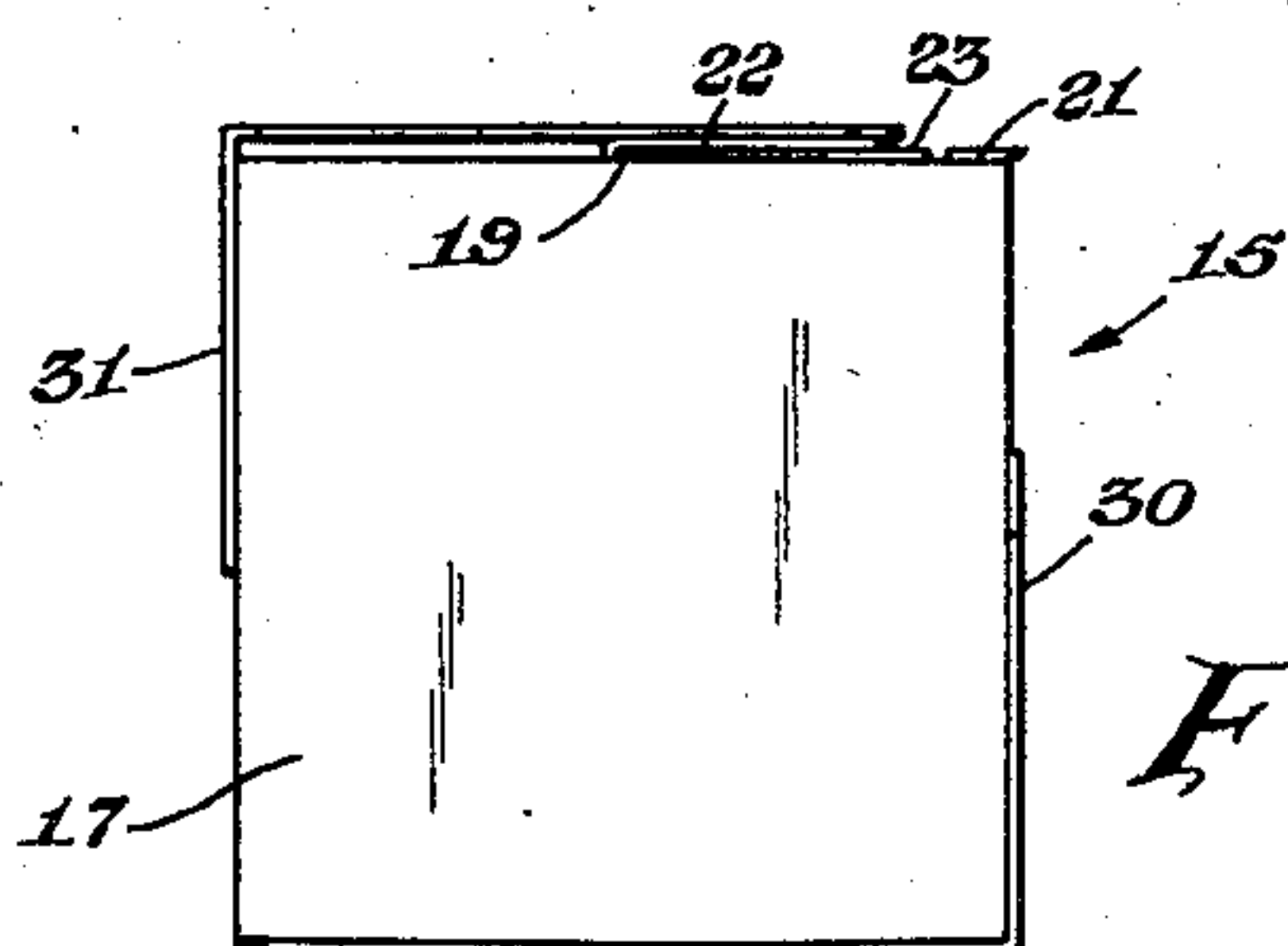


Fig. 7

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4 