Nov. 10, 1964 H. R. JOHANNES 3,156,392

SHEET MATERIAL DISPENSER

Filed Dec. 27, 1962 4 Sheets-Sheet 1

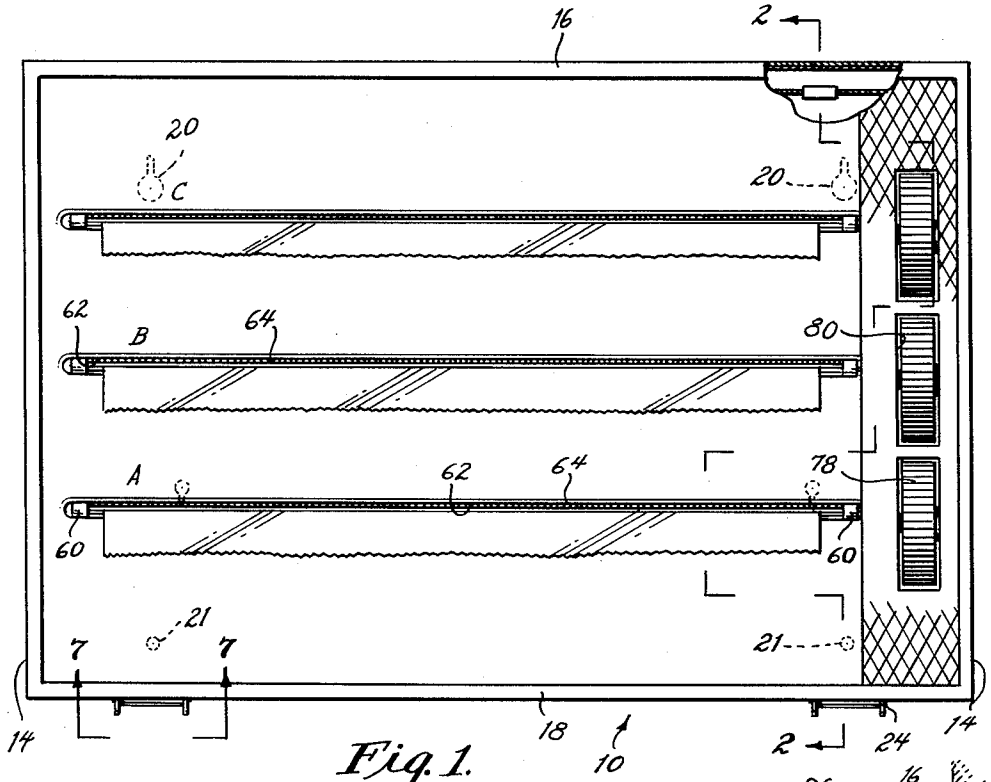


Fig. 1.

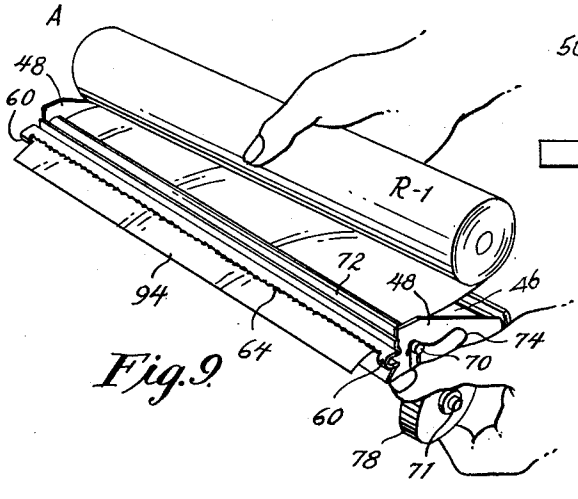


Fig. 9.

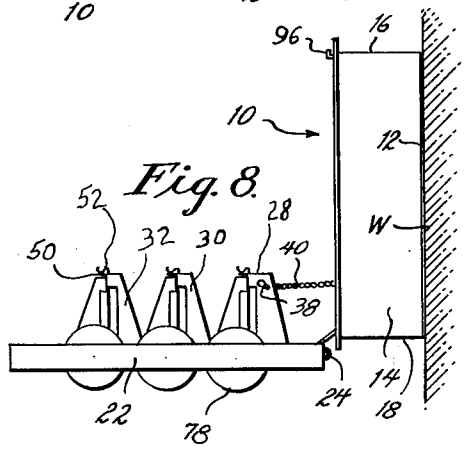


Fig. 8.

