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PAPER CLIP DISPENSER

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9 Claims. (Cl. 225—98)

The present invention relates to a paper clip dispenser.

There has been a long-felt need for a paper clip dispenser which would dispense individual paper clips as needed. At the present time, paper clips are usually disposed in a random disheveled condition in a container upon the user's desk. Not only is this arrangement unsightly, but moreover it is inefficient. Thus, the user must reach into a mass of randomly disposed paper clips to select a single paper clip. This frequently results in bending of the paper clips and impairment of their utility.

This invention has as an object the provision of a paper clip dispenser for selectively dispensing paper clips.

This invention has as another object the provision of a paper clip dispenser in which the user may obtain the desired number of paper clips in rapid sequence, in those situations in which more than a single paper clip is desired.

This invention has as yet another object the provision of a paper clip dispenser which occupies but a relatively small area on the user's desk.

This invention has as a still further object the provision of a paper clip dispenser of relatively foolproof construction, of relatively long life, and yet which may be manufactured on a large scale at a relatively low cost per unit.

This invention has as yet another object the provision of a paper clip dispenser which may be rapidly loaded and which maintains the paper clips in orderly disposition prior to their delivery to the user.

This invention has as still another object the provision of a paper clip dispenser in which the scattering of paper clips about the user's desk is avoided.

Other objects will appear hereinafter.

For the purpose of illustrating the invention there is shown in the drawings a form which is presently preferred; it being understood, however, that this invention is not limited to the precise arrangements and instrumentalities shown.

Referring to the drawings wherein like reference characters refer to like parts:

Figure 1 is a longitudinal sectional view through the paper clip dispenser of the present invention.

Figure 2 is a plan view looking down from above of the paper clip dispenser of the present invention with parts broken away for the sake of clarity.

Figure 3 is a cross-sectional view taken on line 3—3 of Figure 1.

The paper clip dispenser of the present invention is designated generally as 10. Paper clip dispenser 10 comprises the base 12, which is preferably integrally formed of molded plastic.

The back portion 14 of base 12 is provided with a pair of spaced integral raised bosses 16 and 18 which receive the respective pins 20 and 22. Pins 20 and 22 are secured within respective bosses 16 and 18. This securement may be achieved by threaded engagement, or by gluing, or by other means.

The pins 20 and 22 serve as a trunnion and carry

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the cover 24. Cover 24 is generally channel shaped, and is preferably formed of sheet metal. Thus, pin 20 extends through the arm 26 of cover 24, and pin 22 extends through the arm 28 of cover 24.

5 The back wall 30 of back portion 14 of base 12 is provided with a screw 32 which is threadably received within the back portion 14. The screw 32 carries the leaf spring 34 intermediate the bosses 16 and 18. As seen in Figure 1, the leaf spring 34 is formed from a shaped ribbon of spring metal which is bent about the curved upper surface of back portion 14 intermediate the bosses 16 and 18. Leaf spring 34 urges the cover 24 in a clockwise direction about the pins 20 and 22. Preferably, the leaf spring 34 is not secured to the undersurface of cover 34 but abuts thereagainst.

10 While spring 34 normally urges the cover 24 in the above-indicated direction, the strength of spring 34 is less than that required to raise the cover 24 from a disposition in which the cover 24 is superposed above the base 12.

20 The back portion 14 of base 12 includes the pivot pin 36, which may be formed from a pair of pins, onto which the paper clip holder 38 is pivoted.

The paper clip holder 38 is preferably integrally formed from molded plastic, and includes a dependent limit stop arm 40 which is disposed beneath the pivot pin 36 and which engages the back portion 14 of base 12 when the carrying arm 42 is disposed horizontally. The carrying arm 42 of paper clip holder 38 includes the web portion 44 above the limit stop arm 40, such web portion 44 comprising the bearing surface for the pivot pin 36. Tines 46 and 48 project forwardly from the web portion 44 of carrying arm 42 of paper clip holder 38. As seen in Figures 2 and 3 the tine 46 is considerably wider than the tine 48, although the tine 48 is somewhat thicker than the tine 46. This construction enables the tines 46 and 48 to receive a magazine of conventional paper clips, with the relatively long and narrow loop of the paper clips being received on tine 46 and the relatively short but wide loop of the paper clips being received on tine 48. A full magazine 50 of paper clips is carried within the paper clip dispenser 10 of the present invention, although for the sake of permitting facile understanding of the structure of the paper clip dispenser 10, such magazine 50 is broken away in order to reveal the structure of the paper clip dispenser 10.

