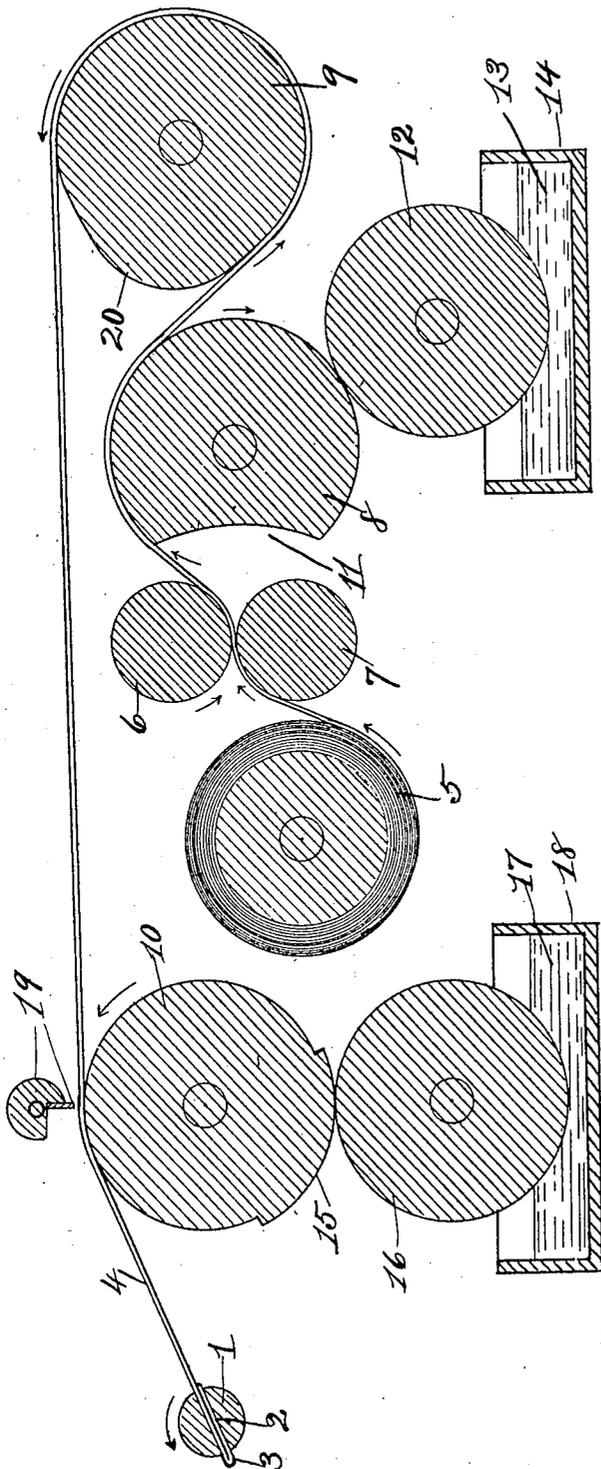


F. C. CURTIS.
MACHINE FOR MAKING SPIRAL FLY TRAPS.
APPLICATION FILED APR. 12, 1917.

1,298,180.

Patented Mar. 25, 1919.



INVENTOR:
Francis C. Curtis

UNITED STATES PATENT OFFICE.

FRANK C. CURTIS, OF TROY, NEW YORK.

MACHINE FOR MAKING SPIRAL FLY-TRAPS.

1,298,180.

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Application filed April 12, 1917. Serial No. 161,687.

To all whom it may concern:

Be it known that I, FRANK C. CURTIS, a citizen of the United States, residing at Troy, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Machines for Making Spiral Fly-Traps, of which the following is a specification, reference being made to the accompanying drawing, forming a part thereof.

This invention relates to machines for winding into spiral form strips of material for various purposes, and it is particularly adapted for use in making spiral fly-traps.

The principal object of the invention is to automatically maintain substantially uniform tension on the strip during the winding operation.

Other objects will appear in connection with the following description.

The single figure of the drawing is a central vertical longitudinal section of a fly-trap-winding machine made in accordance with my invention.

Referring to the drawings wherein the invention is shown in preferred form, 1 is a rotary spindle, provided with a slot, 2, adapted to receive the end 3 of a strip, 4, adapted to be wound into a spiral roll for use as a fly-trap or the like.

The strip, 4, passes from a roll, 5, between a pair of tension-rolls, 6 and 7, and thence over a mutilated roll, 8, around a roll, 9, and over a roll, 10, to the slotted spindle, 1.

The mutilated roll, 8, has a portion of its cylindrical surface removed at 11, the remaining portion of said roll being adapted to make peripheral contact with a roll, 12, which runs in a body of adhesive, 13, contained in a subjacent well or box, 14.

The roll, 10, has a segmental peripheral enlargement, 15, adapted to make peripheral contact with a roll, 16, which runs in a body, 17, of adhesive, contained in a subjacent well or box, 18.

The adhesive, 17, is a hard-drying adhesive, as glue, adapted for use upon the ends of the strip which forms a fly-trap, while the adhesive, 13, is a permanently sticky adhesive such as is used for sticky fly-paper, and is applied to the intermediate portions of a strip adapted for the manufacture of spiral fly-traps.