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SHEET MATERIAL DISPENSER

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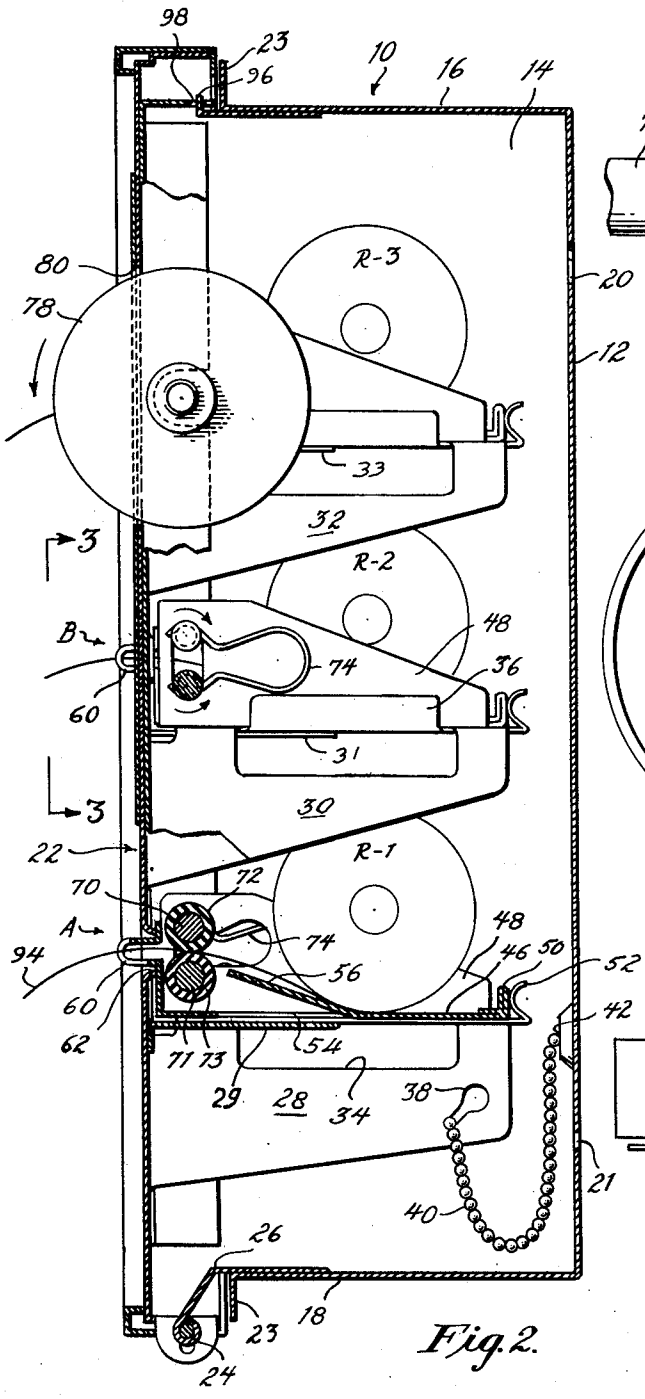


Fig. 2.

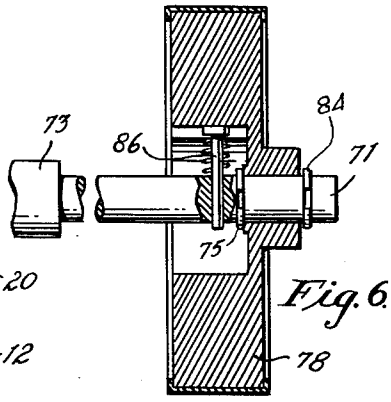


Fig. 6.