Sheets-Sheet 3

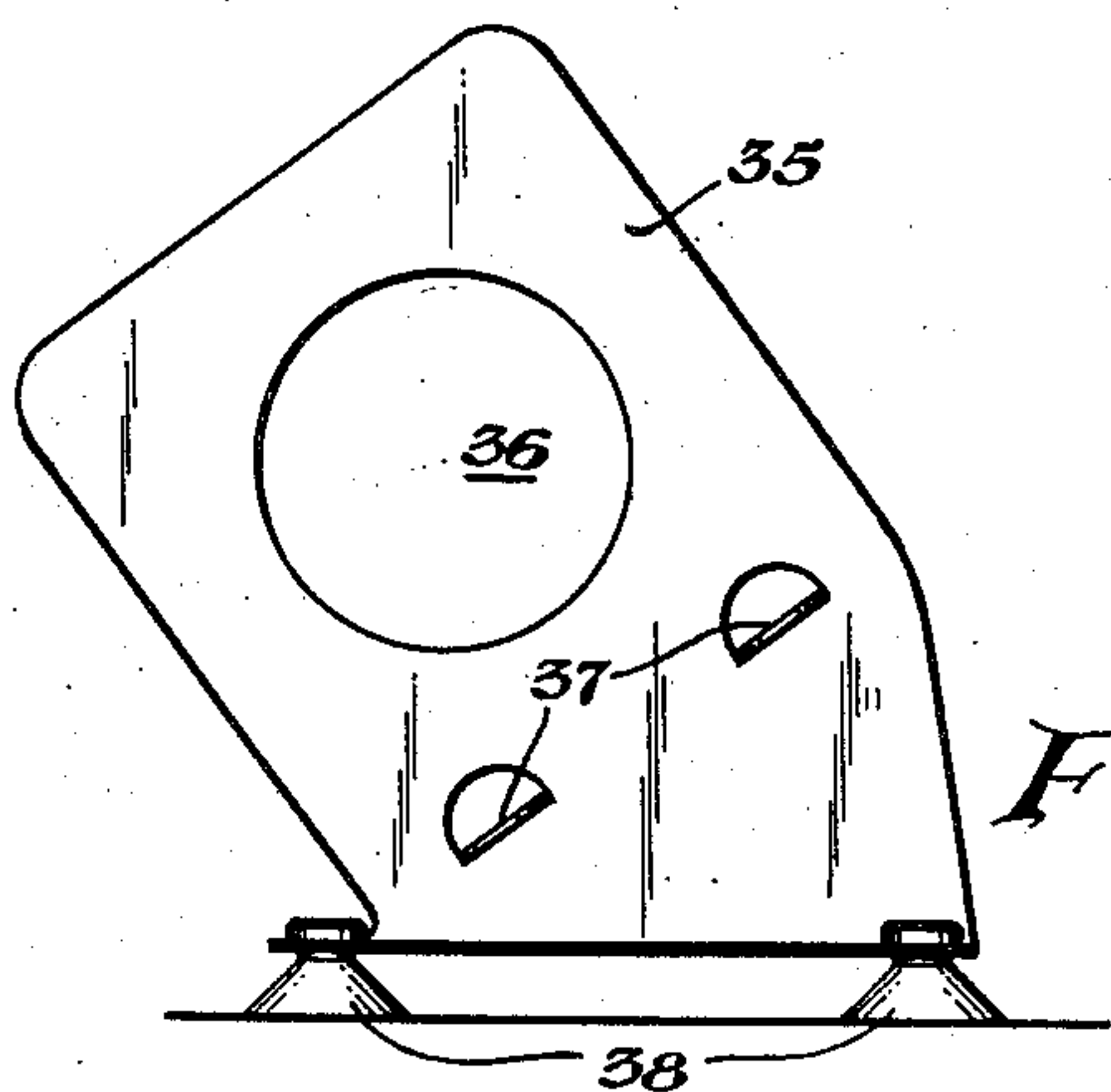
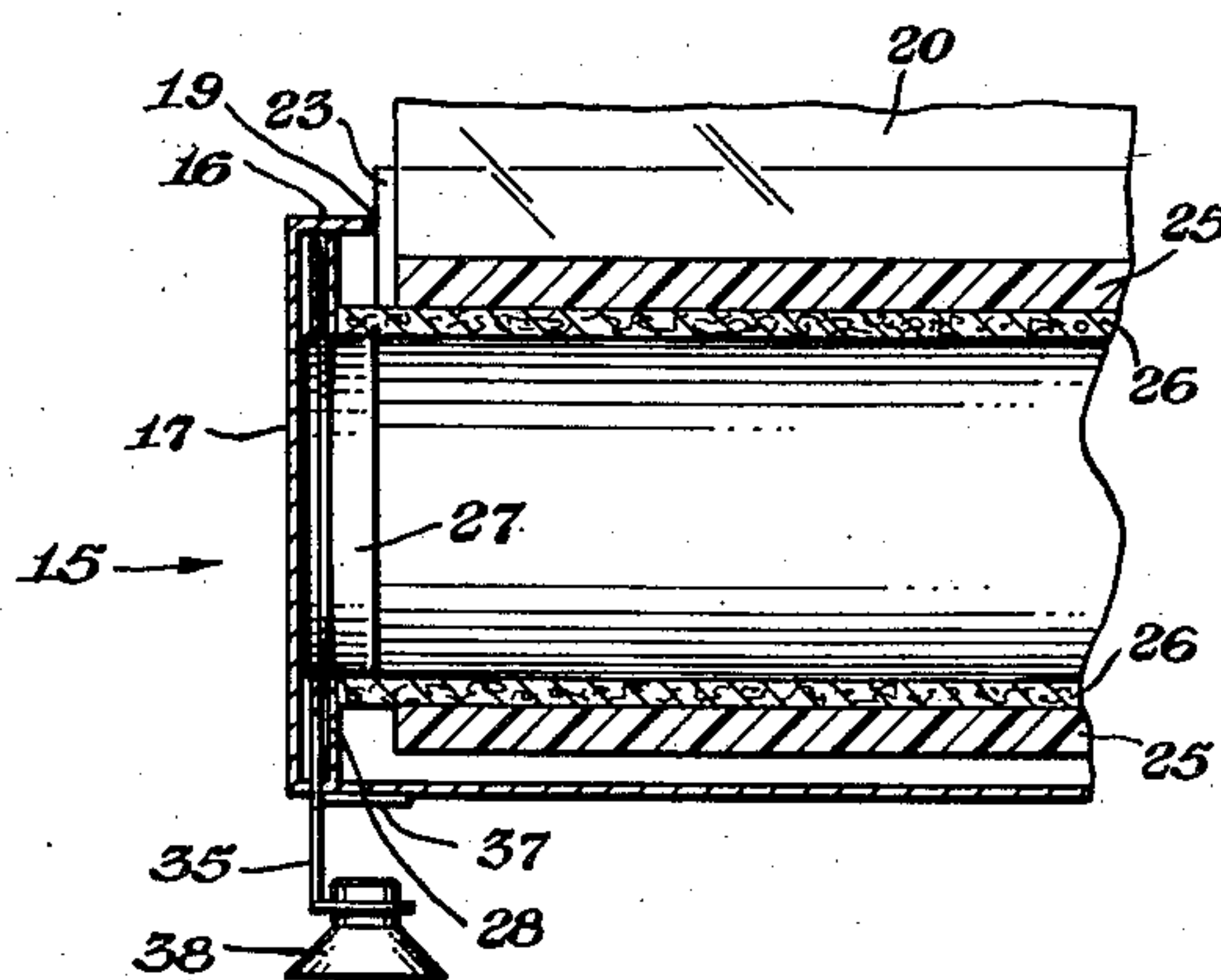
