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Carson et al.

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(54) **SHREDDER WITH PAPER SEPARATION AND ADVANCEMENT MECHANISM**

(56) **References Cited**

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(57) **ABSTRACT**

(52) **U.S. Cl.**
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The present disclosure is generally related to an apparatus having cutter elements for destroying articles such as paper sheets and a mechanism for separating at least a sheet from a stack in a tray. The separation mechanism can be activated by rotation of the cutter elements. In one embodiment, the separation mechanism is provided in the form of a helical mechanism, such as a coil, configured for insertion into the stack and to receive separated sheets from the stack in between its spaces as it is rotated. The separated sheets can fall via gravity into the shredder mechanism. Optionally, a paper feed mechanism can feed separated paper to the cutter elements. The tray can include an edge to assist in directing separated paper towards the cutter elements. One or more staple picking support mechanisms can also be provided to assist in separating sheets from a stapled set of pages.

(58) **Field of Classification Search**
CPC B02C 18/2258; B02C 18/2225; B02C 18/0007; B02C 2018/0069; B02C 18/16; B02C 19/00; B02C 23/00; B65H 3/322; B65H 2301/5127

See application file for complete search history.

42 Claims, 21 Drawing Sheets

