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2,633,373

LOOSE-LEAF SHEET DISPENSER

Filed Dec. 29, 1950

2 SHEETS—SHEET 1

Fig. 1.

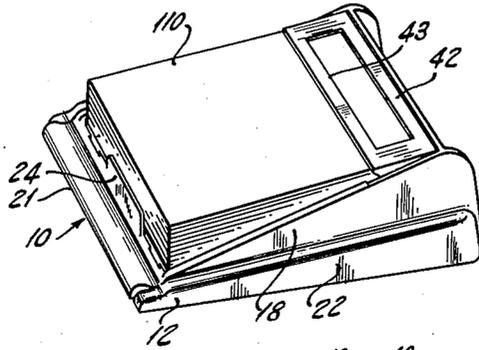


Fig. 2.

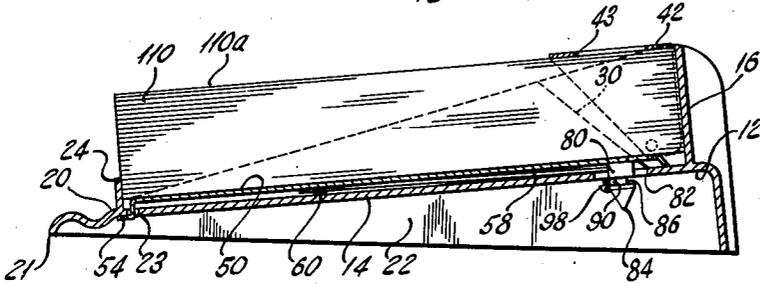


Fig. 3.

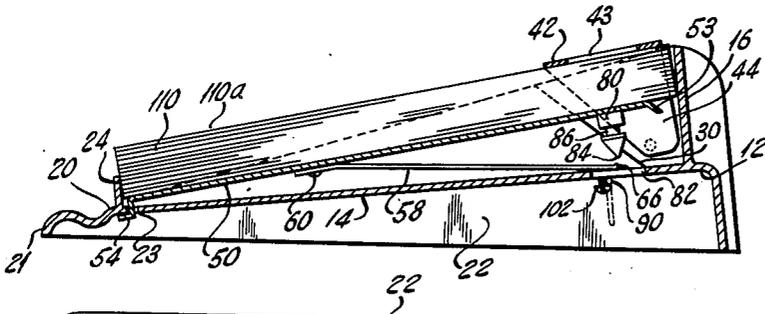
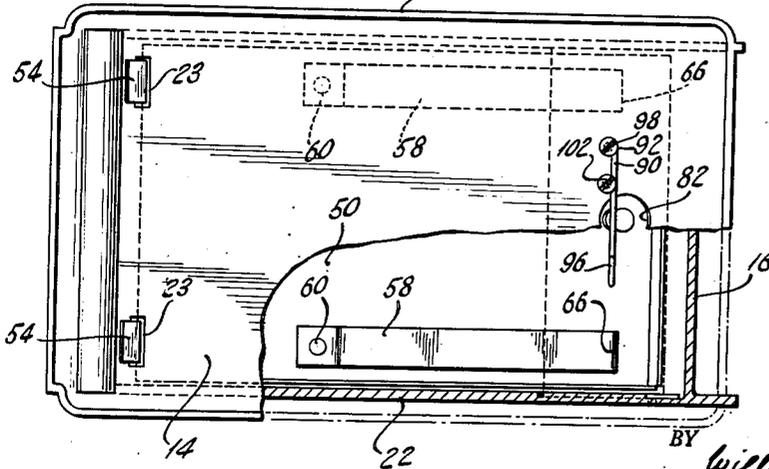


Fig. 4.



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LOOSE-LEAF SHEET DISPENSER

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2 Claims. (Cl. 281-44)

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The present invention relates generally to loose-leaf paper dispensers, and is a continuation-in-part of application Serial No. 198,561, filed December 1, 1950 now Patent No. 2,609,219 issued September 2, 1952. In particular, the present invention relates to a device for dispensing sheets from a stack thereof wherein the entire uppermost sheet in the stack may be removed without tearing any part thereof, and wherein, on removal of the uppermost sheet, at least the end of the succeeding sheet in the stack is retained under pressure and automatically shifted upwardly, and presented for use. Calendar pads, scratch note pads and the like are well adapted for use with the device hereof.