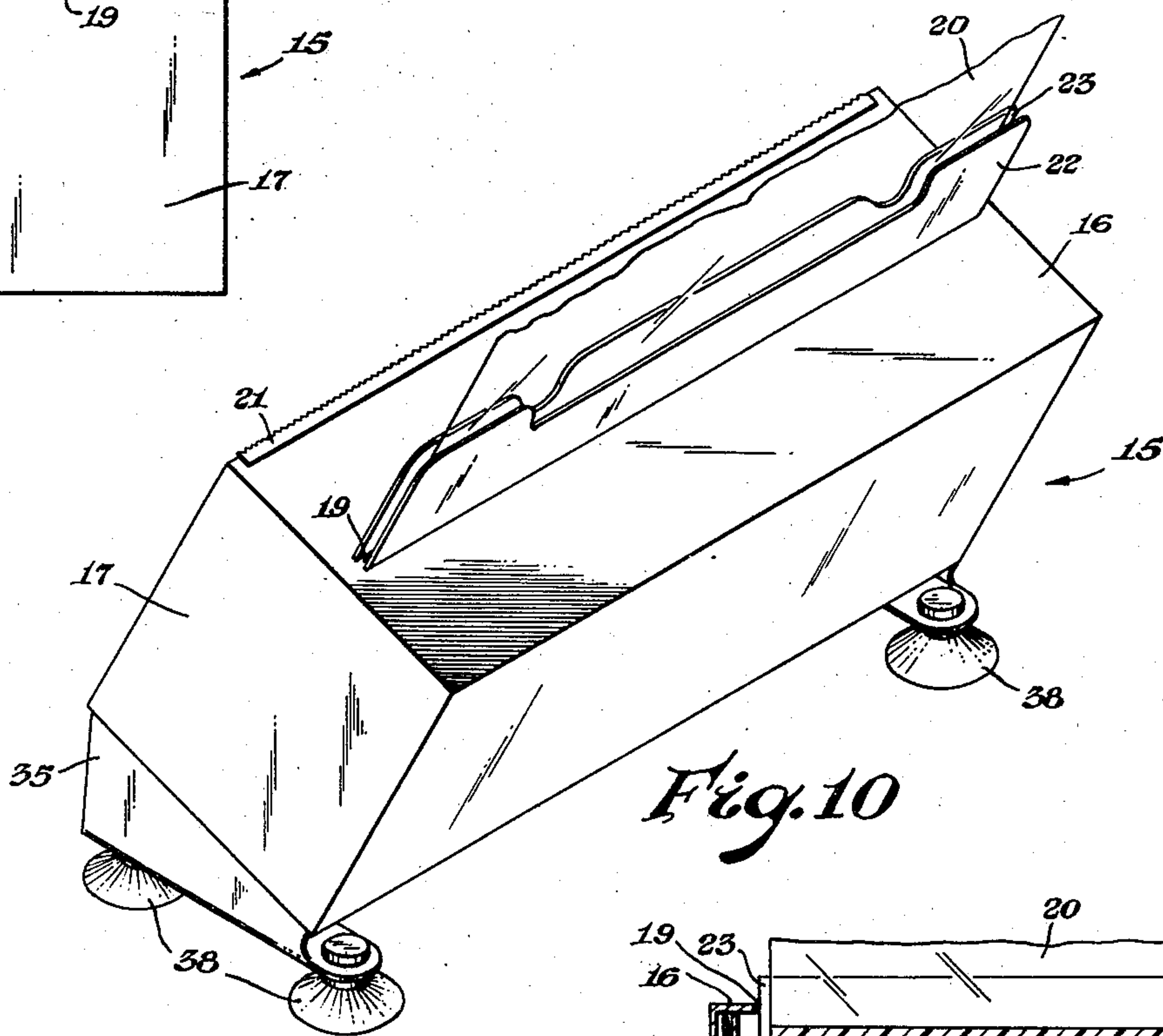
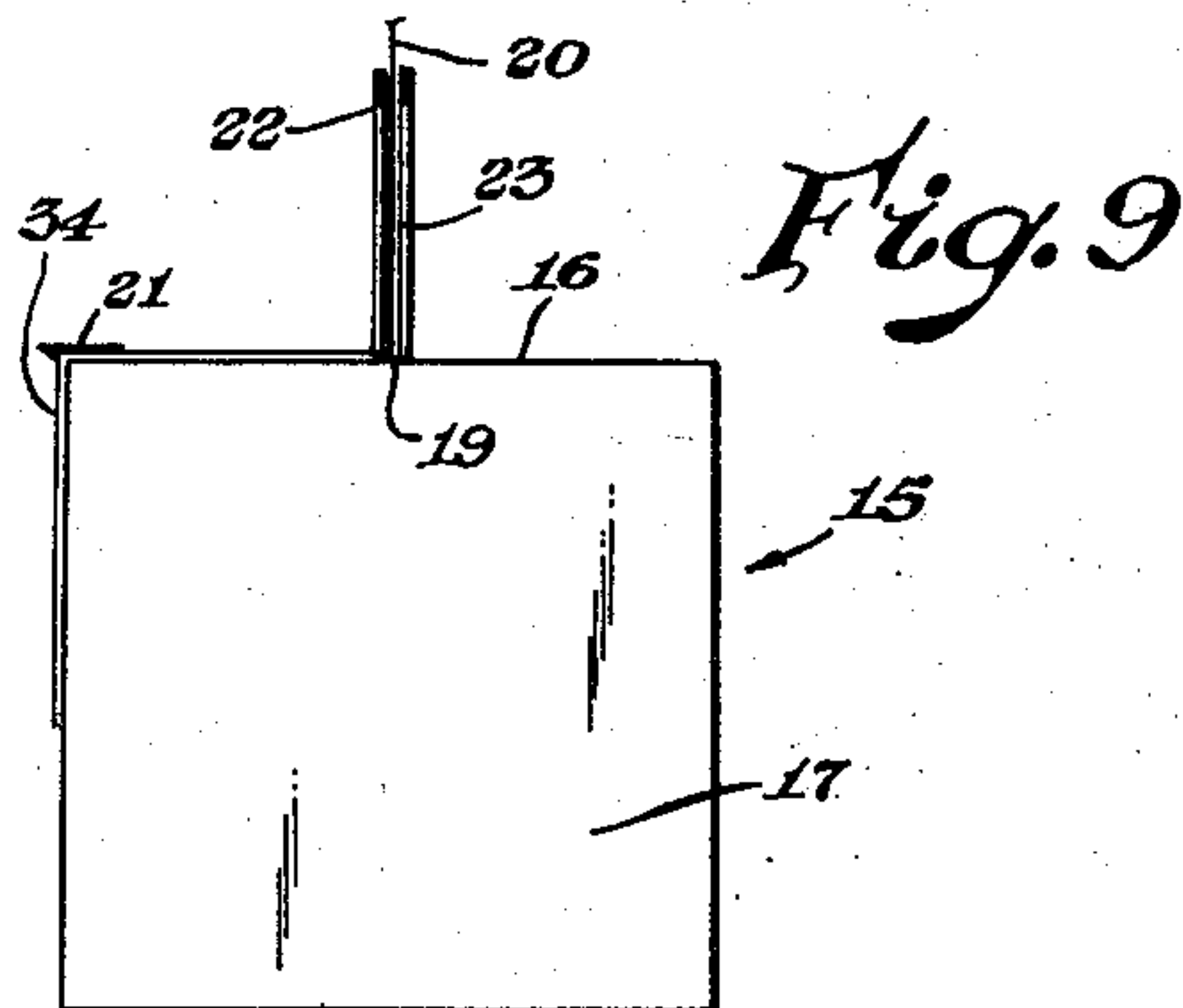