45 The magazine 50 may be made by aligning a large group of paper clips, with each of the paper clips being juxtaposed to each other in the identical fashion, and with said paper clips being glued together in the manner in which wire staples are conventionally glued together at the present time.

50 The middle portion 52 of base 12 is disposed beneath the paper clip holder 38, preferably as a floor spaced from the paper clip holder 38. The stop 54 projects upwardly from the base 12 intermediate the middle portion 52 and the front portion 56 of base 12. The paper clip holder 38 rests on the uppermost surface of stop 54, which should be planar. Stop 54 should have a height such that the paper clip holder 38 is horizontally disposed when resting on the uppermost surface of the stop 54.

55 A sleeve 58 preferably formed of metal embraces the carrying arm 42. Sleeve 58 has a sufficient thickness so that it functions as a shoulder against which the rearwardmost of the paper clips in magazine 50 is contacted.

60 Sleeve 58 is provided at the uppermost portions of its sides at its rear with lugs 60 and 62. The lugs 60 and 62 seat respective coil springs 64 and 66. The coil springs 64 and 66 extend downwardly from their rear to their front and are seated in the front portion 56 of base 12. Specifically, the eye of coil spring 64 is en-

gaged with transverse pin 68, and the eye of coil spring 66 is engaged with transverse pin 70. The pins 68 and 70 are carried in respective walls 72 and 74 in the front portion 56 of base 12, such walls 72 and 74, the stop 54 and the curb 76 defining the well 78 for receiving separate paper clips in the front portion 56. A magnet 80 is disposed in the floor of the well 78 for capturing paper clips which are separated from the magazine 50. A guillotine blade 82 formed from angle-shaped sheet metal is secured by rivets 84 to the underside of cover 24.

A powerful magnet 86 is carried within a slot in the front portion 56 of base 12 cross-wise in respect to said front portion 56. The distance intermediate the face of magnet 86 which is juxtaposed to the magazine 50 and the front face 88 of stop 54 is dimensioned to be equal to about the thickness of one and one-half paper clips. Thus, the thickness of the guillotine blade 82 is about equal to the thickness of one paper clip, and an additional space dimension over the thickness of one paper clip is provided intermediate the rear face of the magnet 86 and the front face 88 of stop 54 to accommodate for the generally arcuate travel of the guillotine blade 82. It is most desirable that the distance between the end faces 89 of the tines 46 and 48 and the adjacent face of magnet 86 be less than the thickness of two paper clips so that the tines 46 and 48 support the paper clip in the magazine 50 which is behind the paper clip which is engaged by the guillotine blade 82, so as to prevent more than one paper clip from becoming disengaged from the magazine 50. Preferably, the length of the tines 46 and 48 should be such as to be coextensive with the front face 88 of stop 54, so that the end faces of the tines 46 and 48 extend up to the front face 88 of the stop 54, with the end faces of the tines 46 and 48 presenting a continuous surface with the front face 88 when the carrying arm 42 is resting on the uppermost surface of stop 54.

The arms 26 and 28 of cover 24 are cut away so that their front wall portions 90 depend for a shorter distance than the remainder of arms 26 and 28. The front portion 56 is provided with a plateau 92 which serves as a stop and limits the downward movement of the cover 24, so that such cover 24 may not be urged downwardly after the guillotine blade 82 has completed the separation of the frontmost paper clip from the magazine 50. It is to be noted that as guillotine blade 82 is centered in cover 24 and is provided with a straight undermost edge the separating action of the blade stroke is evenly balanced providing for the most satisfactory separation of the frontmost paper clip from the magazine 50.

A variety of means may be used to insure proper guiding of the springs 64 and 66, the form used in the illustrated embodiment comprising the guide passageways 94 and 96 extending through the front portion 56 of base 12 for respective springs 66 and 64.

The operation of the paper clip dispenser 10 of the present invention is as follows:

In order to load the paper clip dispenser 10 the cover 24 is pivoted upwardly about the pins 20 and 22. The clockwise movement of the cover 24 is shown in phantom line in Figure 1.

