Dec. 21, 1948. LE ROY L. WERNER 2,456,660

DISPENSING ROLL HOLDER

Filed Aug. 8, 1944 3 Sheets-Sheet 1

Fig. 1

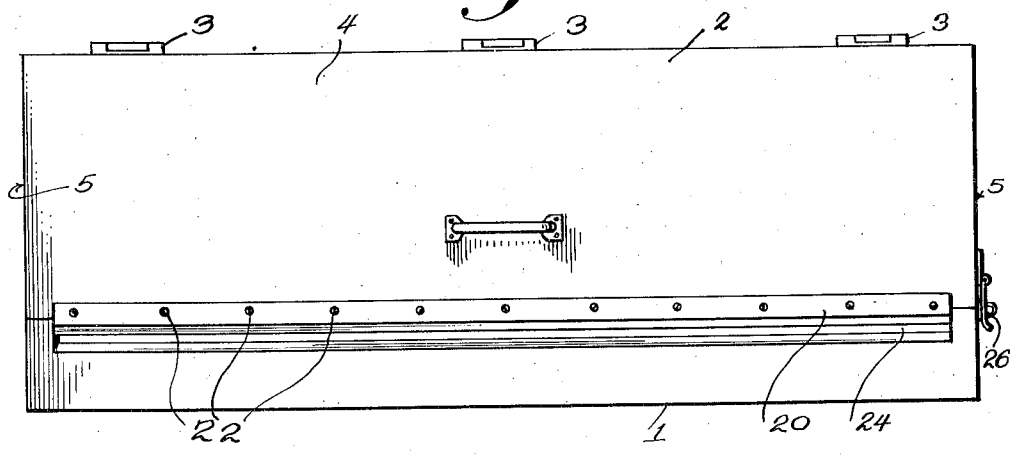
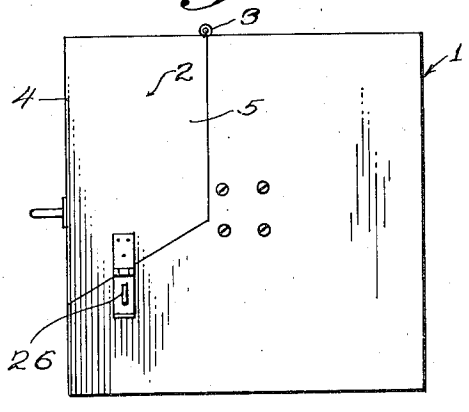


Fig. 2



INVENTOR.
LeRoy L. Werner
BY
ATTORNEY

Dec. 21, 1948. LE ROY L. WERNER 2,456,660

DISPENSING ROLL HOLDER

Filed Aug. 8, 1944 3 Sheets-Sheet 2

Fig. 3

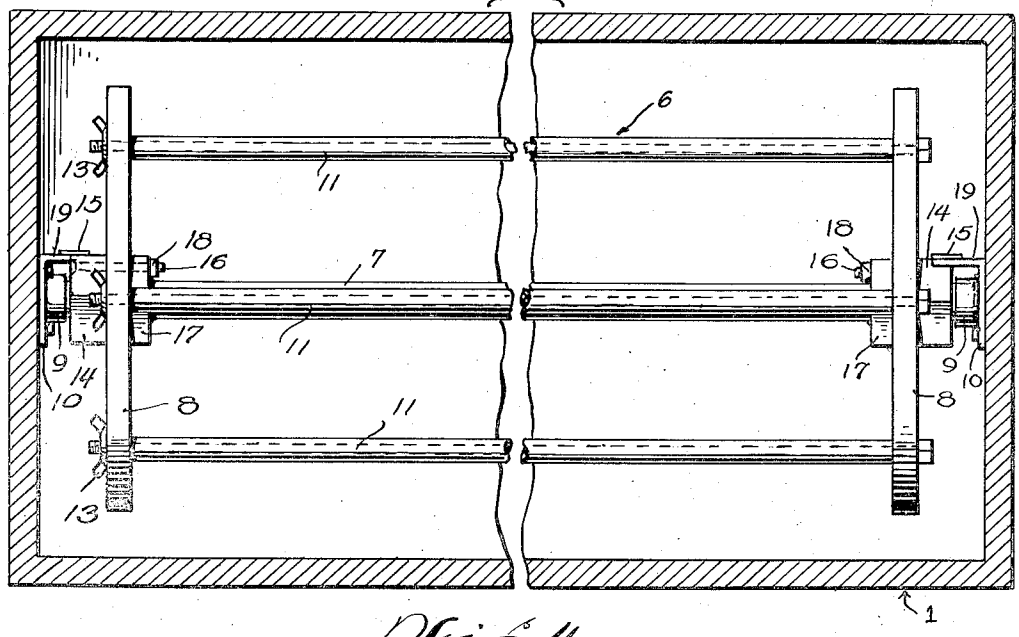
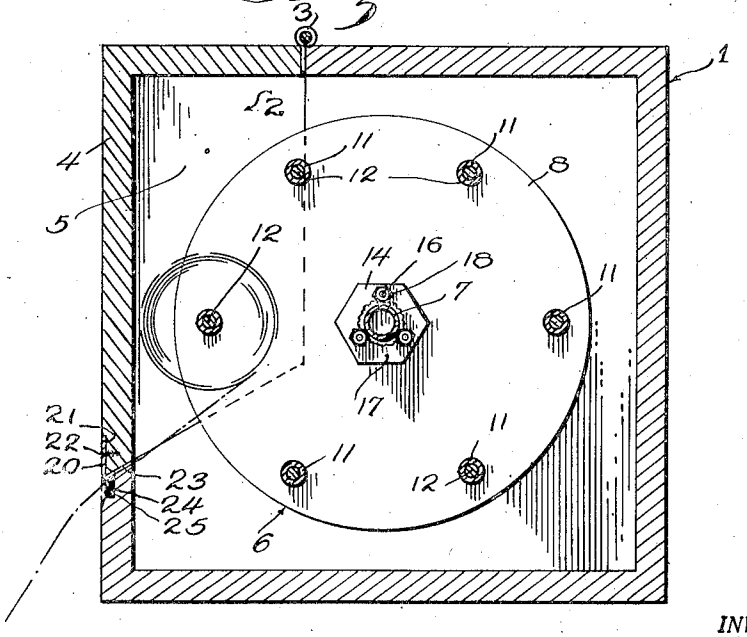


