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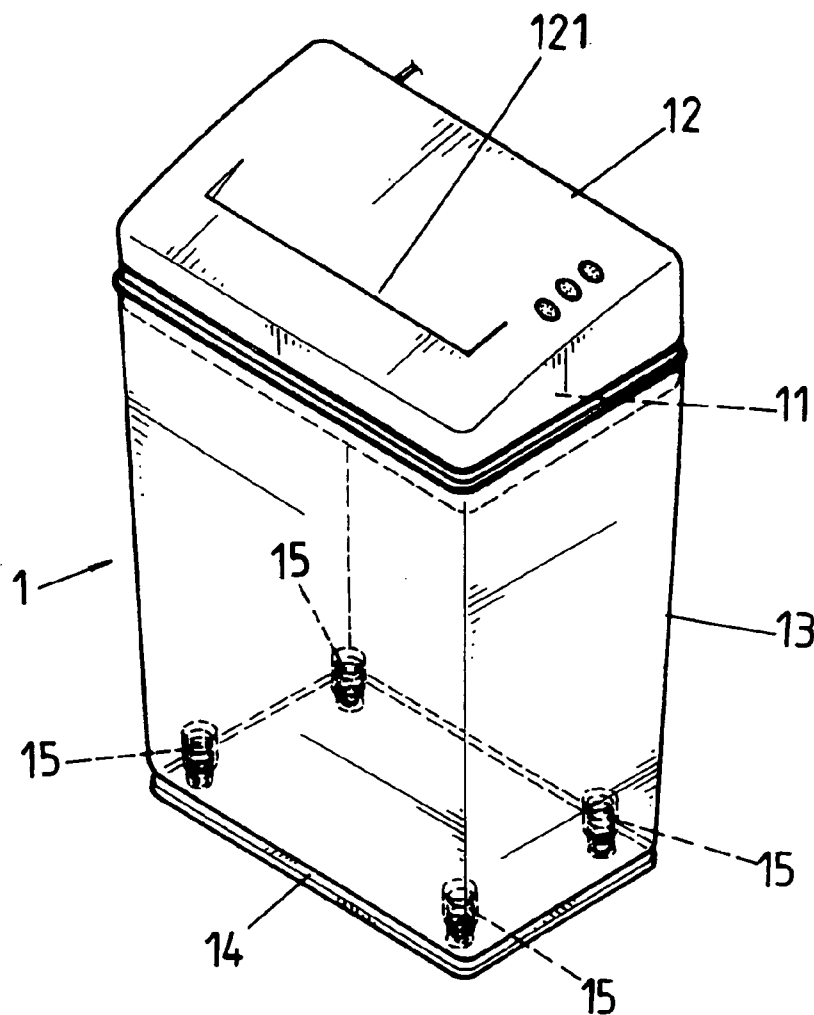
(19) **United States**(12) **Patent Application Publication****Wang**(10) **Pub. No.: US 2007/0295736 A1**(43) **Pub. Date: Dec. 27, 2007**(54) **WASTEBASKET OR BIN HAVING ROCKING SPRINGS AT BOTTOM****Publication Classification**(75) Inventor: **Tie Chun Wang**, SanChung City (TW)(51) **Int. Cl.**
B65D 25/20 (2006.01)(52) **U.S. Cl.** **220/694; 241/100**(57) **ABSTRACT**

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SanChung City (TW)(21) Appl. No.: **11/819,010**(22) Filed: **Jun. 25, 2007**(30) **Foreign Application Priority Data**

Jun. 27, 2006 (TW) 095211126

The paper shredder of this invention includes a machine body having cutting blades therein and a wastebasket or bin for containing paper chips, including a base provided beneath a wastebasket or bin; at least one support spring provided between the base and the wastebasket or bin to form an appropriate gap between the wastebasket or bin and the base, whereby when the user rocks the wastebasket or bin forwards and backwards, or sideways, chips in a chip mountain accumulated beneath the discharge port at the cutting blades can be spread outwards, to increase the space for receiving the paper chips in the wastebasket or bin, to prevent the "chip mountain" from impeding smooth falling of subsequent paper chips, thereby affecting overall operative functions of the paper shredders.



