

Feb. 19, 1952

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2,586,566

SHEET MATERIAL CUTTING DEVICE

Filed Dec. 5, 1949

2 SHEETS—SHEET 1

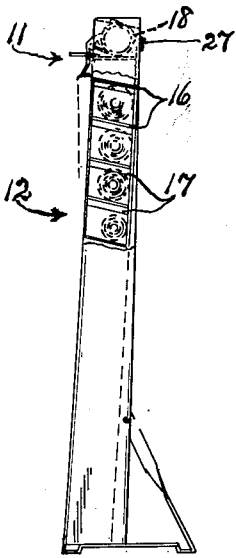


Fig. 1.

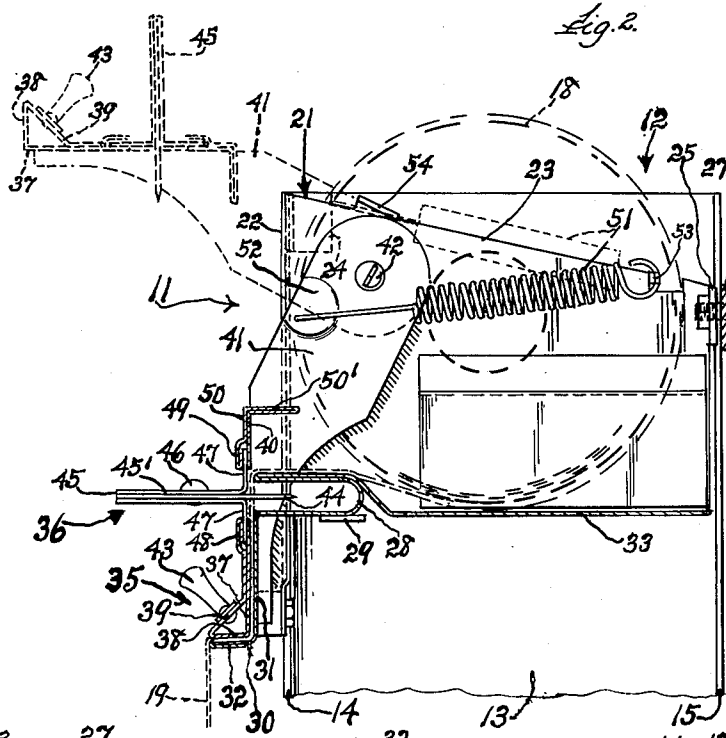


Fig. 2.