Fig. 4



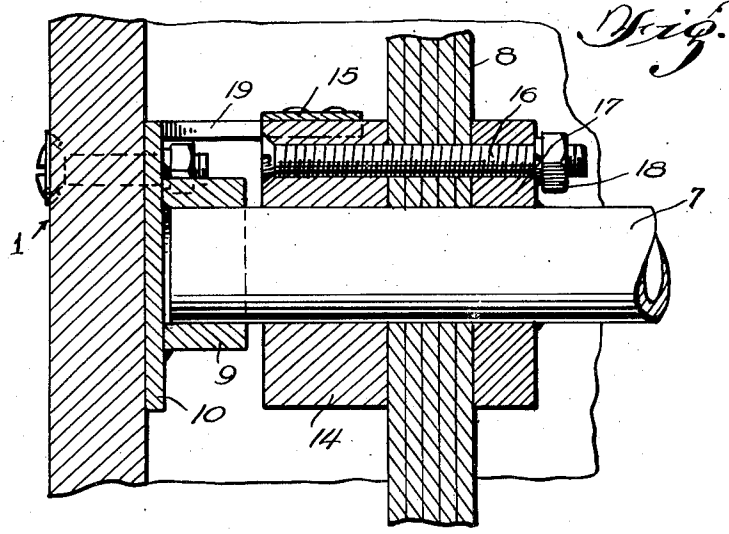
INVENTOR.
LeRoy L. Werner
BY
ATTORNEY

Dec. 21, 1948. LE ROY L. WERNER 2,456,660

DISPENSING ROLL HOLDER

Filed Aug. 8, 1944 3 Sheets-Sheet 3

Fig. 5



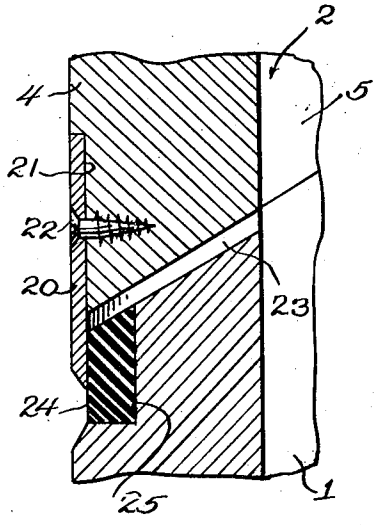


Fig. 7

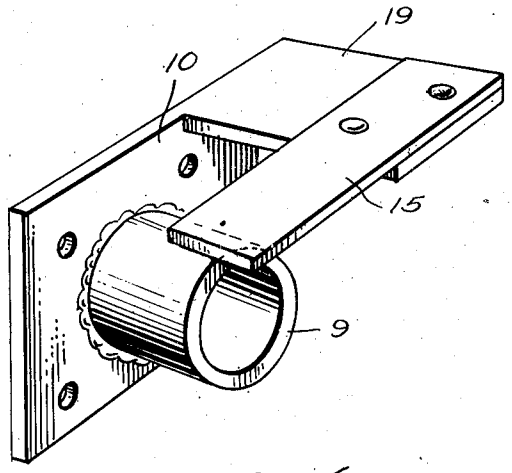


Fig. 6

INVENTOR.
LeRoy L. Werner
BY
ATTORNEY

Patented Dec. 21, 1948

2,456,660

UNITED STATES PATENT OFFICE

2,456,660

DISPENSING ROLL HOLDER

Le Roy L. Werner, Washington, D. C.

Application August 8, 1944, Serial No. 548,591

12 Claims. (Cl. 242—55.4)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

1

The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes without the payment to me of any royalty thereon.

The present invention relates to a cabinet for storing a plurality of rolls of sheet material, such as tracing paper, and for dispensing the paper from one roll and then a succeeding roll, as the first roll is exhausted.

A primary object of the invention resides in the provision of a cabinet of relatively simple design which will not only maintain a large supply of the particular material in its original conditon of smoothness and cleanliness, but which also admits of the severance of sheets of the desired length from time to time as required.

Another object of the invention consists in providing a novel combination of cabinet, closure and multiple reel, wherein the supplemental reels, or the axles thereof, may be removed in a longitudinal direction for the purpose of substituting new rolls.

A further object of the invention resides in the provision of a novel mounting for the reel in combination with an automatically releasable means for maintaining the reel in any one of a plurality of positions.

A still further object of the invention consists in the provision of a fixed knife blade on the lower edge of the cabinet closure and a cooperating gasket, which not only facilitate the dispensing of the sheet sections but also serve to exclude dust and dirt from the interior of the cabinet.

Other objects and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawings, in which—

Figure 1 is a front elevational view of the complete cabinet.

Figure 2 is an end view of the disclosure of Figure 1.

Figure 3 is a front elevational view of the multiple reel and the interior of the cabinet, the front of the cabinet being removed, and parts broken away.

Figure 4 is a transverse sectional view of the reel and cabinet.

Figure 5 is an enlarged detail sectional view of one end of the reel, showing the combined bearing and spring detent.

Figure 6 is a perspective view of the combined bearing and spring detent per se, and

Figure 7 is an enlarged sectional view through the cutter and related parts.