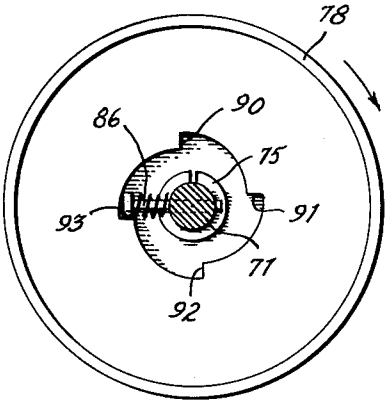


Fig. 5.

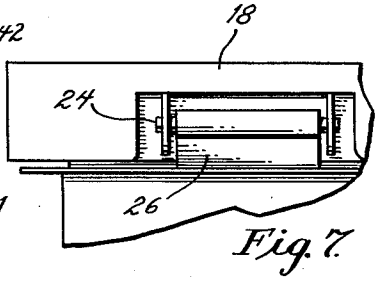


Fig. 7.

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SHEET MATERIAL DISPENSER

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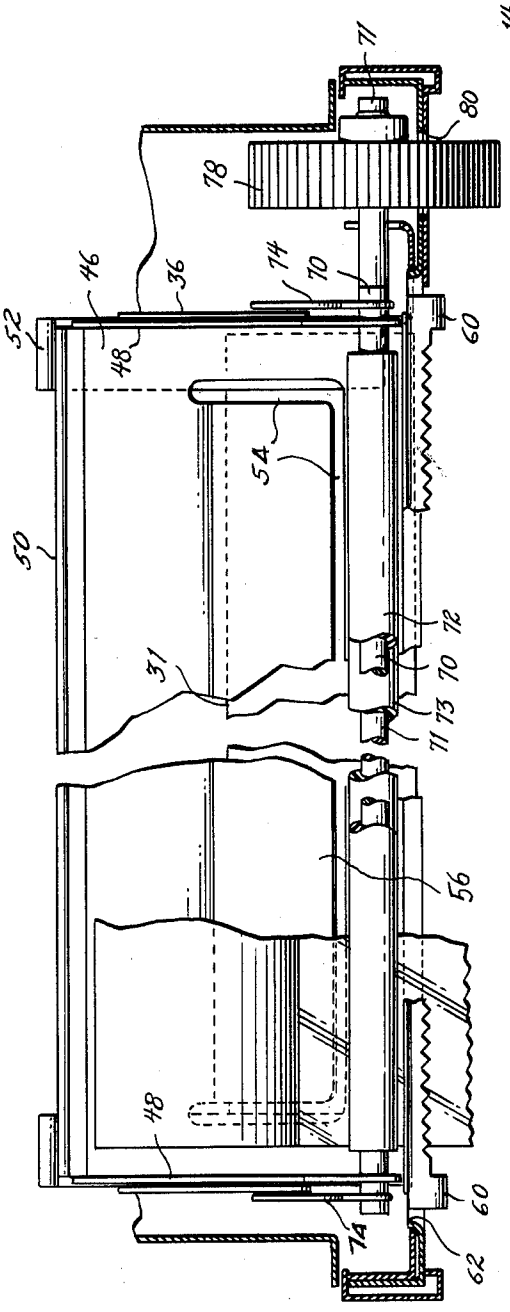


Fig. 4.

