Dec. 2, 1924. 1,518,095

L. H. MILLIS

TOBACCO LOOPER

Filed June 29, 1922 4 Sheets-Sheet 1

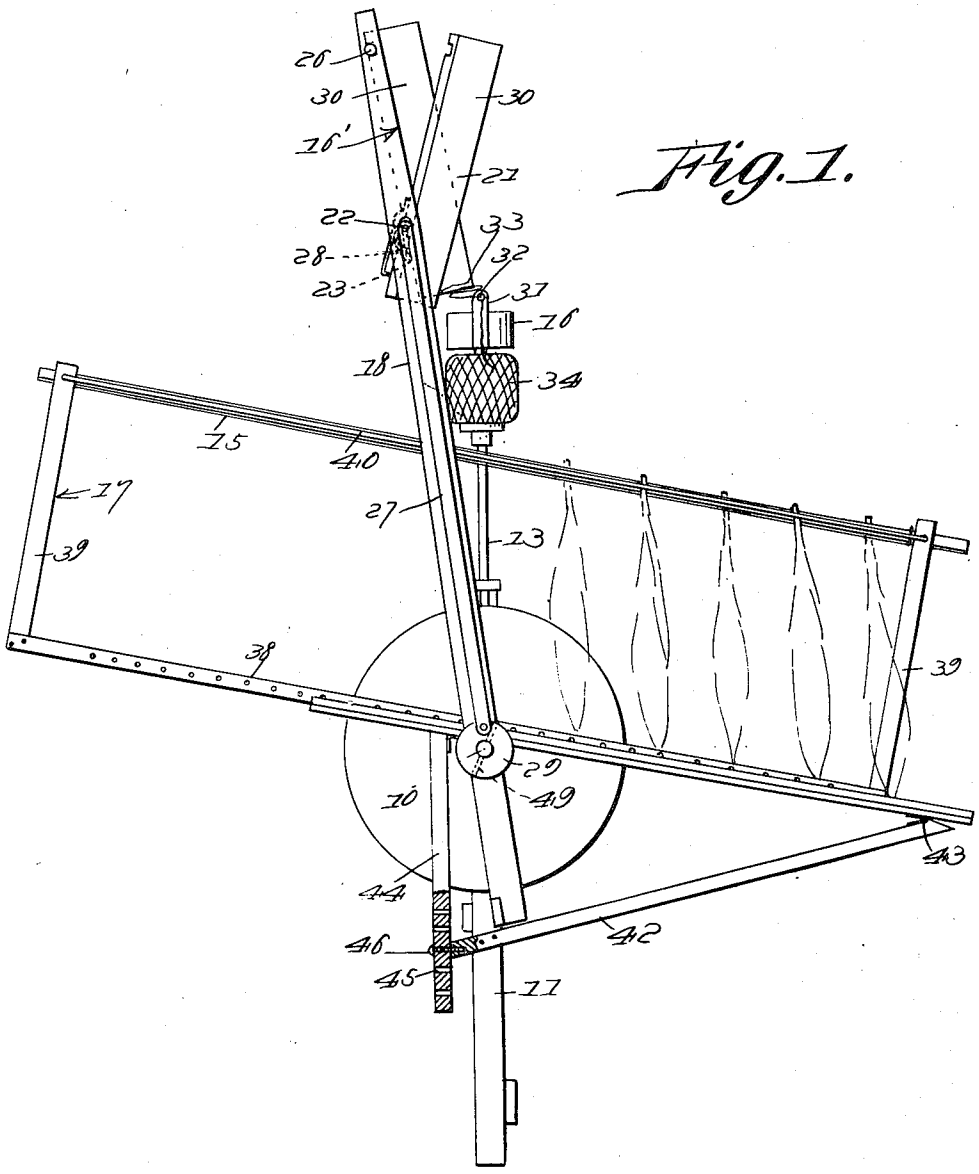


Fig. 1.

