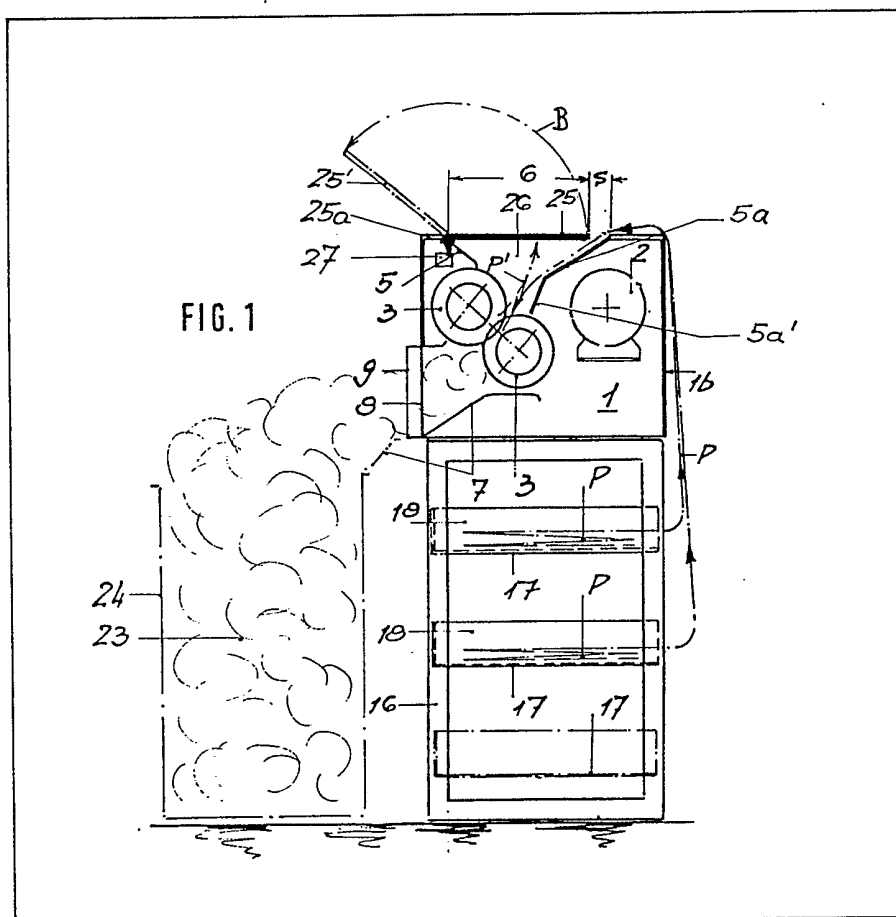


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(71) Applicant
Hermann Schwelling,
Bahnhofstrasse 115,
D-7777,
Salem 3/Neufrach,
Federal Republic of
Germany
(72) Inventor
Hermann Schwelling
(74) Agent and/or
Address for Service
Walther Wolff and Co.,
6 Buckingham Gate,
London SW1E 6JP

(54) Cover flap for the cutting
chamber of document shredders

(57) A chamber (26) upstream of the
cutting cylinders (3) of a document
shredder (1) is closed by a pivoted flap
(25), the pivot bearings (25a) being
associated with a limit switch (27)
which causes shutdown of the drive (2)
of cylinders (3) even with the slightest
opening motion (B). A narrow slit S
remains to permit material to be fed
into the shredder.





SPECIFICATION

Cover flap for the cutting chamber of document shredders

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The invention relates to a document shredder according to the parent German Patent Application P 31 12 835.1 (UK Patent Application No. 82 09 461/GB 2 095 579 A).

10 It is *inter alia* the object of the parent patent that a known filler hopper for crumpled paper or the like is placed on the top of the apparatus to cover the entire filler aperture with the exception of a narrow slit at the front of the apparatus housing. By means of 15 bearings and pivoting pins, the said hopper shaft is connected to the apparatus housing so as to be pivotable to the rear and in the outwardly pivoted state, the said filler hopper bears on stop abutments. Safety elements embodied as limit switches are 20 associated with one of the bearing pins of the shaft for safety reasons and as protection against injury of the fingers due to touching the running cutting cylinders, with the effect that the motor of the pair of cutting cylinders is switched off even by the smallest 25 possible opening motion of the filler shaft.