Conventional loose-leaf paper dispensers provide clamps or cross-bars across an end thereof which are screw-threaded to the base on which the stacked sheets rest, which cross-bars ride down the stack as sheets are removed therefrom. This type of structure necessitates care in perforating the individual sheets and perfect registry in stacking them in vertical alignment for placement on the base, and involves the necessity for loosening the screws for the following operations, or for removing them entirely when a new stack is to be placed on the base and thereafter replaced. Further, this type of dispenser requires the top sheet to be torn from the clamped end thereof on removal from the dispenser. Of course, the sheets may be scored or partially severed prior to insertion in the holder, but in any event, the removal of portions of several successive top sheets leaves raw edges at the clamp line, and these become ragged and unsightly after a number of the sheets are successively removed. The present invention eliminates all these objections, and in addition, offers numerous advantages over prior structures.

The main object of the present invention is the provision of a loose-leaf paper dispenser wherein the stacked sheets are yieldingly clamped together and confined at least at only one end thereof, and an entire sheet may be removed from the stack without disturbing the remainder of the stack or in any way disarranging the dispenser or any of the parts thereof.

Another object of the present invention is the provision of a device of the character described which may be loaded easily, quickly and neatly, without disassembly of the device or any part thereof and without disturbing any of the sheets already in the stack.

Still another object of the present invention is the provision in a device of the character described of a base member having a false floor

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portion therein, pivoted at an end thereof to yieldingly urge the stacked sheets upwardly and towards a stop member, between which false floor and stop the stack is yieldingly clamped.

5 Still another object of the present invention is the provision, in a device of the character described, of a resilient stack support member pivotally connected to the base at one end thereof, and swingable at its other end towards a stop member vertically spaced upwardly thereof whereby to grip the stacked sheets therebetween, the said support being depressible to insert sheet ends therebetween and the stop, in combination with means to retain the swingable end in de-
10 pressed position.

Still another object of the present invention is the provision of a loose-leaf paper dispenser having a stack receptacle open at the top except at an end thereof, and open at the front and along
20 part of the sides, whereby access to the receptacle may be had easily and quickly, the device including a spring operated false floor which is disposed within the device for pivotal movement adjacent the open front end.

25 Other and further objects of the present invention will, in part, be obvious and, in part, specifically pointed out in the following description of an illustrative embodiment thereof.

In the drawings annexed hereto and forming a part hereof,

30 Figure 1 is a perspective view of one form of paper stack dispenser constructed according to and embodying the present invention;

Figure 2 is a longitudinal vertical section there-
35 through, with the parts arranged in fully loaded condition;

Figure 3 is a view similar to Figure 2 partially loaded;

Figure 4 is a bottom plan view, partly broken
40 away to illustrate structural and operational details; and

Figure 5 is an exploded view in perspective of the components of the paper stack dispenser according to the present invention.

The device generally is indicated by reference numeral 10, and comprises a holder 12 which includes a flat-lying rectangularly shaped base 14 upwardly angled from the front to the rear thereof, a rear wall 16 at right angles to floor 14, and upwardly extended side walls 18, 18 which taper
45 down in height from adjacent rear wall 16 towards the front 20 of the holder. The edge of front 20 curves down to meet the lower edge of the device so as to rest flatly and smoothly against any supporting surface, as at 21. Base 14 is provided with depending leg portions 22, 22,
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extending lengthwise of holder 12, whereby it is raised and supported upwardly of and at an angle to any flat surface on which the device may be rested, legs 22, 22 being higher at the rear than at the front, whereby floor 14 is angled upwardly from the front to the rear. Holder 12 may be formed as a unit by molding, casting or otherwise of plastic material, metal or other suitable material, or may be formed of a number of elements joined together.

A short, transversely extending wall 24 is provided across base 14, projecting upwardly at right angles thereto, spaced inwardly from the side walls 18, 18. A pair of rectangular openings 23, 23 are provided through floor 14, one on each side of wall 22, although openings of other shapes may well be employed for the purposes to be detailed hereinafter. The inner facing aspects of side walls 18, 18, at the rear thereof and adjacent rear wall 16, are grooved as indicated at 30, to provide slots or niches in said side walls, grooves 30, 30 tapering downwardly as shown. A recess or journal 32 is provided near the lower edge of each niche 30, the recesses being horizontally aligned.

