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November 20, 2018

## TENSIONED BELT AS A RACK FOR A DRIVEN BLADE IN A ROTARY CUTTER

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### Recommended Citation

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## **Tensioned Belt as a Rack for a Driven Blade in a Rotary Cutter**

**Abstract:** A rotary cutter integrated in a printer uses a tensioned timing belt working as a rack to drive a blade of the rotary cutter.

This disclosure relates to the field of printers.

A technique for driving a rotary cutter integrated in a printer uses a tensioned timing belt working as a rack for a driven blade of the rotary cutter.

The prior solution used in various printers is a rack made of injected plastic. However, such a solution tends to be noisy, problematic for cutting tough types of print media, and limited in terms of the size of the media it can accommodate.

According to the present disclosure, and as understood with reference to the Figure, a tensioned standard timing belt 10 is used as a rack for driving a gear 20. The gear 20 moves linearly and rotates while advancing as engaged by the belt 10. The gear 20 drives a bottom rotary blade 30. The rotary blade 30 rotates faster than the linear velocity of advance, giving the arrangement the cutting capability to cut various types of media, including tough medias. The belt 10 is tensioned by a steel spring 50.

The belt 10 is constrained with a lip in the rail 40 guiding the belt 10. In this way the belt 10 is controlled and avoids friction with the cutter.

The disclosed technique advantageously uses a rubber belt, resulting in less mechanical noise during operation than prior techniques, such as a rack made in molded plastic. By using a standard timing belt which is available from multiple sources, the technique can be fast and easily adapted to different size printers and/or print media. The solution is modular, and in case of damage to the belt, the belt can be replaced without changing the other parts.

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