Oct. 15, 1940. D. G. ELLIS 2,218,232

SPLITTING DEVICE

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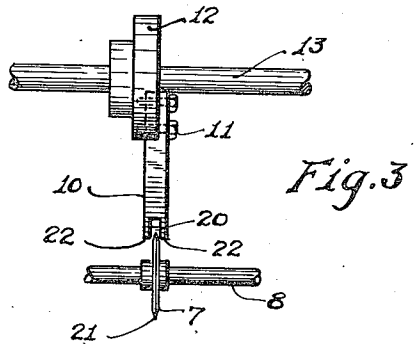


Fig. 3

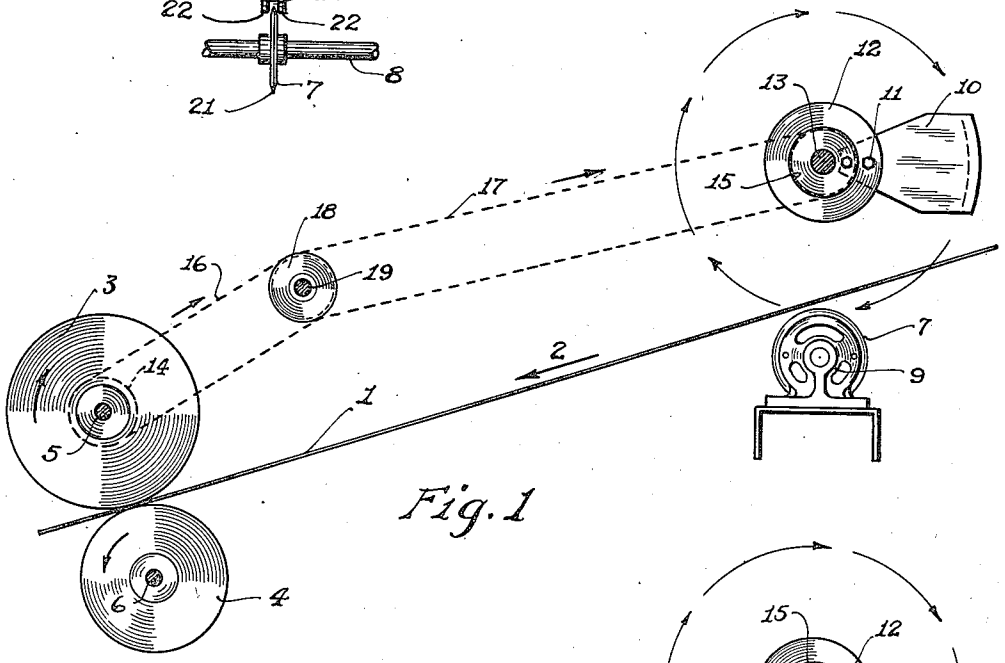


Fig. 1

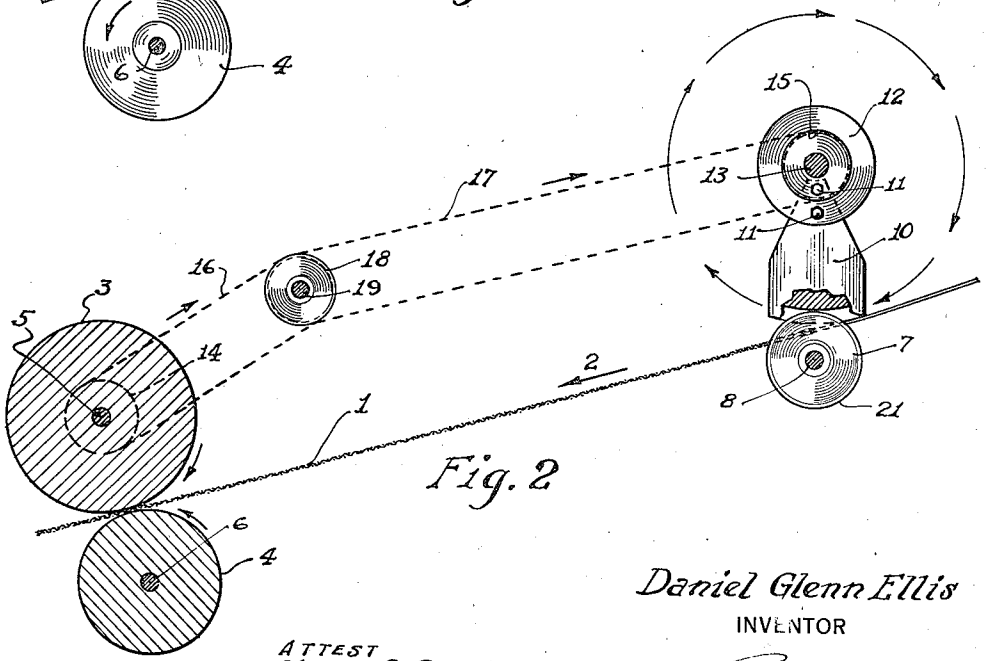


Fig. 2

ATTEST
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SPLITTING DEVICE

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6 Claims. (Cl. 164—61)

This invention relates to an improved splitting device.