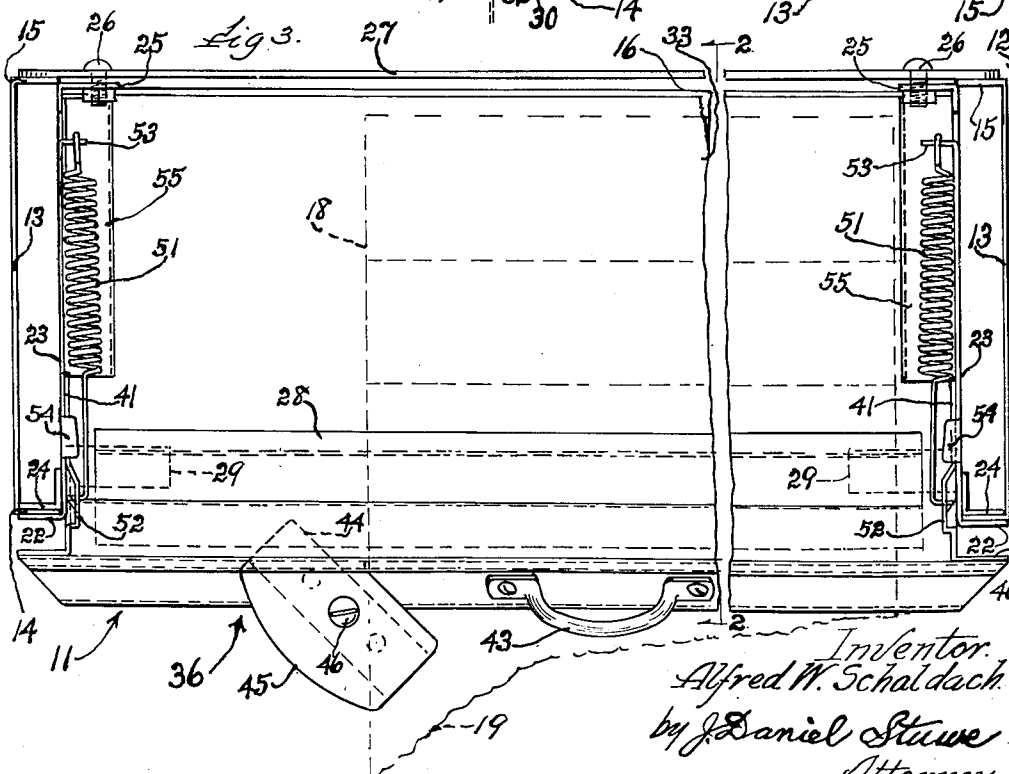


Fig. 3.

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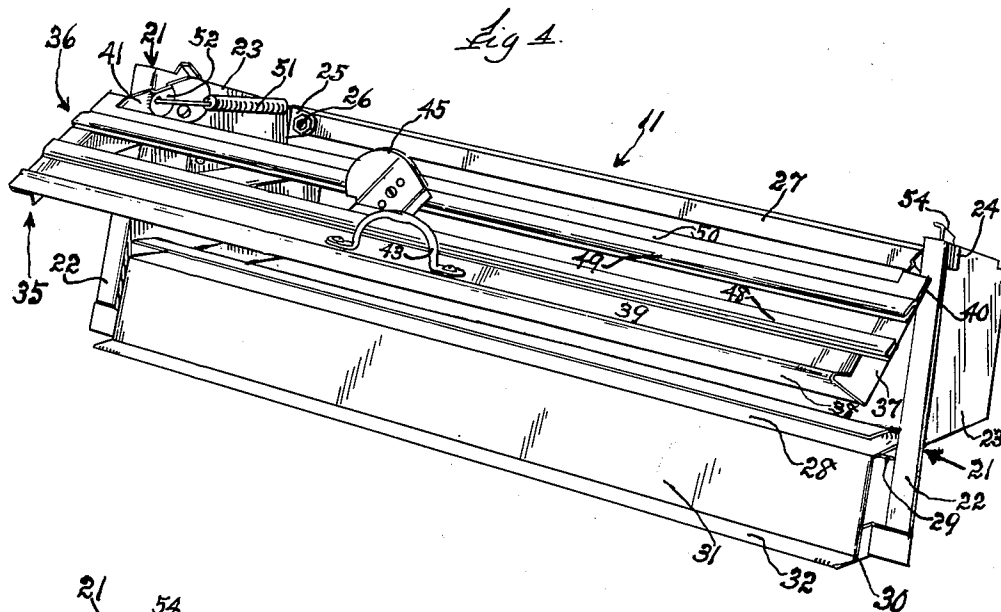
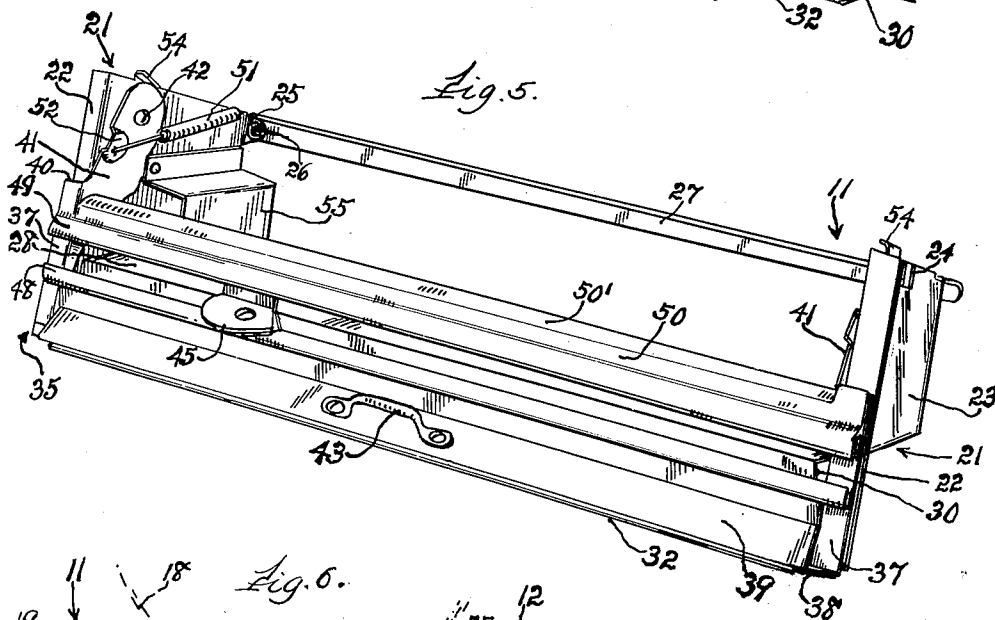
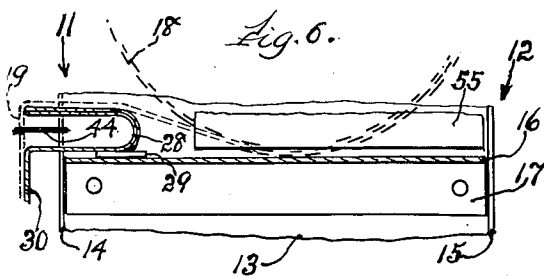
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SHEET MATERIAL CUTTING DEVICE