As heretofore mentioned it is one of the primary objects of the invention to so store a plurality of rolls of paper as to avoid such wear and tear as often occur in the ordinary handling of rolls of sheet material, exclude dust and dirt, and yet provide for easy and quick access to the paper and facilitate the procedure of obtaining a sheet of the desired length from time to time as may be necessary. To this end the rolls of paper are entirely inclosed in a cabinet 1 provided with a hinged closure 2. By referring to Figure 2 it will be noted that a portion of the wall at each end of the cabinet, as well as the upper portion of the front wall and the front of the top wall, are cut away so as to provide a front opening to facilitate access to the interior of the cabinet for the purpose of installing new rolls of paper when required. Correspondingly, the closure, which is hinged at 3 to the upper wall of the cabinet, includes a front portion 4 and end portions 5 and a top portion, thereby constituting a complete closure for the opening mentioned.

2

Rotatably mounted within the cabinet 1 is a reel 6 comprising a main shaft 7 and end discs 8 preferably formed of plywood. The ends of the shaft 7 may be supported in bearings 9 formed on or secured to brackets 10 which are in turn fastened to the end walls of the cabinet immediately in back of the front opening and adjacent the bottom of the opening, for a purpose which will appear hereinafter. Adjacent the peripheries of the end discs 8 are mounted a plurality of secondary reels, comprising spacer tubes 11 contacting the inner faces of the reel discs 8 and retained in clamping position therewith by means of tie rods 12 passing through the discs and tubes and provided with wing nuts 13 for securely clamping the parts in rigid association. Six of these supplemental reels are shown in the present embodiment of the invention, and provide what may be termed a multiple reel, but the number of course may be varied between wide limits.

The reel 6 is intended to be releasably held in various positions, six in the present instance, so as to hold the particular roll being operated upon, at a convenient position in relation to the dispensing cutter to be later described. For this purpose one or both ends of the main reel are provided with hexagonal hubs 14 adapted to cooperate with a leaf spring 15. The hub 14 may be loosely mounted on the shaft 7 externally of the disc 8 and is clamped against the outer face thereof by means of bolts 16. Welded or otherwise fixedly secured to the shaft 7 on the opposite side of disc 8 is another hub 17, and the bolts

16, of which three are shown, may be threaded through both hubs and the intermediate disc, and the parts firmly locked together by means of nuts 18 threaded on the inner ends of the bolts.