A bridge stop member 40 is provided, of metal, plastic material or the like, having a flat lying center bar component 42 of length equal to the distance between side walls 18, 18. At each end of bar 42, there is provided a downturned leg 44, shaped so as to be fitted and received into niches 30, but with more steeply tapered sides. Each leg 44, on its outer aspect, is provided with an outwardly extended pin or journal 46. The material of bridge 40 is preferably such that legs 44, 44 may be bent inwardly to pass downwardly between sides 18, 18. When pins 46, 46 are aligned with recesses 32, 32, legs 44, 44 are permitted to spread apart, seating pins 46, 46 in the recesses 32, 32 and trapping bridge 40 to holder 12. Bridge 40 may, because of the narrower legs 44, 44 within grooves 30, 30, be swung slightly back and forth in the grooves, the reason for this rocking action to be given below. A window 43 may be provided in bridge bar 42, as desired, through which material printed on the sheets thereunder may be viewed.

A floor member 50 is provided, consisting of a thin, flat rectangular sheet dimensioned as to fit within the margins of and over holder 12. Floor 50 may be formed of metal, wood or plastic material, the desiderata being strength and rigidity. The front edge 52 of floor 50 has a pair of fingers 54 formed therein, preferably integral with the body of the floor, fingers 54, 54 extending downwardly and forwardly, and spaced apart to correspond with the spacing of apertures 23, 23 so as to register therewith. The rear edge 53 is downturned, as seen in Figures 2 and 3.

In assembling my device, fingers 54, 54 are keyed into apertures 23, 23 as convenient, and floor 50 dropped inside the walls 16, 18, prior, of course, to the insertion of bridge stop 40. A pair of leaf springs 58, 58 are secured to the underside of floor 50, by means of screws 60, 60 passing through registering apertures 62, 64 in the end of each leaf and in floor 50. The free ends 66 of each spring leaf are curved upwardly slightly, and extend towards the rear of the plate, resting atop base 14 and resiliently urging floor 50 upwardly thereof. As floor 50 is urged downwardly against base 14, spring ends 66, 66 will slide along base 14, towards the rear thereof, as the springs are flattened by the downward pressure on floor 50.

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Means are provided to retain floor 50 releasably in its depressed position as shown in Figure 2, these means comprising an engagement between floor 50 and base 14. A cylindrical, bullet shaped plunger 80 is secured to the underside of floor 50 nearer the rear end thereof, depending therefrom at right angles thereto, in axial alignment with a circular aperture 82 in base 14. Aperture 82 is of greater diameter than plunger 80 in order that the latter may extend into and through the former quite readily. The lower, leading end of plunger 80 is bullet shaped, tapering to a narrow nose end 84. A peripheral annular groove 86 is formed in the body of the plunger spaced from the upper end thereof and from the lower end. The position of groove 86 is such that on depression of floor 50, and passage of plunger 80 into and through floor aperture 82, groove 86 is immediately below the underside of the floor, where it may be engaged by a spring mechanism whereby to releasably hold floor 50 substantially flatly atop base 14.

The releasable locking mechanism 89 consists of a strip of relatively stiff and heavy wire or rod of resilient material shaped to provide a horizontal arm 90 terminating at one end thereof in an eye 92, the other end being bent downwardly as at 94 and terminating in an eye or finger piece 96 in a plane at right angles to that of eye 92. A threaded bolt 98 is provided, passing through eye 92 and into a tapped aperture 100 through base 14 on one side of aperture 82, in line with the front edge thereof, thereby to fasten the locking mechanism 89 securely to the underside of base 14. A second bolt 102 is provided and threaded into a tapped aperture 104 spaced laterally of aperture 100 on the same side of aperture 82 and also in line with the front edge thereof, bolt 102 bearing against arm 90 on one side of aperture 82 to hold same in position across aperture 82 as shown in Figure 3.