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2 SHEETS—SHEET 2



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UNITED STATES PATENT OFFICE

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SHEET MATERIAL CUTTING DEVICE

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2 Claims. (Cl. 242—55.4)

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This invention relates to an improved sheet material cutting device.

One of the essential objects of this invention is to provide an improved device for cutting a desired portion of sheet material, such as oilcloth and other pliable sheet material, from a roll or pack or similar supply thereof, and whereby the material will be held firmly in place and a straight-cut end produced on said portion.

Another object of this invention is to provide a sheet material cutting device which will hold the material firmly in place during the cutting operation, and will moreover hold the end of the portion after it has been cut-off from the roll, so as to prevent it from dropping away from this device, before that is desired.

Another object of this invention is to provide such a cutting device which comprises material holding means and cutting means of an improved and economical construction, and which is arranged so that it can be readily mounted onto any of several types of racks or stands that are equipped with a shelf or the like for supporting a roll or supply of sheet material, to be cut by this device.

A more particular object of this invention is to provide such an improved cutting device which comprises a novel member, preferably in the form of a narrow channel member, which coacts with the cutting knife for producing a straight and clean cut on any thin sheet material, and furthermore functions for holding the roll or pack of the material rearward of it on the shelf during the cutting operation and also to induce a taut stretching of said material across this channel when the sheet material is being clamped in this device, to assure such a straight cut.

These and various other objects and advantages are attained with this invention as will become apparent from the following description, taken in connection with the accompanying drawings wherein the invention is illustrated in its preferred form, it being evident that various other arrangements and forms of construction may be resorted to for carrying out the objects and purposes of this invention.

This invention is an improvement over and is in part similar to my prior one disclosed in my Patent No. 2,259,117, of October 14, 1941, for Device for Holding and Cutting Sheet Material.

In the drawings:

Fig. 1 is a side elevational view of one type of material supporting rack having my improved cutting device mounted in position thereon, part of the side frame of the rack being broken away.

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Fig. 2 is a vertical cross-sectional view of this device and the part of the rack whereon it is mounted, an apron for supporting the roll being also shown herein and the view taken on line 2—2 of Fig. 3.

Fig. 3 is a top plan view of said device, along with the attached part of the rack, the middle portion being broken away.

Fig. 4 is a perspective view of this cutting device in a preferred form, having the swingable cutting means shown open.

Fig. 5 is a perspective view of this form of device, showing the swingable cutting means in its closed position.

Fig. 6 is a fragmentary view of this form, without any roll-supporting apron, and being adapted to bear upon a roll-supporting shelf which exists near the top of such a rack.

My improved material cutting device as disclosed herein is arranged and adapted to be readily mountable onto a known rack, stand or support comprising the customary shelf or other means for supporting thereon a roll, bolt, pack or similar supply of sheet material, such as oilcloth, rubberized cloth, paper, etc.; and this device is mounted in the proper position on such rack or support so that the desired portion of the sheet material can be conveniently drawn from the supply thereon and extended thru this device to be cut off thereby.