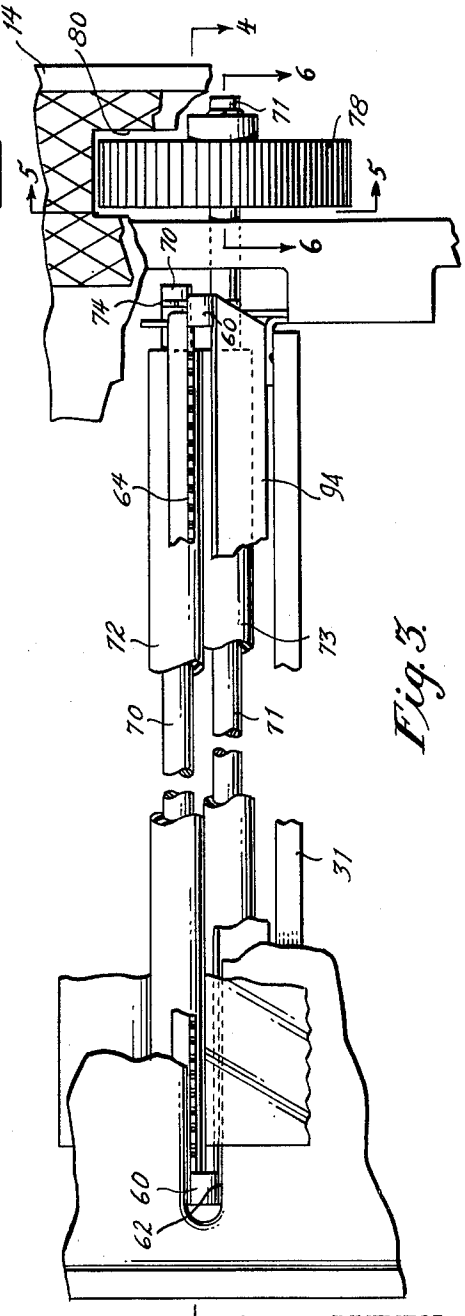


Fig. 5.