Fig. 11

Fig. 12

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4 Sheets-Sheet 4

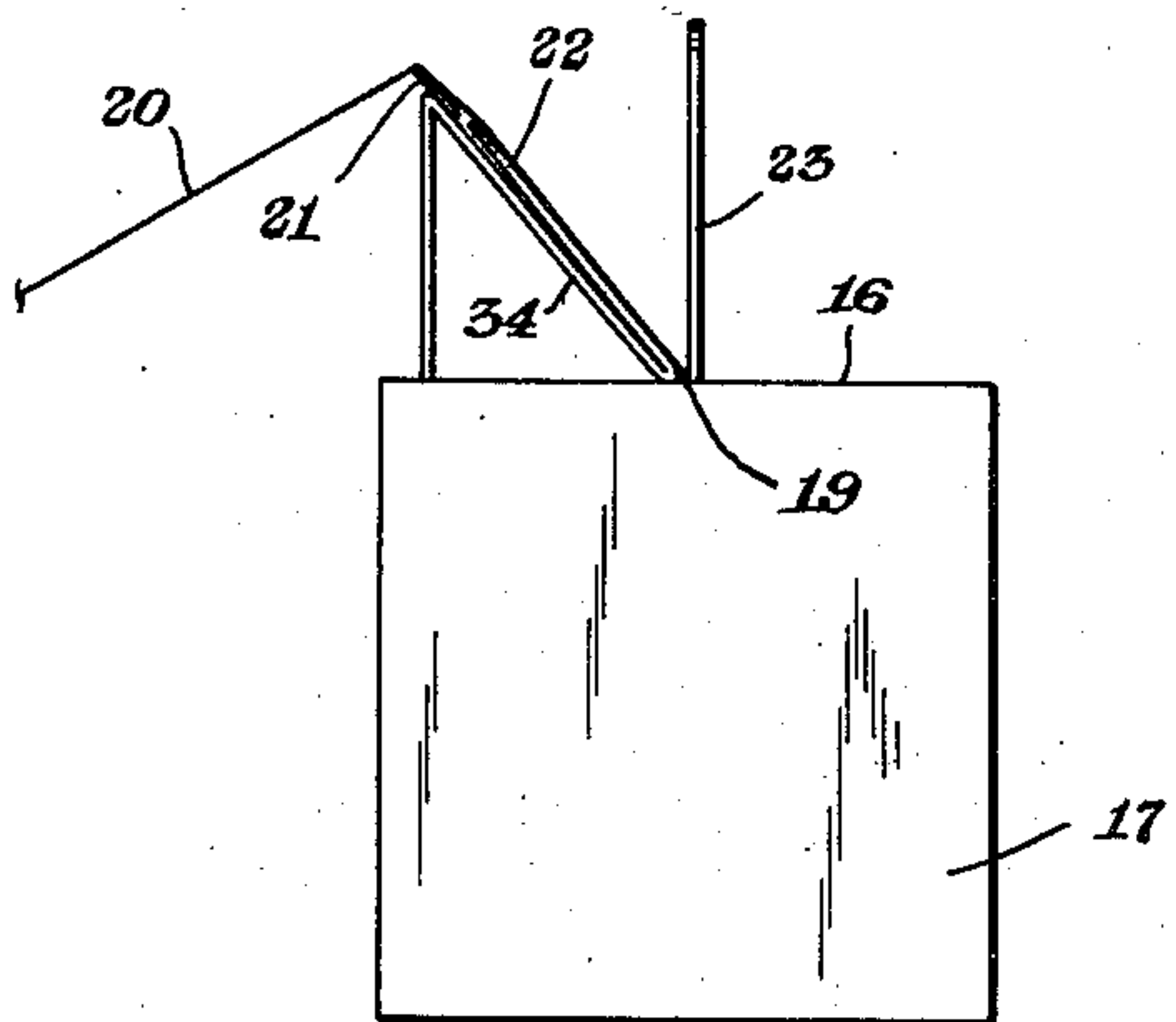


Fig. 13

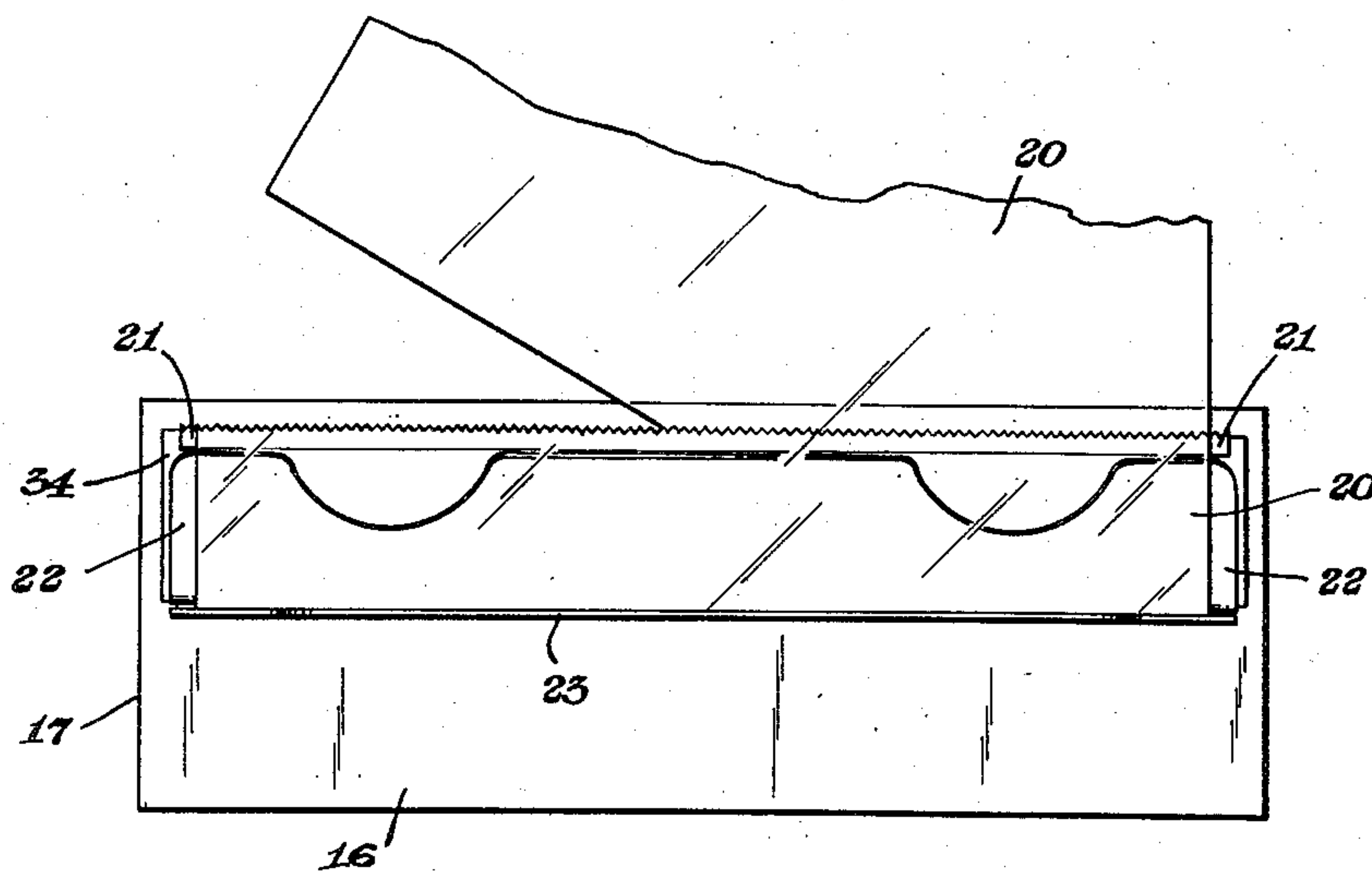


Fig. 14

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DISPENSING BOX FOR SHEET WRAPPING MATERIAL

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Application April 10, 1957, Serial No. 652,003

6 Claims. (Cl. 206—58)

This invention relates to an improved and exceptionally utile box or container for packaging rolls or equivalent supplies of plastic film and the like or similar sheet wrapping materials (including such metallic and paper based wrapping stock as metal foil and waxed paper) which box is adapted to efficiently and effectively dispense the sheet wrapping material therefrom. In particular, the invention relates to a box for containing and dispensing very large, giant size capacity rolls of sheet wrapping material, especially plastic film wrapping, for domestic and commercial consumption.

It has become quite popular and of increasing attractiveness to manufacturers, merchandisers and consumers alike to package plastic wrapping film and other sheet wrapping materials in very large, individually boxed supply packages that contain sufficient amounts of the wrapping material for the satisfaction of considerable demands. For example, in contrast to the usual 25 to 50 or so feet rolls that were formerly provided as a matter of course for most domestic and many commercial users, it has become a more widespread and desirable practice to furnish the sheet wrapping material in supply rolls having lengths of at least 250 feet. Frequently, as a matter of fact, 1,000 feet or longer supply packages are found to be much in demand in the form of individually boxed units.