One of the objects of the invention is to provide an improved splitting device.

Another object of the invention is to provide means for periodically splitting web material lengthwise of the feed of the material.

Other objects of the invention will be apparent from the description and claims which follow.

The invention resides in an attachment for machines, such as, for example, bag making machines and the like wherein it is desired to periodically split continuously fed web material lengthwise of the material.

The present invention comprehends a rotatable, rotary knife mounted beneath the plane of feed of the web material and in longitudinal alignment with the line of feed of the material and a rotatable segment mounted above the plane of feed of the material and provided with a peripheral groove meshable with the cutting edge of the knife, the segment being adapted to periodically press the web material against the knife and thereby intermittently split the web material lengthwise of the feed thereof.

In the drawing, like characters of reference are used to designate similar elements.

Figure 1 is a side view of the device showing the segment out of mesh with the knife.

Figure 2 is another side view of the device, partly in section, showing the segment in mesh with the knife and pressing the web material thereagainst.

Figure 3 is an end view of the segment and knife, the web being removed.

The web 1 of cloth, paper or other material is continuously fed from a bolt of material not shown, in the direction of the arrow designated by the numeral 2, by opposed feed rollers 3 and 4 mounted respectively upon shafts 5 and 6. The roller 3 may be positively driven in any suitable manner not shown.

Rotary knife 7 is rigidly mounted upon shaft 8 beneath web 1, normally out of contact with web 1, and in a manner to cut longitudinally of the line of feed of web 1. Knife 7 is rotatably driven by motor 9 through the medium of shaft 8, and may be continuously rotated or if desired it may be rotated only when the segment 10 is moved into mesh therewith.

Segment 10 is rigidly affixed as by bolts 11 to wheel 12 which in turn is rigidly affixed to shaft 13. Shaft 13 is positively and continuously driven from shaft 5 through the medium of sprocket wheels 14 and 15 and chains 16 and 17 interconnected by suitable sprocket wheels 18 through the medium of shaft 19.

Segment 10 is grooved at its peripheral edge as at 20 for mesh with cutting edge 21 of knife 7.

Thus, it will be seen that as segment 10 is rotated relative to knife 7, the flanged edges 22 of the segment press web 1 firmly into cutting engagement with knife 7, whereby the web 1 is cut lengthwise of the line of feed thereof.

Also, it will be seen that the length of cut made in web 1 is governed by the rate of movement of segment 10 relative to the rate of feed of web 1 and the arc defined by segment 10.

The web, coming from a roll or other source of supply not shown, is maintained relatively taut by the action of opposed feed rollers 3 and 4, assuming, of course, a reasonable resistance to the supply pay-off. Suitable resistance means are well known in the art and are not herein shown or described. With such combination, however, it is seen that upon movement of segment 10 out of mesh with cutter 7, the web is immediately freed from the action of cutter 7.

I claim:

1. In a splitting device including a circular rotatable cutting means, a rotatable segment adapted to periodically mesh with the cutting means and means for feeding web material intermediate the cutting means and the rotatable segment, the fed material being normally maintained relatively taut and in a substantially straight plane.

2. In a splitting device including a circular rotatable cutting means, a rotatable segment provided at its peripheral edge with peripheral flanges and an intervening peripheral groove meshable periodically with the cutting means and means for feeding web material intermediate the cutting means and the rotatable segment, the fed material being normally maintained relatively taut and in a substantially straight plane.

3. Means for intermittently cutting continuously fed web material lengthwise of the line of feed of the web material, the fed material being normally maintained relatively taut and in a substantially straight plane, comprising a rotatable circular knife mounted adjacent to and normally out of contact with one surface of the material and means mounted relative to the opposite surface of the material and adapted periodically to press the material from its substantially straight plane and into cutting engagement with the knife.

4. Means for intermittently cutting continu-

ously fed web material lengthwise of the line of feed of the material, the fed material being normally maintained relatively taut and in a substantially straight plane, comprising a rotatable circular knife mounted adjacent to and normally out of contact with one surface of the material and a rotatable segment mounted relative to the opposite surface of the material and adapted periodically to press the material from its substantially straight plane and into cutting engagement with the knife.

5. Means for intermittently cutting continuously fed web material lengthwise of the line of feed of the material, the fed material being normally maintained relatively taut and in a substantially straight plane, comprising a rotatable circular knife mounted adjacent to and normally out of contact with one surface of the material and a rotatable segment mounted relative to the opposite surface of the material and adapted periodically to press the material from its substantially straight plane and into cutting engagement with the knife, the segment having a peripheral groove meshable with the knife edge.

6. Means for intermittently cutting continuously fed cloth material lengthwise of the line of feed of the cloth material, the fed cloth material being normally maintained relatively taut and in a substantially straight plane, comprising a rotatable circular knife mounted adjacent to and normally out of contact with one surface of the cloth material, and means mounted relative to the opposite surface of the cloth material and adapted periodically to press the cloth material from its substantially straight plane and into cutting engagement with the knife.

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