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(54) Title: AN APPARATUS AND PROCESS FOR CYCLICALLY ACCELERATING AND DECELERATING A STRIP OF MATERIAL

(57) Abstract

The present invention discloses a method and apparatus for cyclically accelerating the leading end of a slower moving first material web to match the faster speed of a continuous second material web. The apparatus is comprised of a set of upstream metering rolls which feed the first material web at a constant slow speed, a set of downstream applicator rolls having a constant and relatively faster rotational velocity, and an acceleration mechanism which variably and alternately reverses and allows forward movement of a leading end segment of the first material web while allowing for the constant rotational velocities of the upstream and downstream rolls. The first material web is wrapped partially around the set of upstream rolls and the leading end segment thereof is wrapped partially around one of the downstream rolls. The acceleration mechanism is juxtapositioned between the upstream rolls and the downstream rolls in the feed path of the first material web. A cutting mechanism is provided for cutting a segment of predetermined length of the leading end segment of the first material web when the leading edge has been accelerated to match the speed of the downstream roll. The cut segment is thereafter applied by the applicator roll to the faster moving second material web. Thus, the present invention provides for matched speed cutting and matched speed application of a slower velocity first material onto a faster velocity second substrate material.