The satisfactory dispensing from supply packages of many sheet wrapping materials, particularly plastic wrapping film, has been the source of many difficulties and vexatious problems. Most plastic films, for example, especially the varieties that are best suited for wrapping purposes, have a great tendency to cling to the supply package (such as the peripheral surface of the roll) from which they are being dispensed. In addition, they oftentimes have an unhappy propensity to recoil, feed back or otherwise revert to the supply package, even after their free or loose end has been separated therefrom for withdrawal of a desired length from the supply package. It may sometimes be no easy task to maintain the loose or free end of the sheet wrapping material, particularly when it is a plastic wrapping film, in accessible, partially exposed disposition in or on the supply package to facilitate its being readily available for easy withdrawal therefrom. Such problems are not minimized or alleviated by virtue of the provision of the sheet wrapping material in a very large capacity supply roll or other source therefor.

Besides this, when large supply packages are involved, they are generally found to be too bulky and heavy for convenient manipulation and handling when it is desired to withdraw lengths of the sheet wrapping therefrom. The very size of the box oftentimes prohibits its being picked up in one hand to permit grasping of the loose end of film or other wrapping for withdrawal with the other in the familiar manner that is conventionally employed with smaller sized containers. The problems which arise in connection with this for the giant sized, individually boxed supply packages are very real and

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serious indeed. They are oftentimes amplified by the fact that the user may be inclined to or desirous of grasping or withdrawing the wrapping material from the large supply package without actually lifting or otherwise contacting the box. This may be the case when it is wished to employ both hands for uniform withdrawal of the sheet wrapping material and for its better control after being withdrawn and severed from the supply package, as well as for more efficacious accomplishment of the immediate wrapping task being performed.