The operation of my stack support is as follows: Assuming the device to be empty of any sheets and it is desired to load same, a false floor 50 is pushed downwardly against the resistance of spring arms 58, 58. As their resistance is overcome, and the spring arms are flattened, floor 50 pivots about its trapped and engaged front end 52, and swings downward to approach base 14. Plunger 80 is borne through aperture 82, and its bullet nose 84 will ride against spring arm 90, camming same radially out of line about bolt 102, and permitting the body of plunger 80 to ride past arm 90. As plunger groove 86 is brought to the same level as arm 90, the biasing or loading thereof will cause said arm 90 to spring into groove 96, thereby retaining false floor 50 substantially flatly against base 14, as shown in Figure 2. Bridge stop 40 is rocked slightly to raise the front thereof whereupon a stack of sheeted material as 110 may be slid onto floor 50 with the forward end thereof under bridge bar 40.

The device as a unit is then raised to provide access to the underside thereof for manipulation of the catch mechanism. Finger piece 96 is pulled towards the front of the device, thereby withdrawing spring arm 90 from groove 86 in plunger 80, and permitting springs 58, 58 to raise false floor 50 and cause same to swing upwardly, pivoting about the engaged front end 52, the rear end 53 swinging upwardly towards the bridge stop bar 40 and resiliently clamp the stack 110 between the false floor and the bridge stop bar at the forward end of the stack. As the top sheet

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110a is used, it may be removed from the stack simply by pulling same out from underneath bridge bar 40, whereupon the pressure of springs 58, 58 will be exerted against the remainder of the stack, as seen in Figure 3.

With the device as above described, the sheets need not be perforated, they need not be scored or slitted for removal from beneath the bridge bar holder, and the replacement of the stack is simply and easily performed.

Preferably, but not necessarily, the sheets are of such length that the lowermost thereof will extend between front wall 24 and rear wall 16. The short front wall 24 spaced from the side walls and the tapered side walls 18, 18 permit full and free access at all times at least to the front end of the uppermost sheet in the stack, both for working thereon or removal thereof. While, with a full stack the uppermost sheet, at least, will be substantially parallel to base 14, the removal of successive sheets will ultimately present the uppermost sheet at an angle thereto, as seen in Figure 3.

My device is of simple construction, of relatively few and inexpensive parts, and easy to assemble and operate, and is featured by ease of loading and sheet removal because of the provision of the pivoted false floor 50 and the rocking bridge stop, which make the above and other advantages possible.

Having now described my invention, what I claim and desire to secure by Letters Patent is:

1. A loose-leaf sheet stack dispenser device of the character described comprising a flat-lying base member, stack confining walls extending upwardly from the base along each side and at the rear thereof, stack retainer means overlying the rearward end of the base in spaced relation thereto and pivotal with respect thereto, a false floor overlying said base and substantially coextensive in area therewith, openings in the base at the front thereof, integral projections depending downwardly from the floor and forwardly thereof loosely interfitting into the openings in the base and permitting swinging movement of the rear end of the floor about the engaged front end, a plurality of spring leaves between the floor and base, the leaves extending lengthwise of the dispenser, one end of each spring being secured to the floor nearer the front end thereof,

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the free ends of said leaves resting atop the base nearer the rear thereof, said spring leaves normally urging the free end of the floor upwardly of the base and towards the retainer means, cooperating locking means on the floor and base adapted to releasably retain the floor in a depressed condition thereof substantially flatly against the base against the normal biasing of the spring leaves, and lock release means on the underside of the base, operation of which releases the floor and permitting the spring leaves to swing the disengaged forward end of the floor upwardly to compress the stack between the floor and the retaining means.

2. A loose-leaf sheet stack retainer device as claimed in claim 1, wherein the cooperating locking means comprise an elongated bullet shaped plunger secured to and depending from the underside of the floor, an annular groove in the body of the plunger spaced from the leading end thereof, an aligned opening through the base, and a spring on the underside of the base extending off-center across the opening, movement of the leading end of the plunger down through the opening displacing the spring, the spring fitting into the annular groove to engage the plunger on depression of the plunger through the opening to the point where the groove and spring are horizontally aligned, and manually engageable means on the spring to withdraw same from the groove.

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