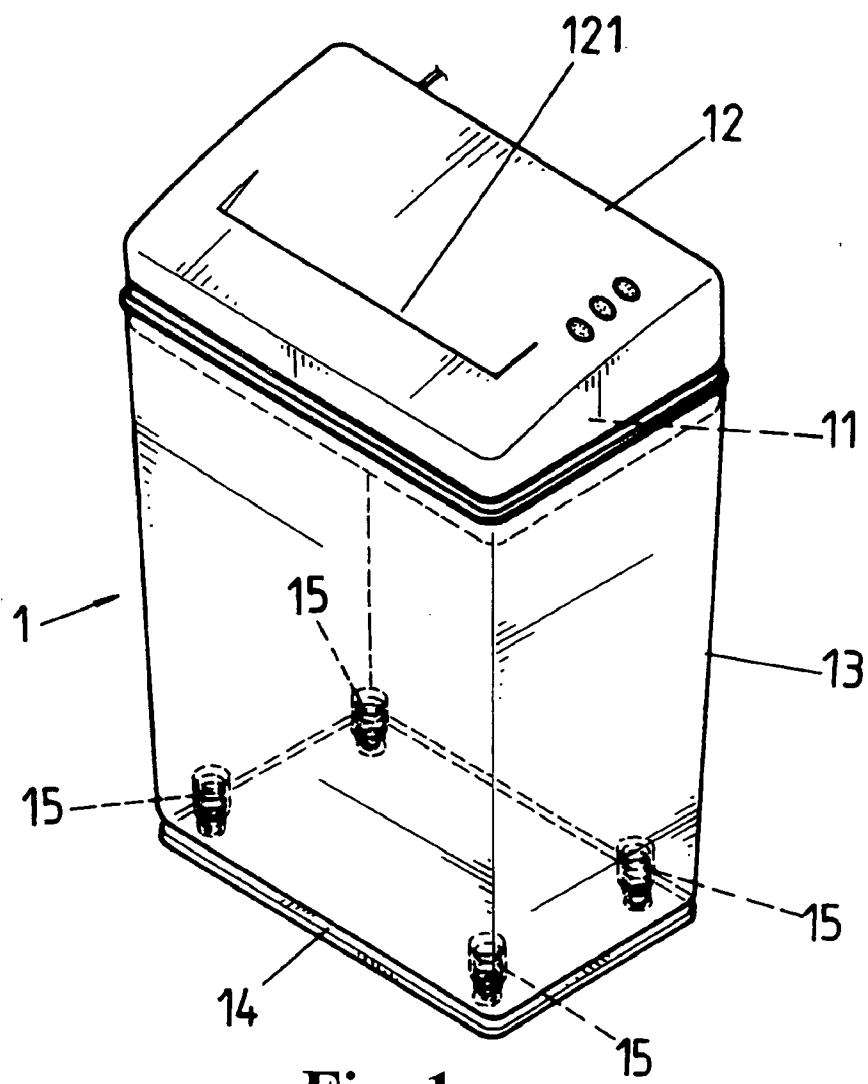


Fig. 1

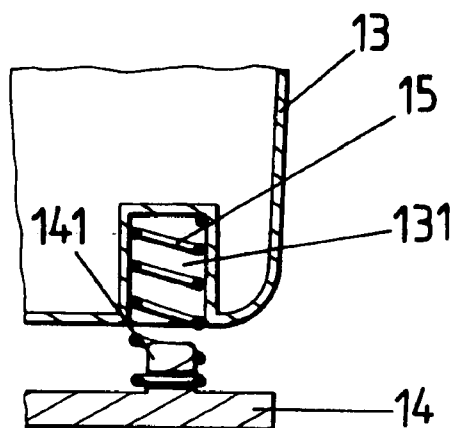


Fig. 2

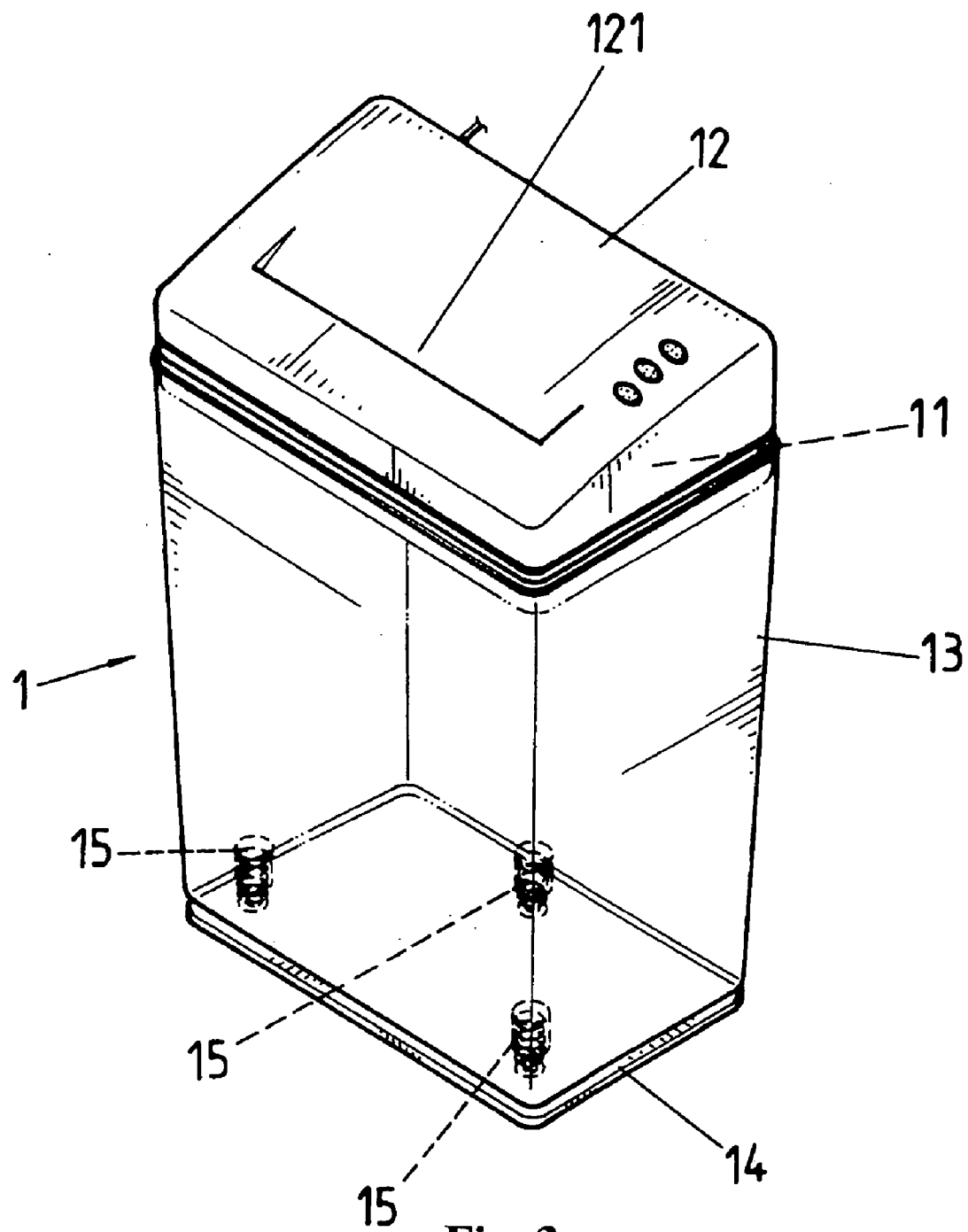


Fig. 3

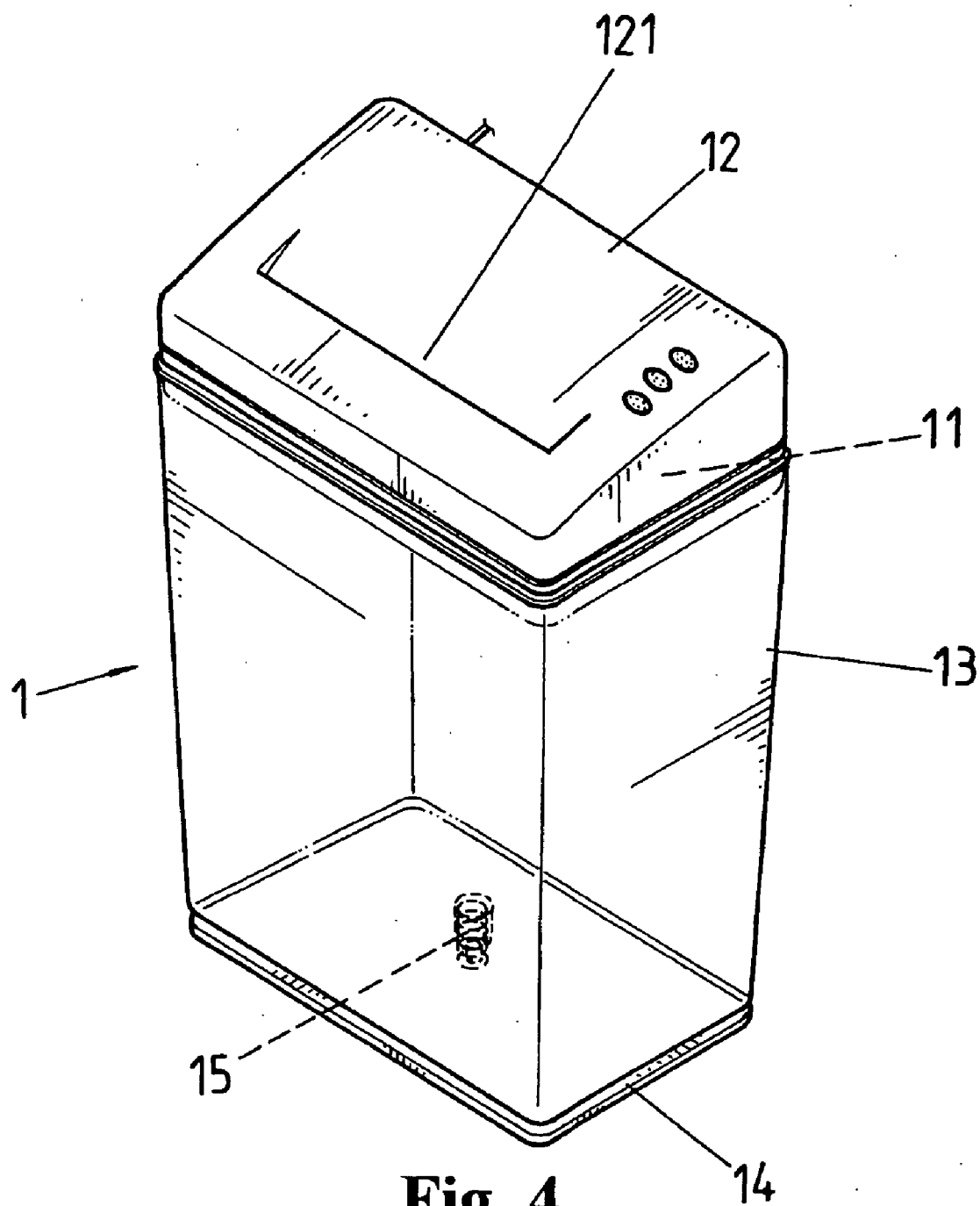


Fig. 4

WASTEBASKET OR BIN HAVING ROCKING SPRINGS AT BOTTOM

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] Not Applicable

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not Applicable

FIELD OF INVENTION

[0003] This invention relates to an improved wastebasket or bin for a paper shredder, particularly to one having an improved rocking wastebasket or bin for overcoming the problems caused by chip mountain formed by paper chips accumulated beneath the discharge port at the cutting blades of the paper shredder, which may impede smooth falling of subsequent paper chips, thereby affecting overall operative functions of the paper shredder.