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SHEET MATERIAL DISPENSER

Filed Dec. 27, 1962 4 Sheets-Sheet 4

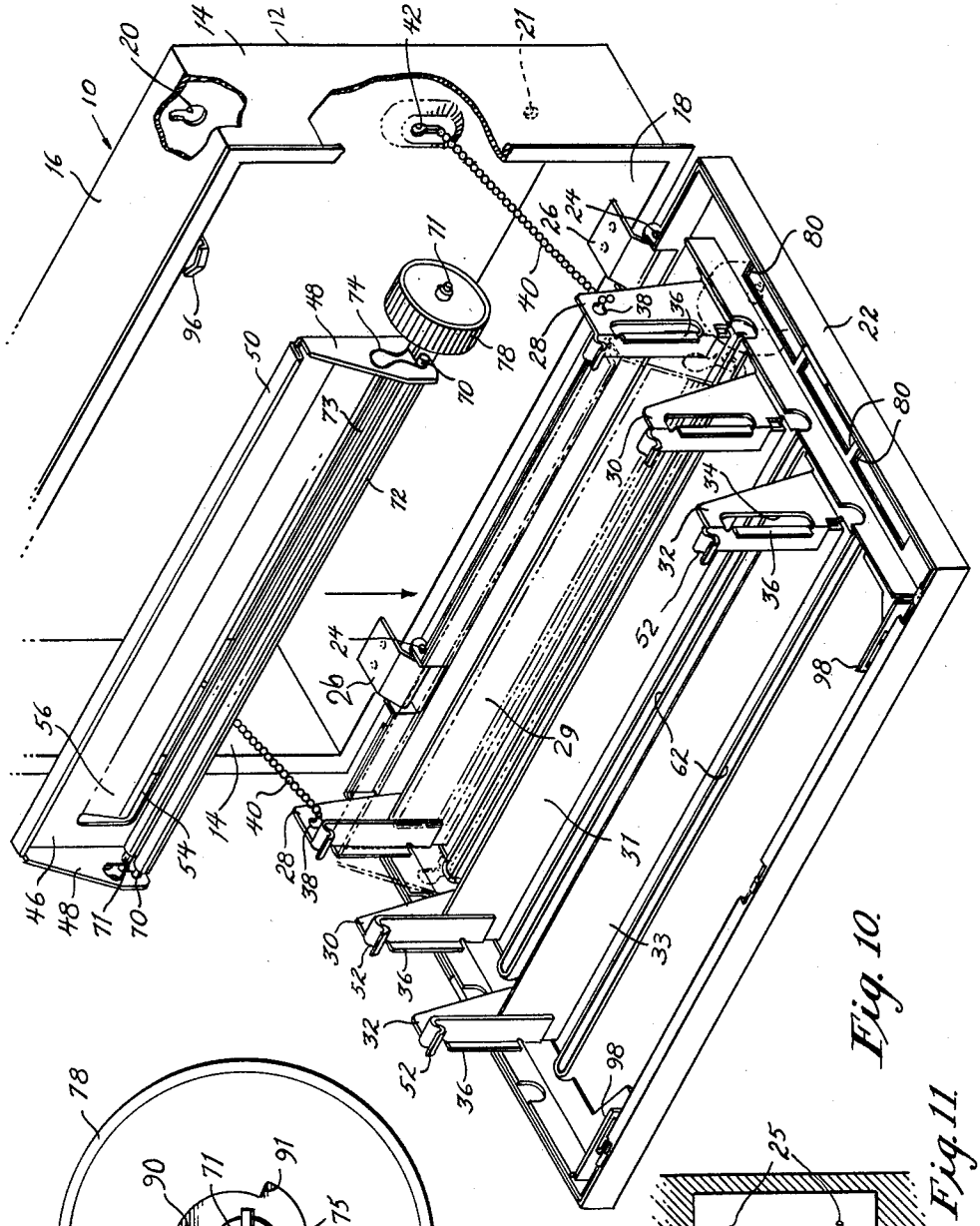


Fig. 10.

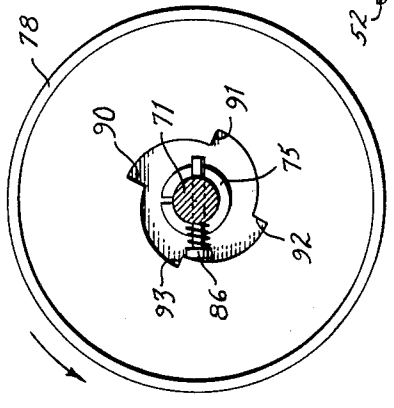


Fig. 5a.

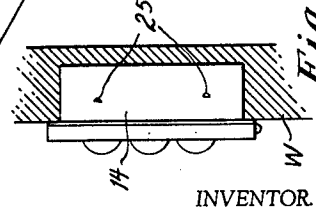


Fig. 11.

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United States Patent Office 3,156,392 Patented Nov. 10, 1964

3,156,392

SHEET MATERIAL DISPENSER

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Filed Dec. 27, 1962, Ser. No. 247,758
4 Claims. (Cl. 225—38)

This invention relates to a sheet material dispenser which is especially adapted for dispensing wax paper, metal foil, plastic wrap, and the like from rolls concealed within the dispenser.

One object of the invention is to produce an improved dispenser of the type set forth.

A further object of the invention is to produce a dispenser which will unwind and pay out the desired material but which will not rewind the material whereby, once the leading edge of the sheet material is made available outside the dispenser casing, it cannot be withdrawn back into the casing.

A still further object of the invention is to produce a sheet material dispenser, the parts of which can be easily dismantled, loaded with the sheet material to be dispensed, and easily re-assembled by an ordinary user having no special skill and having no tools.

A still further object is to produce a dispenser which is attractive, unobtrusive and inexpensive to manufacture.

A still further object is to produce an improved sheet material dispenser which includes a plurality of individual dispensing mechanisms, each of which is separately removable for individual replenishment and for use away from the machine itself.

These and other objects of the invention will be clearly understood from the following specification and drawings in which:

FIG. 1 is a front elevational view of the sheet material dispenser embodying the invention.

FIG. 2 is an enlarged sectonal view looking in the direction of line 2—2 on FIG. 1.

FIG. 3 is an enlarged view looking in the direction of line 3—3 on FIG. 2, certain parts being broken away to show details of construction.

FIG. 4 is a sectional view looking in the direction of line 4—4 on FIG. 3, certain parts being broken away to show details of construction.

FIG. 5 is an enlarged sectional view looking in the direction of line 5—5 on FIG. 3.

FIG. 5A is similar to FIG. 5, but showing the parts in a position angularly displaced from the position shown in FIG. 5.

FIG. 6 is an enlarged view looking in the direction of line 6—6 on FIG. 3, certain parts being omitted.

FIG. 7 is an enlarged sectional view looking in the direction of line 7—7 on FIG. 1.

FIG. 8 is a much reduced end elevational view showing the dispenser in the open position for loading.

FIG. 9 is a fragmentary perspective view showing the manner in which the dispenser is loaded with new rolls of material.

FIG. 10 is a perspective view of the dispenser in the open, or loading position, and showing the manner in which the dispenser is loaded.

FIG. 11 is a fragmentary view, partly in vertical section and partly in elevation, showing how the dispenser can be recessed into a wall instead of being mounted against the surface of the wall.