In order to support the spring 15 in correct position for cooperation with the several faces of the hub 14 the bearing bracket 10 is formed with an extension 19 terminating at a point just short of the outer face of the adjacent disc 8, and the spring may be secured to this extension, by riveting or the like, so as to overhang the hub and press upon the hub faces as they are presented to it. By this means it will be apparent that the main reel body will be releasably held in six different positions, and that consequently any one of the six rolls of paper can be releasably supported in a position adjacent the front opening in the casing for suitable cooperation with the dispensing means which will now be described.

Fixed to the lower and free edge of the closure 2 is a knife blade 20, and the outer face of the closure is preferably rabbeted as at 21 so that the body of the blade will lie flush with the closure surface. This blade extends almost from end to end of the exterior of the cabinet and is secured in position by screws 22. As will be noted by an inspection of Figures 4 and 7, the lower edge of the closure is spaced slightly above the lower edge of the cabinet opening for the purpose of forming a dispensing opening or slot 23, and the sharpened edge of the blade extends downwardly slightly below the outer end of this slot. Cooperating with the inner face of the blade 20 so as to seal the slot 23 against the entrance of dust and to provide a close contact of the issuing paper sheet with the cutting edge of the blade, is a resilient gasket 24 of rubber or the like which may be cemented in a rabbeted portion 25 of the cabinet. The blade may be retained in this operative position by means of a hasp and staple arrangement 26 which secures the cabinet door or closure in its closed position.

Assuming the cabinet to be loaded with rolls of paper, each mounted on one of the secondary reels 11, the roll closest to the cabinet opening is unwound and the free end of the web is brought out beyond the gasket 24. The spring 15 bearing against a face of the hub 14 exerts sufficient pressure thereon to resist the pull on the web of material being dispensed. When the required length of paper has been unrolled the door 2 is closed and locked in closed position by means of the hasp 26 and the sheet severed from the main body by progressively pulling upwardly on the paper beginning from one of its edges so that it is sheared by the blade 20. This procedure is repeated from time to time as paper is needed until the entire roll is consumed. The reel is then turned one step, against the pressure of spring 15, to present a new roll in position to be dispensed.

After a number of the rolls have been consumed, the supply may be replenished by opening the closure 2 and removing the secondary reels as they are presented to the front opening of the cabinet. This may be accomplished by removing the particular wing nut 13 and withdrawing the tie rod 12 from its tube 11, this movement being provided for by reason of the end openings in the cabinet which are normally closed by the walls 5 of the closure. The new roll may now be installed by reversing the above procedure and again applying the wing nut 13 to its tie rod.

While the cabinet is intended primarily for storing and dispensing a single type of paper, it will be obvious that paper of different grades or types could be mounted on the several secondary shafts, and the particular roll desired could be moved to the front of the cabinet for use, as occasion arose.

From the foregoing description considered in connection with the attached drawings it will be abundantly clear that I have devised a storage and dispensing cabinet capable of storing a relatively large supply of paper in roll form in a minimum of space; that the rolls are entirely closed against the entrance of dust while permitting the expeditious dispensing of the material; that new rolls may be readily installed with a negligible amount of time and labor; that the combination of knife and gasket provide a dustproof closure for the dispensing slot as well as an excellent guide for the issuing sheet; and that the entire device is composed of few and inexpensive parts which may be easily assembled.

In accordance with the patent statutes I have described what I now believe to be the preferred form of the invention, but since various changes may be made in structural details without departing from the spirit of the invention it is intended that all such details be included within the scope of the appended claims.

What is claimed is:

1. A storage and dispensing device, including a cabinet, a closure therefor, a reel rotatably mounted in the cabinet, a knife blade fixed to the free edge of the closure, and a strip of gasket material mounted on the cabinet adjacent the free edge of the closure and lying flat against the knife blade when the closure is shut.

2. A storage and dispensing device, including a cabinet, a pivoted closure therefor, a reel rotatably mounted in the cabinet, a knife blade fixed to the free edge of the closure, a strip of gasket material mounted on the cabinet adjacent the free edge of the closure and lying flat against the knife blade when the closure is shut, and means for normally retaining the closure and blade in such position.

3. A storage and dispensing device, including a cabinet, a closure pivoted to the cabinet adjacent the upper edge thereof and adapted to swing downwardly into closed position, a knife blade fixed to the lower free edge of the closure, a strip of gasket material set into the body of the cabinet in a position to be engaged by a side of the blade when the closure is in closed position, said blade and gasket extending substantially the entire length of the cabinet.