The paper clip holder 38 is then rotated clockwise from its position in which it rests upon the upper planar surface of stop 54 to a position in which it is angularly disposed in respect to the base 12, such clockwise rotation being accomplished against the action of the springs 64 and 66. Simultaneously with the clockwise rotation of the paper clip holder 38, the sleeve 58 is moved rearwardly in order to permit the loading of the magazine 50 upon the tines 46 and 48 of the carrying arm 42. The angularity of the disposition of the carrying arm 42 maintains the sleeve 58 in its rearward position, since when the paper clip holder 38 is angularly disposed in

respect to the base 12 the springs 64 and 66 do not exert an appreciable forward urging upon the sleeve 58.

When the magazine 50 is inserted onto the carrying arm 42, the carrying arm 42 is pivoted counterclockwise until it rests upon the planar upper surface of stop 54 (actually the undersurface of the magazine 50 is engaged with the uppermost surface of the stop 54). In this disposition of the paper clip holder 38 the frontmost paper clip of the magazine 50 is juxtaposed to and engaged with the rear face of the magnet 86 and the sleeve 58 urges the magazine 50 towards the magnet 86 since the coil springs 64 and 66 urge the sleeve 58 in that direction.

Cover 24 is then pivoted counterclockwise to the position shown in full line in Figure 1, the leaf spring 34 maintaining the cover 24 disposed above the paper clip holder 38.

In order to separate a paper clip from the magazine 50, the user pushes the front portion of the cover 24 downwardly in the direction of the arrow to the left of Figure 1. The guillotine blade 82 carried on the underside of the cover 24 separates the frontmost paper clip from the magazine 50, with the downward movement of such frontmost paper clip being guided along the rear face of magnet 86 so that a smooth discharge of the paper clip is achieved. The guillotine blade 82 is preferably formed of a non-magnetic metal so that the magnet 86 does not affect the movement of the guillotine blade 82.

The separated paper clip falls into the well 78 and is captured in such well 78 by the magnet 80 in the floor of such well 78. If the user desires a number of paper clips, he may rapidly secure them by repeatedly tapping the front portion of cover 24, since the leaf spring 34 will urge the cover 24 to the position shown in Figure 1 in full line after the separation of each paper clip, and the sleeve 58 will continuously urge the magazine 50 towards magnet 86.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and, accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.

I claim:

1. A paper clip dispenser for selectively dispensing paper clips from a glued magazine of paper clips which includes a base, a paper clip holder pivotally mounted upon said base for carrying the magazine of paper clips, said paper clip holder including a pair of tines which extend through the loops in the paper clips of the paper clip magazine, the front end of said paper clip holder being free, means for spring urging said magazine along said paper clip holder towards the front of said base, a stop spaced from and juxtaposed to the front free end of said paper clip holder, a guillotine blade movably mounted above said paper clip holder, with said guillotine blade being movable through the space intermediate the front free end of said paper clip holder and said stop, and a well beneath the front end of said paper clip holder and said stop for receiving selectively separated paper clips from said magazine.

2. A paper clip dispenser in accordance with claim 1 in which the front free end of the paper clip holder is spaced from the stop by a distance equal to more than the thickness of one paper clip and less than the thickness of two paper clips.

3. A paper clip dispenser in accordance with claim 1 in which the underside of the guillotine blade comprises a straight horizontal edge, and in which the thickness of the guillotine blade is about equal to the thickness of a single paper clip.

4. A paper clip dispenser in accordance with claim 1 in which the guillotine blade is carried on the underside

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of a cover which is superposed to the paper clip holder and which cover is pivotably secured to the base at the rear portion thereof.

5. A paper clip dispenser in accordance with claim 4 including spring means secured to said base and engaged with the underside of said cover for spring urging said cover in a direction opposite to the direction which said cover assumes when said guillotine blade moves from a position above said paper clip holder through the space intermediate the front free end of said paper clip holder and said stop. 10

6. A paper clip dispenser in accordance with claim 1 in which the stop spaced from the front free end of the paper clip holder comprises a magnet.

7. A paper clip dispenser in accordance with claim 1 including a support stop which projects upwardly from 15

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the base, said support stop being disposed beneath the paper clip holder and supporting said paper clip holder above the portion of the base adjacent said support stop.

8. A paper clip dispenser in accordance with claim 7 in which the front wall of the support stop is disposed beneath the front free end of the paper clip holder as an extension thereof.

9. A paper clip dispenser in accordance with claim 1 having a magnet disposed in the floor of said well.

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