In the drawings this invention is illustrated in the form of a cutting device 11, and being mounted onto a known type of rack 12 that includes a pair of opposite side frame members or uprights 13 containing thereon laterally extending front flanges 14 and rear flanges 15, and having material supporting shelves 16 between said uprights and suitably connected thereto, as by flanges 17; while the customary brace means may also occur between such uprights to brace the rack. The supply of sheet material is shown in dash lines and in the form of a roll 18, having the portion 19 to be cut off therefrom extending thru and depending from this device.

This cutting device 11 comprises a pair of frame members 21 at its two opposite ends, each of which includes a substantially vertically and laterally extending front flange or bar 22 and a mounting member 23, in the form of a plate, extending rearward from the upper portion of said front flange 22, adapted to be connected to the rack. For mounting this disclosed form of my device to this type of rack, angle members 24 are suitably secured to the plates 23 of these frame members 21, being positioned adjacent the

front flange 22, so as to receive and preferably to clasp firmly therebetween the forward flange 14 of the rack, as best shown in Fig. 3. An ear 25 extends from the rear part of each plate 23, and it is preferably perforated to receive a bolt 26 whereby to suitably secure this device to the rack. A rear fastening bar 27 may herewith also be provided, and it is shown as being secured by said bolt 26 on this device and utilized for clasp- 10 ing the rear flanges 15 of the uprights 13 between the ends of this bar 27 and the rear parts of said two mounting plates 23, as best shown in Fig. 3.

With this arrangement and use of elements, on this form of cutting device, it can be readily mounted on such a rack by sliding it downward 15 on the upper part thereof, with its front flanges 22 and the angle members 24 clasping therebetween the front flanges 14 of the rack, and then securing the bolts 26 in place; and in this form as shown herein such bar 27 will have its ends pressed against the rear flanges 15 of the rack, so as to clamp this device firmly but detachably in position on this rack.

This device is furthermore provided with an improved and narrow cutting channel 28, which is U-shaped in cross-section and extends across the front of this device, being supported upon lugs 29 which extend inwardly from the mounting plates 23; and in mounting this device said chan- 25 nel 28 is positioned so as to be above or higher than the shelf 16 of the rack, which carries the roll or supply 18 of material, as best shown in Fig. 6 of the drawings. From the lower front part of this channel depends a trough 30 includ- 30 ing a vertically extending front flange or apron 31 having a flange 32 extending horizontally forward therefrom; and these flanges 31 and 32 are economically made integral and are substantially right-angular in cross-section. These trough flanges are preferably also made integral with said channel 28 thereabove, so that this channel and trough can be conveniently constructed from one piece of sheet metal.

In mounting my improved cutting device, especially in the form shown in Figs. 4, 5 and 6, on this type of rack 12 as shown, the channel 28 with the trough 30 are mounted stationary on the rack and are placed to extend across the front thereof, with said channel positioned just above the shelf 16 whereon the roll 18 of sheet material is supported, so that the material will be drawn across said channel and trough in extending it from the roll; and it is apparent that this channel will thus function for retaining the roll of ma- 35 terial rearward thereof on the shelf, during the unrolling action as well as otherwise.

As disclosed herein, this device is mounted on the upper part of the rack; and, in the form as best shown in Fig. 6, it may be arranged and positioned so that its lugs 29 rest upon the upper shelf 16 of the rack, and then have the roll 18 also supported upon said upper shelf. However, where the rack, that is to be fitted with this improved cutting device, does not have its upper shelf near the top part of the rack, there a suitable apron or roll-supporting plate 33 will furthermore be included; and it may be conveniently provided by extending it rearward from the upper rear part of the channel 28, and may be of sheet metal integral with said channel, as indicated in Fig. 2. Other- 40 wise these structures are identical, except for including or omitting such apron 33.

Swingable means is mounted on said station- 45 ary means 28 and 30 to extend across the front thereof, and it comprises material holding means

35 to cooperate with said trough 30 in holding the material firmly therebetween, and comprises cutting means 36 to cooperate with said channel 28 in cutting the material. Said holding means 35 includes a vertically extending flange 37 and a flange 38 integral therewith and extending hori- 40 zontally forward therefrom and having a flange part 39 bent upward and rearward thereon, against flange 37; and these flanges 37 and 38 are arranged so as to fit closely against the trough flanges 31 and 32, to clasp and firmly re- 45 tain the extend sheet material therebetween. A front portion 40 extends up from each of the two ends of said flange 37, and a platelike arm or bar 41 extends rearward and upward from said portion 40, being preferably integral therewith. Each of these arms 41 is pivotally connected, by a pivot element 42, to one of the plates 23. A suitable handle 43 is provided on said swingable means 35.