As a consequence, besides the difficulty in maintaining the loose or unwinding end of the sheet wrapping material in easily accessible disposition, it may be quite difficult and troublesome to properly and satisfactorily sever the sheet material from a very large capacity and individually boxed supply package after it has been withdrawn therefrom in a suitable length. Since the large box does not lend itself to ready lifting or convenient manipulation, it is not always easy to pull or urge the withdrawn length of sheet wrapping material at an optimum angle for its efficient slitting or severance against the cutting edge that is conventionally provided on the container, usually along one of the outer edges thereof. Furthermore, especially when the user is inclined or required to employ both hands for and during withdrawal, the box may tend to slip and be pulled along the surface on which it is rested during the efforts to withdraw the desired length of wrapping and to sever the withdrawn length from the supply.

To illustrate this point, most sheet wrapping materials, especially plastic wrapping film, are generally best cut when they are urged or pulled upon while being substantially bent over the usual cutting edge employed for their severance. Usually an angle of at least about 30° or so is required. Oftentimes, the more nearly the sheet is made to be bent at a right angle across the cutting edge during its severance, the better and more efficient is the resulting cutting action. Now, when a sheet is withdrawn from the upper side of a supply package as may be contained in the usual square cross-sectional box that has a cutting means along one of its edges and which is resting flatly on a supporting surface, it is practically impossible (without releasing the original grip and regrasping the sheet close to the outlet) to bend the withdrawn sheet at an efficient cutting angle across the cutting edge, especially when a substantial length of the sheet is withdrawn for severance from the supply package. This is so, regardless of the particular direction in which the cutting edge is disposed or faced, since the surface usually prevents bending the sheet across the cutting edge at a suitable angle for optimum results. And, even if the supply package is placed near the edge of a supporting surface in order to facilitate bending the withdrawn sheet at better cutting angles across the cutting edge, there is great danger and likelihood of the box being pulled over the edge and off the surface during withdrawal or severance of the sheet. Such an occurrence cannot, of course, be tolerated.

It would be advantageous and it is among the major objects of the present invention to provide an improved and practically effective dispensing box that would be well adapted to maintain the loose end of a supply package of sheet wrapping material contained therein in easily accessible disposition while affording optimum cutting performance and severing action on withdrawn lengths of sheet material from the supply. While by no means restricted in its utility thereto, the dispensing boxes that may be provided in accordance with the invention are particularly adapted for utilization with plastic wrapping films, especially when they are contained in very large capacity or giant sized supply packages, preferably in wound rolls of considerable length.

According to the present invention, the above-mentioned and related advantageous results may be secured and the described difficulties may be neatly obviated in a dispenser box for supply packages (preferably wound, large capacity supply rolls, of sheet wrapping material, especially plastic wrapping film and the like) which comprises an elongate, preferably substantially square cross-sectioned container formed by a plurality of side walls and a pair of enclosing end walls between which said side walls extend longitudinally to accommodate the width of a supply of sheet wrapping material contained therein; means for supporting and maintaining a supply package of sheet wrapping material in said container; means in one of the side walls, preferably the uppermost side wall, of said container, for forming an elongate, linear, slit-like outlet for said sheet wrapping material when it is contained in said container, said outlet extending longitudinally in said side wall in the direction of the width of supply roll or other package width-accommodating length of said container; a contiguous pair of bendable flaps, formed by means tending to urge one against the other, extending upwardly from said side wall along said outlet, one of said flaps being positioned on each side of and adjacent to said outlet, said flaps being adapted to frictionally engage and grasp said sheet wrapping material when it is emerging through said outlet; said flaps being advantageously formed, preferably with a spaced pair of matching cutouts in each flap, to permit engagement of said sheet material when it is contained and grasped therebetween; a cutting means on said box in spaced, parallel relationship with said outlet; and, optionally and advantageously, means for positioning said cutting means on said box above the level of said outlet so that a plane extending between the edge of said outlet and said cutting means describes an upwardly inclined angle from the plane of the usually horizontal or substantially horizontal surface upon which said box is resting.

Further features, advantages and objects of the present invention are manifest in the ensuing description and specification, taken in connection with the accompanying drawing which merely illustrates several of the many possible embodiments of the invention, wherein:

Figure 1, a perspective view, illustrates a box in accordance with the present invention;

Figure 2 is a plan view of the box;

Figure 3 is a front elevation, in cross-section, of the box;

Figure 4 is a side elevation in cross-section taken along the line 4—4 in Figure 3;

Figure 5 is a perspective view of a box in accordance with the invention showing one means in combination therewith for elevating the cutting means on the box above the level of the outlet;

Figure 6 is a side elevation of the box of Figure 5;

Figure 7 illustrates the box of Figure 5 prior to assembly for elevating the cutting means thereon;

Figures 8 and 9 are schematic side elevations of another box according to the invention for elevating the cutting means for purposes of severing withdrawn lengths of sheet material being dispensed therefrom; and

Figures 10, 11, and 12 schematically illustrate the nature and operation of another means for elevating the cutting means on the box.

Figures 13 and 14, end and plan views, respectively, illustrate the sheet cutting section of the container during a dispensing operation.

With initial reference to Figures 1 through 4, inclusive, of the drawing, there is shown a dispensing box, indicated generally by the reference numeral 15, that is in accordance with the present invention. It is usually preferable for the box 15 to be in the form of a generally rectangular, roll-accommodating container made of cardboard, paperboard, fiberboard or like material of construction. If greater permanence is desired, however, all or portions of the box may also be fabricated of wood, metal

or plastic materials. The upper or dispensing side wall 16 between the end walls 17 and 18 is formed to have a preferably (though not necessarily) central, elongate, linear slit-like outlet 19 for the sheet material 20. As shown, the outlet 19 extends for almost the entire length of the box 15. A cutting bar or strip 21 is advantageously provided at or along one of the longitudinal edges of the box 15 to permit severing withdrawn lengths of the sheet material 20 thereover. The cutting strip 21 may be of any desired material and it may have a serrate or straight cutting edge, as may be preferred.