The uncut portion of the roll, 8, receives a coating of the adhesive, 13, from its

contact with the roll, 12; and the peripheral enlargement, 15, of the roll, 10, receives a coating of adhesive, 17, from its contact with the roll, 16.

As the strip, 4, passes from the rolls, 6—7, over the mutilated roll, 8, that portion of the strip which engages the uncut portion of the roll, 8, becomes coated with adhesive, 13, while the portion of said strip which passes over the mutilated portion, 11, of said roll, 8, is left free from such coating of adhesive.

The rolls, 8, 9, 10, 12 and 16 are positively driven; and their movements are so timed that the portion of the strip which is left uncut with adhesive, 13, by reason of the mutilation, 11, passes over the roll, 10, in contact with the peripheral enlargement, 15, on said roll, which peripheral enlargement, 15, being coated with adhesive, 17, applies said adhesive, 17, to the opposite side of that portion of the strip, 4, which is free from adhesive, 13.

A rotatory cutter, 19, is located adjacent to the roll, 10, and its movements are so timed that it is adapted to cooperate with the enlargement, 15, on the roll, 10, at regular intervals to cut the strip, 4.

The cutter, 19, is so made as to not cut the strip, 4, entirely across, but to cut or weaken the strip sufficiently so that the operator can readily break the strip.

In making fly-traps of the character referred to, and by the use of a machine of the character described, it is quite important that the body portion of the rolled-up strip should be wound under a substantially uniform tension, as otherwise the lengths of the strips for successive traps would vary and interfere with the timeliness of the operation of the enlargement, 15, on the roll, 10, and the cutter, 19.

The strip is held under tension between the rolls, 6—7, and the winding spindle, 1.

As the mutilated portion, 11, of the roll, 8, is brought adjacent to the strip, 4, more or less slackness is formed in the strip, which tends to relieve the tension on the strip and permit the strip to be more loosely wound upon the split spindle, 1.

As a means for taking up such slackness in the strip, 4, I have shown the roll, 9, formed with a peripheral swell, 20, and the rolls, 8—9, are so timed in their movements that this swell, 20, forces the strip out of its normal path during the interval when the

strip tends to become slack by reason of the mutilation, 11, in the roll, 8.

Any slackness in the strip, 4, which is produced by the mutilation, 11, of the roll, 8, is thus instantly taken up and compensated for by the outward displacement of the strip in its passage over the swell, 20, on the roll, 9. The tension upon the strip is thus maintained substantially uniform during the winding operation.

For certain purposes of the invention any known means may be employed for automatically intermittently displacing the strip, 4, to compensate for slackness formed therein by reason of the mutilation of the roll, 8, which means is intermittently engageable with the strip.

What I claim as new and desire to secure by Letters Patent is

1. In a machine of the class described and in combination, a strip-rolling device; a tension for the strip; a rotatory mutilated adhesive-applying roll engageable with the strip between said tension and said strip-rolling device; and means intermittently engageable with the strip to displace the strip from its normal path, said means being timed in its operation to so displace the strip as the mutilated portion of said roll is brought adjacent to the strip.

2. In a machine of the class described and in combination, a strip-rolling device; a tension for the strip; a rotatory mutilated adhesive-applying roll engageable with the strip between said tension and said strip-rolling device; and a rotatory roll having a peripheral swell over which said strip passes between said mutilated roll and said strip-rolling device, said rolls being so timed in their movements that said swell engages said strip as the mutilated portion of said mutilated roll is brought adjacent to the strip.

3. In a machine of the class described and in combination, a strip-rolling device; a tension for the strip; a rotatory mutilated adhesive-applying roll engageable with the strip between said tension and said strip-rolling device; means intermittently en-

gageable with the strip to displace the strip from its normal path; and a rotatory roll having an adhesive-applying peripheral enlargement engageable with the strip, said rolls being so timed in their movements that adhesive is applied to alternate portions on opposite sides of the strip by said mutilated roll and said roll having the peripheral enlargement respectively, and said strip-displacing means engaging the strip to displace the same as the mutilated portion of said mutilated roll is brought adjacent to the strip.

4. In a machine of the class described and in combination, a strip-rolling device; a tension for the strip; a rotatory mutilated adhesive-applying roll engageable with the strip between said tension and said strip-rolling device; means intermittently engageable with the strip to displace the strip from its normal path, said means being timed in its operation to so displace the strip as the mutilated portion of said roll is brought adjacent to the strip; and an intermittently operating cutter engageable with the strip between said strip-rolling device and said strip-displacing means.

5. In a machine of the class described and in combination, a strip-rolling device; a tension for the strip; a rotatory mutilated adhesive-applying roll engageable with the strip between said tension and said strip-rolling device; means intermittently engageable with the strip to displace the strip from its normal path; a rotatory roll having an adhesive-applying peripheral enlargement engageable with the strip, said rolls being so timed in their movements that adhesive is applied to alternate portions on opposite sides of the strip by said mutilated roll and said roll having the peripheral enlargement respectively; and an intermittently operating cutter engageable with the strip between said strip-rolling device and said strip-displacing means.

In testimony whereof, I have hereunto set my hand this 11th day of April, 1917.

FRANK C. CURTIS.