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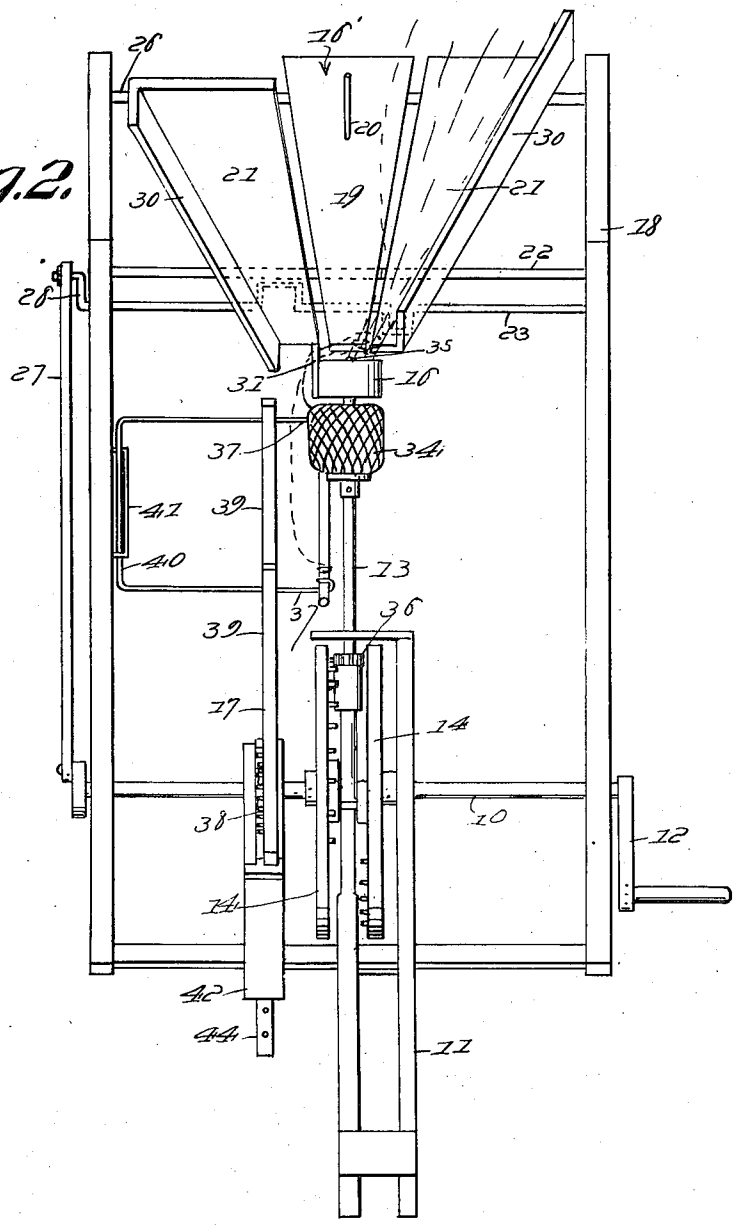
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Fig. 2.