The sheet material 20 may be contained within the box 15 in the form of any suitable supply package. Most advantageously, it is held therein as depicted in the drawing in the form of a supply roll 25 wound on a suitable core 26 that may be maintained in any desired manner in the box 15. When very large supply rolls 25 are involved, it is generally most desirable to maintain and support them in the box in the manner shown in the drawing by means of mandrels or end inserts 27 which extend through and are held in apertures in interior support partitions 28 within the box and project within the ends of the core 26 to permit free rotation of the roll 25 upon withdrawal of the sheet material. The support partitions 28 may be of any suitable design. Thus, they may be arranged either as openable inner flaps or as rigid members within the box.

A contiguous exterior pair of bendable flaps 22 and 23 (that advantageously may be creased or foldable at their base juncture with the upper side 16 of the box 15 in order to permit their bending or flip-flopping sort of functionality) are positioned one on each side of the outlet 19. The flaps 22, 23 are best formed with suitable cut-out portions or indentures 24 to facilitate ready grasping of the portion of the sheet material 20 that is extending between and located within the flaps, when it is desired to withdraw the sheet material from the box. The contiguous, lip-like pair of flaps 22, 23 are formed by any suitable means so as to tend to urge one against the other over the outlet 19. When made of cardboard or the like, the flaps 22, 23 may, as has been indicated, be easily made to be satisfactorily foldable by creasing or bending them upwardly from the upper side wall 16 of the box 15 along a line on the side wall parallel with the outlet 19. Of course, various resilient means may also be incorporated in or on the box to urge the foldable flaps 22, 23 one against the other. It is generally best for the height of the flaps 22, 23 to be such that, when they are completely bent over to lie flat on the upper side 16 of the box 15, they extend about or almost to the cutting means 21 that is positioned along the edge of the box 15.

As is apparent, the contiguous flaps 22, 23 are adapted to frictionally engage and grasp the sheet wrapping material 20 that is contained therebetween. This tends to prevent the recoil or feed back of the sheet 20 to the supply roll 25 after a withdrawn portion of the sheet has been severed from the supply package. In addition, the flaps prevent the possibility of the sheet wrapping material from lying flat and in relatively inaccessible disposition on the upper side of the box between the outlet and the cutting edge. This may be a particular problem with some types of sheet wrapping materials, particularly certain types of plastic wrapping films, which often tend to cling tenaciously to many surfaces over which they are disposed. If desired, and as is particularly indicated in Figure 4, additional means may advantageously be included within box 15 for positioning the large supply roll 25 or other package and to assist in the frictional snubbing and braking of the supply roll that is contained in the package. Thus, an interior pair of divergent, resiliently hinged flap elements 29 may depend within the box, one from each side of the outlet 19, to extend over and flatly contact the supply roll 25 of the sheet material 20. As shown, the flap elements may be formed integral

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with the upper side 16 of the container while being positioned parallel with and near the edges of the outlet 19. The interior flap elements 29 may be similar to those which have been disclosed by Walter A. Klein in the copending application for United States Letters Patent for a "Container For Dispensing Sheet Material" having Serial No. 600,455, now U. S. Patent 2,799,393, which was filed on or about July 27, 1956. In this connection, many other of the interior and constructional features of boxes in accordance with the present invention may also be similar to those in the container that has been disclosed in the referred-to copending application.

One suitable means for positioning the cutting means 21 above the level of the outlet 19 in order to prepare the box 15 for dispensing of the sheet material 20 is illustrated in Figures 5, 6, and 7 of the drawing. As shown, a pair of foldable legs, each of which folds along or pleats on a central, accordion-fold crease formed therein, and each of which is attached at one edge to and depends from the box 15 can be provided on the box and formed in an appropriate manner according to their function for supporting the box on the surface upon which it is to rest. A bottom leg 30 and a side leg 31 are thus provided. These may conveniently be formed from folded cardboard strips, one edge of which in each, as has been indicated, is longitudinally secured to the box and the other being free, but adapted to be secured in the box in order to form the leg supports therefor. This may be accomplished, for example, by providing tabs 32 at the free ends of each leg flap 30 and 31 which are adapted to be inserted in accommodating slots 33 in the side walls of the container. As shown in Figure 6 when the support legs 30, 31 are assembled and secured into the side walls of the container, the box 15 is adapted to rest on the support surface 40 with the cutting means 21 on the box being positioned above the level of the outlet 19. In this way a plane defined by the upper side 16 of the box that extends between the outlet 19 and the edge of the cutting means 21 describes an acute upwardly inclining angle with the plane of the surface 40 upon which the box 15 is resting. As shown in Figure 7, the support legs 30 and 31, when disengaged from the box, can conveniently be arranged to be foldable around the sides of the box for convenience in its shipping, handling, and storage. Thus the bottom leg flap 30 can be folded across the bottom side of the box with its folded-over portion arranged to bend around the lower edge of the box and extend upwardly, parallel with the side wall. The side flap 30 can be arranged in a similar manner to fold upwardly around the opposite vertical side wall of the box 15 and across its upper side 16 so as to cover the flatly disposed contiguous flaps 22, 23 when they are bent over on the upper side 16 concealing the outlet 19.

Another advantageous means for elevating the cutting means on the assembled box is depicted in Figures 8 and 9 of the drawing. This consists of a similarly foldable flap 34 secured centrally on the upper side of the box near the outlet which is adapted to be supported in a triangular or easel-like manner on the upper side 16 (by means of tab inserts or the like) in order to maintain the cutting means 21 at a level above the outlet 19 when the flap 34 is assembled and the box is ready for dispensing the sheet material. As shown, the cutting means 21 is positioned along the folded edge of the flap 34 that is formed at the accordion-fold crease provided therein when the flap is assembled on the upper side 16 as shown in Figure 8. The flap 34 may also be arranged to lay flatly on the upper side 16 of the box 15 and fall over its vertical side wall when it is not in use, as is shown in Figure 9 of the drawing.