The swingable cutting means 36 comprises a knife 44 and a handle 45 therefor which is readily made from a piece of sheet metal having two spaced side portions 45' arranged for holding the knife blade 44 detachably therebetween, as by use of a screw 46. The ends of the handle metal are bent outward to form slide flanges 47; while a pair of slideways are provided for said flanges 47 by means of a lip 48 at the top of said flange part 39 and spaced slightly from flange 37, and a companion lip 49 above lip 48 and bent out- 50 ward and downward from a strap 50 which extends across this means 36 and has its ends se- 55 cured on said two front portions 40, while an upper strip 50' is bent inward from said strap 50 between said arms 41. These lips 48 and 49 with the flange 37 and strap 50 provide slideways with a slot therebetween wherein the knife travels dur- 60 ing the material cutting operation.

This swingable means, including the holding means 35 and the cutting means 36, is provided with snap action hinge means to facilitate speedily moving or snapping said means 35 and 36 into either the lowered closed position or the raised open position, as well as retain the same securely held in either one of these positions. This snap action means comprises a pair of coil springs 51, each having its forward end attached to an inwardly pressed part or ear 52 on one of said arms 41, and having its rearward end at- 55 tached to a lug 53 bent inward from the adjoining mounting plate 23. These two springs 51 and their end attachments 52 and 53 on said arms and plates are so arranged and positioned that the springs are placed well above the pivot elements 42 of the arms while the latter are in the open position, and are well below said pivot elements 42 while in the closed position, and the springs are taut, so as to effect a strong snap action. 60 Stop lugs 54 are also bent inwardly from plates 23, to limit the upward movement of arms 41.

A suitable abutment or narrow ledge 55 may also be provided with this device, being placed adjacent the plate 23 and extended inward there- 65 from beyond the spring 51, so as to avoid any placing or moving of the roll 18 into close and injurious contact with said spring.

I claim:

1. A device for use on a rack containing side 70 frames having laterally extending flanges, also a shelf between the upper part of said frames for supporting a pack of sheet material thereon, said device comprising a horizontally extend- 75 ing channel member having means depending integral from its lower front edge, plates extend-

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ing rearward from the opposite ends of said member located to fit alongside said frames and equipped with means for claspingsome of the flanges on said frames and other means for engaging the other flanges thereon, whereby to mount this member onto the front part of the shelf and function to retain the pack of material therebehind while the desired portion of the material is extended across this member, movable means containing side arms pivotally connected at their rear ends to said plates for mounting them swingably on said plates, cutting means on the front ends of said plates and including a knife to travel in the channel of said member for effecting a straight cut on the material, means on said movable means to coact with said depending means for firmly holding the upper part of the portion of material cut off from the roll, and a pair of coil springs each having one end connected to one of said plates and having the other end connected to the intermediate part of one of said arms, whereby to produce a strong snap-action for holding said movable means firmly in its open position as well as in its closed position.

2. A device for use on a rack containing a pair of side frames including laterally extending flanges and having a shelf between the upper part thereof for supporting a pack of sheet material, said device consisting of a pair of rearwardly extending plates to be placed alongside said frames and being equipped with slightly spaced means for claspingsome of said flanges therebetween and also other means for fastening the plates to the other flanges, whereby to readily and detachably mount this device by pressing it down onto the upper part of said rack, a channel member

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at the lower front of said plates, being of curved over sheet material providing a narrow channel and having a trough depending from its lower front edge and integral therewith, said channel member being positioned partly upon the front part of said shelf, to aid in retaining the pack on the shelf while the material is drawn across said member, swingable means including side arms having holding means between their front ends to fit closely against said trough and clasp the extended material therebetween, pivot means at the rear ends of said arms mounting them swingably onto said plates, means including a knife to travel in said channel for cutting the material, and coil springs having their ends connected to said arms and to said plates, positioned to place the arms well above said pivot means while in the open position and also well below said pivot means while in the closed position and produce a strong snap-action for holding the swingable means securely and clasp the material firmly to provide a smooth cut.

ALFRED W. SCHALDACH.

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