It has been found in practice, more particularly in the case of apparatus operating at high speeds, that even a brief reverse motion of the cylinders due to blockage causes a quantity of already cut paper to be 30 fed back by the said cylinders from the waste collecting sack, so that such strip material emerges in a large bulk from the filler chamber disposed upstream of the cylinders to necessitate manual removal for stuffing back into the bag.

35 It is therefore the object of the present invention to remedy this disadvantage without, however, impairing the double function of optional or alternate reduction or shredding of sheets and crumpled paper.

40 This problem is solved by the means and steps disclosed in the claims, shown diagrammatically in the drawing and described in detail by reference to the said drawings.

In the drawings:

45 Fig. 1 is a side view in longitudinal section of the embodiment according to the invention, and Fig. 2 is a plan view relating to Fig. 1.

The document shredder illustrated in Figs. 1 and 2 comprises in known manner the apparatus housing 50 1 with the motor 2 disposed therein for driving a pair of cutting cylinders 3. The said pair of cutting cylinders 3 is associated with guide plates 5, extending from the filler aperture *s* or 6 and is associated on the delivery side 8 with additional guide plates 7 for 55 guiding the cut paper material 23. Furthermore, the delivery aperture 8 is provided with a kind of raised edge 9 for securing a waste bag 24. According to the invention, the shaft of the parent application at the top 1*a* of the apparatus housing 1 is replaced by a lid 60 25, which covers the space 26 upstream of the cylinders with the exception of the feed slit *s* and its pivoting bearings 25*a* are on the other hand so arranged that in co-operation with a limit switch 27 they already cause shutdown of the machine if the 65 lid 25 is moved by a very small amount along its

pivoting path *B* in the direction of its limiting position 25'. The said lid, therefore, on the one hand performs the safety function which prevents touching of the running cutting cylinders or causes 70 these to be shut down and on the other hand functions as a kind of measuring apparatus or tracing apparatus, which also prevents reverse rotation of the cylinders 3 as soon as the relatively small chamber 26 is filled with retracted paper and the flap 75 or lid begins to lift; to be able to respond rapidly, the said lid or flap should consist of a light plastics material, as far as possible transparent. The numeral 28 finally refers to the operating switch of the apparatus while the numeral 16 represents the frame 80 and numerals 17 and 19 the supports for the paper *P* which is to be shredded.

Since high-speed document shredders, more particularly those used for destroying electronic data processing lists, usually operate with a cutting speed 85 of 800 - 1000 mm/min and a large quantity of the paper was pulled back, even with the shortest possible reverse operation due to blockage in the absence of rapid and automatic shutdown, the present invention further proposes that the end 90 region 5*a*' of the guide plate 5*a*, which extends from the feed slit *s* to the cutting cylinders 3, is bent with respect to the cylinders 3, so that paper which has already been cut, and is torn back from the roll gap, is moved along a trajectory component *P'* on the 95 underside of the lid or flap 25; in addition to the relatively small chamber 26 for crumpled paper this also ensures that no paper can emerge from the slit *s* to drop on to the floor in front of the apparatus, as was hitherto the case with known high-speed 100 machines which are merely provided with a feed slit and no chamber for crumpled paper. The embodiment according to the invention also dispenses with laborious threading up through a slit of the electronic data processing lists which are to be shredded, 105 since in the present case the flap 25 can be raised to this end.

CLAIMS

1. Document shredder (1) with a chamber (26) upstream of the cylinders according to the United 110 Kingdom patent application No. 82 09 461 (GB 2 095 579 A), characterised in that with the exception of a narrow feed slit (*s*) the feed aperture (6) of the casing top (1*a*) is covered by a lid (25) which is pivotably supported by the housing (1).

2. Document shredder according to claim 1, characterised in that a limit switch (27), adapted to shut down the machine even with the smallest possible opening motion (*B*) is associated with at 115 least one of the pivoting bearings (25*a*) of the flap (25).

3. Document shredder according to claims 1 and 2, characterised in that the flap (25) consists of a light plastics material, where appropriate a transparent material.

4. Document shredder according to claims 1 to 4, characterised in that the end region (5*a*') of the guide plate (5*a*), which extends from the feed slit (*s*) to the cutting cylinders (3) is bent with respect to the cylinders (3) so that paper, which is already cut and 130 is torn back from the roll gap, is subjected to a

trajectory component (P') on the underside of the lid or flap (25).

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