Other means that may be suitably employed in combination with boxes in accordance with the present invention for elevating the cutting means above the level of the outlet include separate and removable, non-integral

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supporting legs that are so formed as to be adapted to tip or incline the upper side 16 of the box 15 and which may be inserted in or attached to the ends of the box during its use in the desired manner. Thus, as shown in Figures 10, 11, and 12 of the drawing, a pair of stands 35 may be employed for so mounting and positioning the box 15. The pair of the stands 35, one of which is illustrated in side elevation in Figure 11, may be comprised of a flat plate having a central aperture 36 and a pair of box-supporting lugs or projections 37 disposed to describe and form an inclined supporting angle for resting the box on relative to the feet 38 of the stand. In using such a stand, as is shown in the fragmentary cross-sectional view of Figure 12, the end wall 17 of the box 15 (which may be arranged for this purpose as a side opening tuck flap) may be opened to permit the stand 35 to be fit around the end inserting mandrel 27 that supports the supply roll 25 in the container. The mandrel 27 may be formed with an outer projecting hub designed especially for this purpose. The projections 37 on the stand extend under and support the bottom of the box 15. As is apparent, each stand 35 is one of a matched pair that is adapted to be inserted in opposite ends of a container with the higher of their feet 38 along the same edge of the box and the supporting lugs 37 extending inwardly to describe an angle in the same box-supporting plane thereunder. Upon assembly, as shown in Figure 10, the box 15 has the cutting means 21 advantageously elevated over the level of the outlet 19 for the sheet wrapping material 20. It may oftentimes be beneficial for the feet 38 of the stands 35 to be rubber-tipped or similarly provided to minimize the tendency of the assembled box to be pulled along the surface upon which it is rested. Of course, many equivalent and analogous varieties of removable (and preferably reusable) box supporting non-integral stands may be employed to assemble the container for dispensing with the cutting means above the level of the outlet. Thus stands having box-impaling projections or spear like portions or equivalent prong or tine means that need not be adjusted around the roll supporting mandrels 27 but which can be directly and rigidly inserted into the box 15 can also be easily provided.

As is apparent, the container arrangement of boxes in accordance with the present invention prevents recoil (or inadvertent withdrawal without positive tractile effort) of the withdrawn sheet material to insure that an extending portion of the sheet will remain in an accessible exposed condition between the foldable sheet engaging flaps 22, 23 after a desired length has been withdrawn and severed from the roll. In addition, when the means for elevating the cutting edge are incorporated with and included in the assembled box, the sheet material may be withdrawn and severed from the supply package at the most efficient cutting angle between the horizontal and vertical that is possible. As has been indicated, the sheet material may be withdrawn by the user to a desired length and morely pulled down over the elevated cutting edge in order to sever it from the supply roll (as illustrated in Figure 14) without changing the original sheet grasping position of the hands or manipulating the box for this purpose. During this operation, as is also illustrated in Figure 13 of the drawing, the lip-like flap 22 is bent against the cutter 21 on the foldable flap 34. As a matter of fact (although not so illustrated), both of the flaps 22 and 23 may bend with the sheet and move towards the cutter during the cutting operation. In this connection, boxes in accordance with the present invention also assist in obtaining a better cutting or tearing action of the sheet material withdrawn from the package on the cutting means associated with the container due to the positive snubbing and nipping effect exerted by the foldable flaps on the length of sheet material emerging therethrough, especially when either or both of them are bent over with

and to positively nip the sheet to facilitate its being cut along the edge of the container.

Dispensing boxes in accordance with the present invention may be employed with particular advantage for plastic wrapping films such as those which are comprised of copolymers of vinylidene chloride and vinyl chloride which may frequently be generically characterized as being sarans and which enjoy great favor as a wrapping material for domestic and other uses, especially when they are being provided in giant size, very large capacity supply rolls.

What is claimed is:

1. In combination with a wound supply roll of plastic sheet wrapping film contained therein, a dispensing box for packaging said wound supply roll said plastic sheet wrapping film, said bodies comprising a plurality of side walls and a pair of enclosing end walls between which said side walls extend longitudinally to accommodate the width of a said plastic sheet wrapping film that is contained therein; means for supporting and maintaining said supply roll of plastic wrapping film in said container; means in one of the side walls forming an elongate, linear slit-like outlet for said film wrapping contained in said container, said outlet extending longitudinally in said side wall in the direction of the width of said plastic wrapping film and parallel to the width-accommodating length of said container; a contiguous pair of bendable flaps, formed by means tending to urge one against the other, extending upwardly from said outlet containing side wall along said outlet, one of said flaps being positioned on each side of and adjacent to said outlet, said flaps being adapted to frictionally engage and grasp said film wrapping material when it is emerging through said outlet; and a cutting means positioned on said box in spaced parallel relationship with said outlet, said outlet being centrally positioned in the uppermost side wall of said bodies with the width of said contiguous flaps extending upwardly therefrom being almost equal to the distance between the outlet and said cutting means, at least one of said flaps being adapted to move towards said cutting means with said plastic wrapping film when it is being dispensed and severed from said supply roll.

2. The box of claim 1 and including, in addition

thereto, a spaced pair of matching cutouts in each of said contiguous flaps to permit engagement of said sheet material when it is contained and grasped therebetween.

3. The box of claim 1 and including, in combination therewith and additional thereto, means for positioning said cutting means on said box above the level of said outlet when said box is resting upon a supporting surface so that a plane extending between the edge of said outlet and said cutting means describes an angle with the plane of the surface upon which said box is resting.

4. The box of claim 3, wherein the means for elevating the cutting edge are a pair of foldable accordion-creased legs attached to the bottom and side walls, respectively, of said box and extending longitudinally therealong, said legs being adapted to be secured in said bottom and side walls for forming box top-inclining leg supporting means, said legs being further adapted to be folded over and along the side walls of said box when not in use.

5. The box of claim 3, wherein the means for elevating the cutting edge is a foldable accordion-creased flap extending longitudinally from along the outlet on the upper side of said box and along the foldable edge of which said cutting means are provided, said foldable flap being adapted to be elevated from and secured in easel-like fashion to the upper side of said cutting means with its foldable edge above the level of said outlet and being further adapted to being folded over and rested flat against the side walls of said box when not in use.

6. The box of claim 3, wherein the means for elevating the cutting edge are a pair of non-integral support stands adapted to be inserted within the ends of said box for mounting it on a surface so that its upper outlet containing side is tilted at an angle relative to said supporting surface.

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