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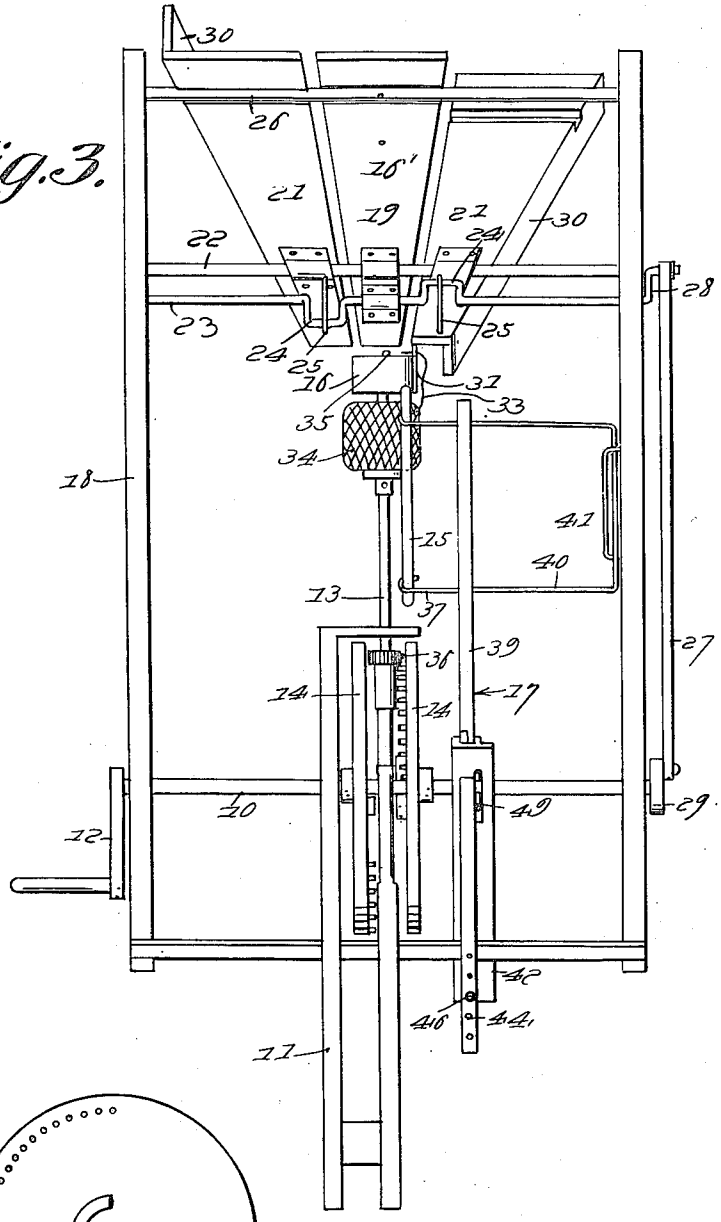
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TOBACCO LOOPER

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Fig. 3.



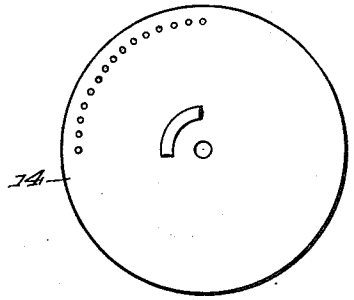


Fig. 6.

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TOBACCO LOOPER

Filed June 29, 1922 4 Sheets-Sheet 4

Fig. 4.

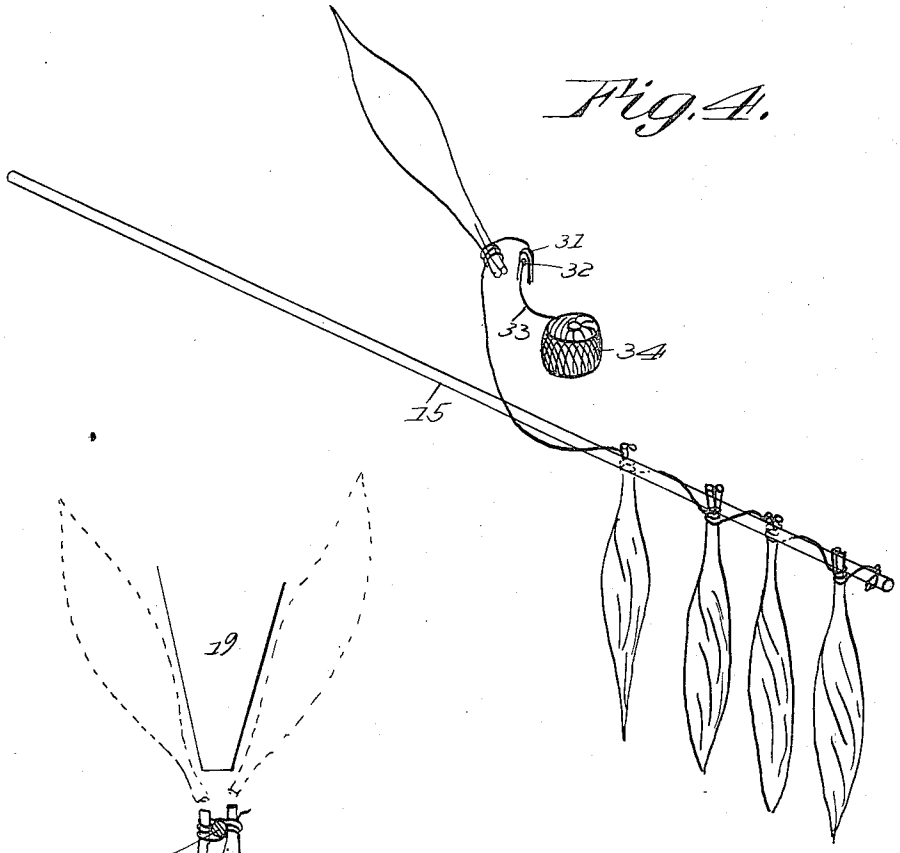


Fig. 5.