4. A storage and dispensing device, including a cabinet, a portion of the front and ends of the cabinet being open, a closure for the openings in the front and ends of the cabinet, a multiple reel in the cabinet including a main shaft and a plurality of secondary shafts spaced about the periphery of the reel body, said secondary shafts adapted to be brought into alignment with the openings in the ends of the cabinet as the reel is rotated.

5. A storage and dispensing device, including a cabinet, a portion of the front and ends of the cabinet being open, a closure for the openings in the front and ends of the cabinet, a multiple reel rotatably mounted in the cabinet, said reel including a main shaft and a plurality of secondary shafts spaced about the periphery of the reel body, said secondary shafts adapted to be brought into successive alignment with the openings in the ends of the cabinet as the reel is

rotated, and means for automatically locking the reel in such positions.

6. A storage and dispensing device, including a cabinet, a portion of the front and ends of the cabinet being open, a closure for the openings in the front and ends of the cabinet, a multiple reel rotatably mounted in the cabinet, said reel including a main shaft and a plurality of secondary shafts spaced about the periphery of the reel body, said secondary shafts adapted to be brought into alignment with the openings in the ends of the cabinet as the reel is rotated, a hub mounted on the main shaft and provided with a number of faces corresponding with the number of secondary shafts, and spring means for releasably engaging one of said faces.

7. A storage and dispensing device, including a cabinet, aligned bearings secured to the end walls of the cabinet, a reel including a shaft and a pair of end discs thereon, the ends of the shaft disposed in said bearings, hubs permanently secured to the shaft adjacent the inner faces of the reel discs, hubs loosely mounted on the shaft adjacent the outer faces of the discs, and means passing through each disc for connecting the hubs on the opposite faces thereof.

8. A storage and dispensing device, including a cabinet, a reel composed of a shaft and a pair of loosely-mounted discs thereon, hub members permanently secured to the shaft inwardly of the discs, hub members loosely mounted on the shaft exteriorly of the discs, clamping bolts passing through each disc and its associated hub members, and bearings in the cabinet supporting the ends of the shaft.

9. A storage and dispensing device, including a cabinet, a reel composed of a shaft and a pair of discs, hub members permanently secured to the shaft inwardly of the discs, hub members loosely mounted on the shaft exteriorly of the discs, clamping bolts passing through each disc and its associated hub members, bearing brackets mounted on the ends of the cabinet, bearings mounted on said brackets, the ends of the shaft being mounted in the bearings, one of said loosely-mounted hub members having a non-circular outer surface, and means connected with the adjacent bearing bracket for cooperation with the non-circular surface of the hub member.

10. A storage and dispensing device, including a cabinet, a reel composed of a shaft and a pair of discs secured thereto, a hub fixed to said shaft exteriorly of one of said discs, said hub having its periphery formed with a plurality of flat surfaces, bearings in which said shaft is mounted, brackets securing the bearings to the cabinet, a lateral extension on the bracket adjacent the hub, and resilient locking means on the extension for engaging the flat surfaces of the hub to releasably lock the reel in various positions.

11. A storage and dispensing cabinet including a top, bottom, front, back and two end walls, said front wall being open from the top to a point adjacent the bottom, a closure hinged to the top wall and adapted to close the front opening, a knife blade fixed to the free edge of the closure, and forming an extension thereof, and a strip of gasket material set into the front wall of the cabinet so as to be tightly engaged by the side of the blade when the closure is in closed position.

12. A storage and dispensing cabinet including a top, bottom, front, back and two end walls, adjacent portions of the front, top and end walls being open, a closure hinged to the top wall and comprising a front, top and end sections for closing said openings, a knife blade extending beyond the free edge of the closure and fixed thereto, and a strip of gasket material set into the front wall of the cabinet so as to be tightly engaged by the side of the blade when the closure is in closed position.

LE ROY L. WERNER.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
132,207	Gross	Oct. 15, 1872
158,203	Eaton	Dec. 29, 1874
275,283	Stevens	Apr. 3, 1883
570,322	Mansfeld	Oct. 27, 1896
690,373	Nicewaner	Dec. 31, 1901
877,454	Randall	Jan. 21, 1908
1,073,138	Jones	Sept. 16, 1913
1,255,097	Koehler	Jan. 29, 1918
1,379,164	Bullis	May 24, 1921
1,400,619	Marcuse	Dec. 20, 1921
1,501,619	Pickell	July 15, 1924
1,695,618	Thompson	Dec. 18, 1928
2,250,774	Piller	July 29, 1941