The dispenser illustrated is constructed to dispense sheet material from three rolls, but it is obvious that the dispenser can be constructed to operate with a larger or smaller number of rolls.

As best shown in FIGS. 2 and 8, the dispenser includes a box-like casing 10 formed of rear wall 12, end walls 14 and top and bottom walls 16 and 18. The rear wall 12 is provided with keyhole slots 20 and round holes 21 for engaging horizontally disposed screws or studs firmly and detachably to mount the dispenser on a wall, or other vertical surfaces. If desired, casing 10 can be embedded, or recessed, into a wall, in which case, surface 23, FIG. 2, will abut the wall. When recessed into a wall, as shown in FIG. 11, the side walls 14 of the casing will be provided with fastener locating depressions 25 for mounting the dispenser between adjacent wall studs. The width of end walls 14 and of top and bottom walls 16 and 18 is such as to give the box 10 the depth needed to accommodate the sheet material rolls and the operating parts which are hereinafter described. The dispenser also includes a front cover 22 which is hinged, as at 24, to the front edge of bottom wall 18, or to a bracket 26 spot-welded thereto, whereby the front cover may be moved from the vertical, closed position of FIG. 2, to the substantially horizontal, open position shown in FIG. 8.

A dispenser constructed for dispensing material from three rolls, R–1, R–2 and R–3, will include three pairs of rigid stationary brackets 28, 30 and 32 which carry shelves 29, 31 and 33, respectively. The brackets of each pair of brackets are cut out, as at 34, to form flanges 36 which are substantially normal to the intermediate shelf. See FIG. 10. At least one pair of brackets, such as brackets 28, is provided with keyhole slots 38 for engaging the ends of chains, or the like, 40, the other ends of which engage holes 42 in rear wall 12 to support the weight of the front cover and the parts carried thereby when the front cover is in the horizontal open position of FIG. 8.

The three sheet material rolls and the dispensing mechanisms A, B and C, FIG. 1, are identical and therefore only one of them, such as mechanism A, will be described in detail. As best shown in FIGS. 2 and 9, each dispensing mechanism includes a tray 46, the opposite ends of which are bent upwardly, as viewed in FIG. 2, to form substantially vertical end flanges 48 which co-act with the intermediate body of the tray to receive and locate a roll, such as roll R–1, of sheet material. The inner edge of tray 46, as viewed in FIG. 2, is bent upon itself, or is otherwise provided with a flange 50, which yieldably engages springs 52 which are formed at the ends of bracket 28, detachably to retain the tray in position on its shelf 29. In other words, by pulling on flange 50, upwardly and to the left, as viewed in FIG. 2, tray 46 can be bodily removed. Tray 46 is provided with a slot 54 which extends along three sides of the tray, FIG. 4, to produce a portion 56 which is deflected upwardly, as viewed in FIG. 2, to form a retainer for the roll R–1 of the sheet material to be dispensed. The opposite ends of the outer edge of tray 46 are bent to form U-shaped corners 60 which, in the assembled condition pass through, and yieldably engage, the edges of a slot 62 in the front cover. The edge 64 of the tray between U-shaped corners 60 is serrated to form a cutting edge against which the material pulled through slot 62 is cut.

The end flanges 48 at the opposite ends of each tray 46 are provided with openings through which the shafts 70 and 71 of a pair of adjacent nip rolls 72 and 73 pass. Rolls 72 and 73 are yieldably pressed together by means of springs 74 which are retained in grooves on the ends of shafts 70 and 71. The shaft of one of the rolls, such as shaft 71 of roll 73, is extended so as to engage an operating knob 78 a portion of which, as projects through a slot 80 in the front cover 22 so as to be accessible from the front of the machine, which is the left-hand side in FIG. 2 or the bottom wall in FIG. 3. Knob 78 is held in position between inner and outer split rings 84 and 75, FIG. 6, which seat in grooves in the end of shaft 71

and is keyed to the shaft by a spring cushioned pin 86. The inner side of knob 78 is hollow and is provided with cams 90, 91, 92, 93 (FIGS. 5 and 5A) which, when the knob is turned in clockwise direction, or in the direction of the arrow in FIG. 5, engage the head of pin 86 to rotate roll 73. Rotation of nip roll 73 rotates nip roll 72 which is in frictional contact therewith to pay out the sheet material 94 on corresponding supply roll R–1. As will be seen from FIGS. 5 and 5–A, rotation of knob 78 in the opposite direction does not rotate roll 73 and will therefore not rewind the sheet material on its roll. In other words, once the edge of a sheet is threaded through slot 62, it can be paid out by rotation of knob 78 in one direction, but cannot be withdrawn into the casing by rotation of knob 78 in the opposite direction.