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Patented Dec. 2, 1924. 1,518,095

UNITED STATES PATENT OFFICE.

LEMUEL H. MILLIS, OF DUCK CREEK, NORTH CAROLINA.

TOBACCO LOOPER.

Application filed June 29, 1922. Serial No. 571,734.

To all whom it may concern:

Be it known that LEMUEL H. MILLIS, a citizen of the United States of America, residing at Duck Creek, in the county of Onslow and State of North Carolina, has invented new and useful Improvements in Tobacco Loopers, of which the following is a specification.

The object of the invention is to provide an efficient mechanism for looping or tying tobacco hands or bundles to the drying sticks for dispensation in the drying house under conditions providing for uniformity and rapidity of operation and to avoid the inconvenience of the more tedious manual arrangement thereof which is now commonly followed; and with this object in view the invention consists in a construction and combination of parts of which a preferred embodiment is shown in the accompanying drawings, wherein:—

Figure 1 is a side view of a looping mechanism constructed in accordance with the invention.

Figure 2 is a front elevational view.

Figure 3 is a rear elevational view.

Figure 4 is a detail elevational view showing the elements of the looping mechanism.

Figure 5 is a detail elevational view illustrating a portion of the intermediate stationary rest and the final position of the bundles on the tobacco stick, the initial positions being indicated in dotted lines.

Figure 6 is a detail elevational view of one of the mutilated gears.

The mechanism embodies essentially a drive or operating shaft 10 mounted in a suitable frame 11 and adapted in the construction illustrated for actuation manually as by a crank 12, a reversely rotatable looper shaft 13 adapted for actuation by opposed mutilated gears 14 and provided with means for carrying the tying cord or twine whereby the stems of the successive hands or tobacco bundles are bound and are secured successively to the tobacco stick 15, a feeding hopper 16′ in which the hands of tobacco are successively placed with the leaf stems in a rest 16 supported at the upper end of the looper shaft, and a cradle 17 by which the said tobacco stick is supported and is moved in a step by step manner to present fresh portions thereof to the looping and feeder devices as the hands or bundles are successively applied thereto.

In the illustrated embodiment of the invention there is employed a slightly inclined, approximately upright rack 18 to support the hopper which consists of an intermediate stationary rest 19 having a dividing pin 20, on either side of which the hands of tobacco are alternately placed, and right and left side flaps or wings 21 which are fulcrumed upon a transverse bar 22 and are actuable by a crank shaft 23 having oppositely disposed cranks 24 engaging guides 25 on the rear sides of said flaps or wings whereby the latter may be alternately swung forward in the act of reversing the hands or bundles resting thereon. In their normal positions the flaps or wings bear against a stop bar 26 and the crank shaft is actuated by a pitman 27 extending from a terminal crank 28 of said shaft to a disk 29 on the main or drive shaft. The hopper is also provided with side walls 30 which are stationary and are disposed in substantial parallelism with the outer obliquely disposed edges of the flaps or wings.

The stem rest is preferably of cup shape to receive and effectively hold the hands of the stems of the leaves forming the successive hands or bundles and carried thereby is a looper arm 31 having a guide eye 32 for the looping cord 33 which extends from a spool or ball 34 adapted to be placed on the loopershaft so as to feed the cord as it is used in tying the bundles and attaching them successively to the stick, said rest being provided with a stem 35 removably fitted in a socket in the upper end of the loopershaft so as to permit of removal to allow of the threading of a spool or ball of cord on the looper shaft.