BACKGROUND

[0004] The conventional shredders for cutting paper use a plurality of cutting blades and spacers engaging over a rotary shaft, and the shearing force that two parallel and opposite rotary shafts produced by a motor and a gear box for transferring and cutting the paper-to-be-cut along a longitudinal direction into strips. Shredders can be classed into two types, the stripe-cut shredders and crosscut shredders, according to the machine cutting style. The former shredders arrange cutting blades to the rotating shafts in a manner to cutting the paper in a longitudinal direction to form strips. The later shredders include blades that include more than one cutting edge part, and each cutter is disposed helically along the rotary shaft for first cutting paper along a horizontal direction into strips and then cutting paper along a longitudinal direction into approximate 4 mm×40 mm paper chips. Regardless of being stripe-cut shredders and crosscut shredders, a basket or bin for containing paper chips usually accompanies the shredder at sales.

[0005] Regardless of stripe-cut shredders and crosscut shredders, a wastebasket or bin for containing paper chips is usually accompanied with the paper shredder on sales. As stated, the cutting blades engaging over a rotary shaft, and the shearing force that two parallel and opposite rotary shafts produced by a motor and a gear box serve to transfer and cut the paper-to-be-cut along a longitudinal direction into strips or chips, which are then dropped into the wastebasket or bin through a discharge port located at a bottom of the paper shredder. Along with the increasing amount of chips, the paper chips would gradually accumulate to form a chip mountain. When the chip mountain has reached a height that is close to the discharge port of the paper shredder, it may impede smooth falling of subsequent paper chips, or even cause the paper chips to be drawn into the rotary shafts and jamming the gaps between the cutting blades, thereby affecting overall operative functions of the paper shredders.

[0006] Experiences show that, upon forming a "chip mountain," the user only needs to spreading the mountain-like chips outwards to increase the space for receiving the paper chips in the wastebasket or bin, to prevent the "chip

mountain" from impeding smooth falling of subsequent paper chips, or causing the paper chips to be drawn into the rotary shafts and jamming the gaps between the cutting blades, thereby affecting overall operative functions of the paper shredders.

SUMMARY OF INVENTION

[0007] It is a primary object of this invention to provide the user with a way for spreading the "paper mountain" accumulated beneath the discharge port of the paper shredder outwards by simply rocking the wastebasket or bin so as to overcome the problems caused by paper chips that are impeded from smooth falling, or drawn into the rotary shafts and jam the gaps between the cutting blades, thereby affecting overall operative functions of the paper shredders.

[0008] It is another object of this invention to provide the user with a way for spreading the "paper mountain" accumulated beneath the discharge port of the paper shredder outwards by simply rocking the wastebasket or bin so as to increase the space for receiving the paper chips in the wastebasket or bin.

[0009] To achieve the above objects, this invention provides a base beneath the wastebasket or bin, where at least one support spring is provided between the base and the wastebasket or bin, to form an appropriate gap between the wastebasket or bin and the base, such that when the user rocks the wastebasket or bin forwards and backwards, or sideways, the chips in the chip mountain accumulated beneath the discharge port at the cutting blades can be spread outwards, so as to increase the space for receiving the paper chips in the wastebasket or bin, and to prevent the "chip mountain" from impeding smooth falling of subsequent paper chips, thereby eliminating the defects of affecting overall operative functions of the paper shredders.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] These and other modifications and advantages will become even more apparent from the following detained description of a preferred embodiment of the invention and from the drawings in which:

[0011] FIG. 1 is a perspective view illustrating the appearance of a first embodiment of this invention, where the wastebasket or bin uses four support springs;

[0012] FIG. 2 is a cross-sectional view illustrating the relationship among the support springs, the wastebasket or bin and the base according to this invention;

[0013] FIG. 3 is a perspective view illustrating the appearance of a second embodiment of this invention, where the wastebasket or bin uses three support spring; and

[0014] FIG. 4 is a perspective view illustrating the appearance of a second embodiment of this invention, where the wastebasket or bin uses a single support springs.