Reverting to FIGS. 5 and 5–A, it will be noted that when knob 78 is turned in counterclockwise direction, as viewed in FIG. 5–A, the inwardly slanted surfaces between adjacent cams merely compress the spring on pin 86 and allow the pin to move radially inwardly, as shown in FIG. 5–A. When the head of the pin clears a slanted area, the spring moves the pin radially outwardly so as to be engageable with the approaching cams 90, etc., should knob 78 be turned in clockwise direction, as viewed in FIG. 5.

The operation is as follows:

The dispenser is suspended from a wall W, or other surface, and the cover is moved to the open position of FIG. 10. By pulling on flanges 50, upwardly and to the left, as viewed in FIG. 2, trays 46 of rolls R–1, R–2 and R–3 are removed from between the respective pairs of brackets 28, 30 and 32. A roll of paper, plastic wrap, wax paper, or foil, etc., is then placed on tray 46, as shown in FIG. 9, and the leading edge of the material is threaded between nip rolls 72 and 73. When each of rolls R–1, R–2 and R–3 has been thus positioned on its corresponding tray 46, the loaded trays are placed in position between pairs of brackets 28, 30 and 32, respectively, the ends of the sheet material on the various supply rolls are threaded through corresponding slots 62 and the cover is moved to the vertical position of FIG. 2, further rotating of one or another of knobs 78, in sheet-paying direction, will propel the sheet material of the corresponding supply roll. It will be noted that rotation of knobs 78 in the opposite direction will not withdraw the sheet material.

The cover can be held in the vertical, closing position in any desirable manner but, as shown, the cover is loosely hinged at 24 so as to have free movement up and down, and the front edge of top wall 16 is provided with a lug 96 which detachably engages the upper edge of the cover, as at 98. To open the cover, it is raised until lug 96 clears slot 98.

What I claim is:

1. A sheet material dispenser comprising:
a box-like receptacle,

a cover having a slot therein and hinged to a side of said receptacle,
a shelf carried by said cover,
a separate tray,
means for releasably clamping said tray to said shelf,
means yieldably and detachably clamping a sheet material supply roll on said tray,
nip rolls carried by said tray and adapted to receive the lead end of the sheet material there-between and disposed in registration with said slot, and
actuating means operable from without said receptacle for unidirectional turning, said rolls to propel the sheet material through said slot.

2. The structure recited in claim 1 in which said nip rolls are carried by said tray, and in which said cover is provided with an opening and said actuating means projects through said opening, said cover constituting the front of said dispenser and in which the edge of said tray adjacent said rolls forms a cutting edge and extends through said slot.

3. The structure recited in claim 1 in which said actuating means includes a rotary knob loose on the shaft of one of said rolls,
said knob having a recess in a side thereof,
at least one cam in said recess, and
means fixed on said shaft and engageable with said cam when said knob is turned in one direction, said last-mentioned means being un-engageable with said cam when the knob is rotated in the opposite direction.

4. A sheet material dispenser comprising a box-like receptacle including a rear wall, a top wall, a bottom wall and side walls and having a front opening,
a cover for closing said front opening,
means hinging said cover to said receptacle, there being a slot in said cover,
a shelf on the inside of said cover,
a separable tray,
means releasably clamping said tray to said shelf,
means on said tray for supporting a supply roll of sheet material on said tray,
nip rolls carried by said tray and disposed adjacent said slot,
there being an opening near an edge of said cover,
actuating means projecting through said opening and operative for unidirectionally rotating said nip rolls to propel sheet material from said roll through said slot, and
a cutting edge carried by said tray and projecting through said slot.

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