DETAILED DESCRIPTION OF THE INVENTION (PREFERRED EMBODIMENTS)

[0015] With reference to FIGS. 1 to 4, the paper shredder 1 of this invention includes a machine body 12 having cutting blades 11 therein and a wastebasket or bin 13 for containing paper chips. The cutting blades engage over a rotary shaft, and the shearing force that two parallel and opposite rotary shafts produce by a motor and a gear box serve to transfer and cut the paper-to-be-cut along a longitudinal direction into strips, or further shredded in chips. The

machine body **12** is provided at its surface with a paper inlet **121** parallel to the cutting blades, so as to guide the paper into the rotary shafts of the cutting blades **11** for shredding the paper.

[0016] The wastebasket or bin **13** is provided therebeneath with a base **14**. At least one support spring **13** is provided between the base **14** and the wastebasket or bin **13**. The support spring **13** is mounted between an upward-projecting post **141** of the base **141**, and an indent **131** at the bottom of the wastebasket or bin **13** indenting inwards, so as to form an appropriate gap between the wastebasket or bin **13** and the base **14**, to serve as a space where the rocking wastebasket or bin **13** may move about.

[0017] When the user rocks the wastebasket or bin forwards and backwards, or sideways, the chips in the chip mountain accumulated beneath the discharge port at the cutting blades **11** can be spread outwards, so as to increase the space for receiving the paper chips in the wastebasket or bin, and to prevent the "chip mountain" from impeding smooth falling of subsequent paper chips, thereby eliminating the defects of affecting overall operative functions of the paper shredders.

[0018] Since the paper shredder **1** and the wastebasket or bin **13** are supported by springs **15**, rocking of the springs will directly affect steadiness of the wastebasket or bin **13**. Accordingly, appropriate number for and locations of arranging the springs can be adjusted in accordance with the different spring characteristics. For example, in FIG. 1, four springs **15** are arranged at four corners of the wastebasket or bin **13**; in FIG. 3, three springs **15** are arranged at bottom of the wastebasket or bin **13** in a triangular configuration; or in FIG. 4, a single spring **15** is arranged at a bottom center of the wastebasket or bin **13**, where all arrangements can achieve the object of featuring the wastebasket or bin with rocking capability.

[0019] Accordingly, the user can rock the wastebasket or bin **13** at appropriate timing to rock the wastebasket or bin forwards and backwards, or sideways, for spreading the chips accumulated beneath the discharge port at the cutting

blades outwards, so as to increase the space for receiving the paper chips in the wastebasket or bin, and to prevent the "chip mountain" from impeding smooth falling of subsequent paper chips, thereby eliminating the defects of affecting overall operative functions of the paper shredder.

[0020] In summary, this invention provides an improved paper shredder wastebasket that may not only serve as a wastebasket for containing paper shreds after the paper shredder shreds paper, but also be lifted outwards to serve as a conventional garbage bin, so as to improve the market competitiveness of the paper shredder by enhancing the functions of the wastebasket.

Listing of Nomenclatures

[0021]	1 paper shredder
[0022]	11 cutting blades
[0023]	12 machine body
[0024]	121 paper inlet
[0025]	13 wastebasket or bin
[0026]	131 indent
[0027]	14 base
[0028]	141 projecting post
[0029]	15 support spring

What is claimed is:

1. A wastebasket or bin having rocking springs at bottom, including a base provided beneath a wastebasket or bin; at least one support spring provided between the base and the wastebasket or bin to form an appropriate gap between the wastebasket or bin and the base, whereby when the user rocks the wastebasket or bin forwards and backwards, or sideways, chips in a chip mountain accumulated beneath the discharge port at the cutting blades can be spread outwards.

2. The wastebasket or bin having rocking springs at bottom of claim 1, wherein the support spring is mounted between an upward-projecting post of the base, and an indent at the bottom of the wastebasket or bin indenting inwards.

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