At an intermediate point the looper shaft is provided with a pinion 36 for alternate engagement by the segmental series of teeth carried by the driving gears, the said pinion and series of gear teeth being so arranged that during a continuous rotary motion of the main or drive shaft in one direction the loopershaft is alternately turned in opposite directions, each rotary movement being through a distance of about one and one-half turns with an interval of rest between each two operations thereof, so that after having placed a hand or bundle of tobacco in the hopper with the stems in the rest, the first operation of the machine results in the turning of the looper arm through a distance of approximately one and one-half turns to carry the looping cord

around the stems and secure them in a tight bundle. At the conclusion of this tying step in the operation the flap or wing upon which the bundle has been placed (it being understood that the bundles are placed alternately on the right and left flaps or wings), the hand carrying flap or wing is swung forward by its actuating crank to reverse the bundle and permit it to drop into a suspended position with relation to the stick, the flaps or wings being so positioned as to dispose the bundles alternately on opposite sides of the stick. The tying cord after passing from the spool through the guide eye in the looper arm is extended and attached to one end of the stick as an anchorage, so that in the discharge of the bundle from the hopper and the reversal thereof to dispose the leaves in a pendant position, the looping cord is engaged with the stick and serves to support the hands or bundles therefrom.

The cradle by which the tobacco stick is supported is provided with fingers 37 for engagement with the stick near its ends, and consists of a rack bar 38 having terminal uprights 39 carrying said fingers and connected by a guide rod 40 extending through a guide loop 41 on one of the side members of the upright rack frame. Said rack bar is mounted upon a tiltable guide 42 pivoted as at 43 to the supporting frame and having an upright 44 which is adjustable by means of a series of openings 45 engaged by a screw 46 to vary the inclination of the guide and hence of the stem. The step by step progressive movement of the cradle is caused by tappet pins 49 on the drive or main shaft arranged for engagement with the teeth of the rack bar, and the variation of the inclination of the guide for the cradle determines the extent of movement at each step of the stick and hence enables the mechanism to be adjusted to suit hands or bundles of either large or small size without unnecessarily crowding the stick or wasting space thereon.

Having described the invention, what is claimed as new and useful is:—

1. A tobacco looper having a feed hopper for the successive reception of tobacco hands or bundles, a revoluble looper shaft carrying a stem rest for receiving the stems of hands or bundles arranged in the hopper, a looper arm carried by said shaft for guiding and carrying a looping cord around the rest to engage the stems arranged therein, means for rotating the looper shaft at intervals and alternately in opposite directions, a stick supporting cradle for holding a stick in a position adjacent to the plane of the stem rest, and means for communicating a step by step forward movement to the cradle to advance the stick as the bundles are successively applied thereto.

2. A tobacco looper having a feed hopper for the successive reception of tobacco hands or bundles, a revoluble looper shaft carrying a stem rest for receiving the stems of hands or bundles arranged in the hopper, a looper arm carried by said shaft for guiding and carrying a looping cord around the rest to engage the stems arranged therein, means for rotating the looper shaft at intervals and alternately in opposite directions, a stick supporting cradle for holding a stick in a position adjacent to the plane of the stem rest, and means for communicating a step by step forward movement to the cradle to advance the stick as the bundles are successively applied thereto, the hopper having right and left forwardly tiltable flaps or wings for discharging and reversing the hands or bundles, and means for alternately actuating said flaps or wings at intervals following the tying of the stems of hands or bundles carried thereby.

3. A tobacco looper having a feed hopper for the successive reception of tobacco hands or bundles, a revoluble looper shaft carrying a stem rest for receiving the stems of hands or bundles arranged in the hopper, a looper arm carried by said shaft for guiding and carrying a looping cord around the rest to engage the stems arranged therein, means for rotating the looper shaft at intervals and alternately in opposite directions, a stick supporting cradle for holding a stick in a position adjacent to the plane of the stem rest, and means for communicating a step by step forward movement to the cradle to advance the stick as the bundles are successively applied thereto, the hopper having right and left forwardly tiltable flaps or wings for discharging and reversing the hands or bundles, and means for alternately actuating said flaps or wings at intervals following the tying of the stems of hands or bundles carried thereby, and said hopper also having an intermediate stationary member provided with a central dividing element.

4. A tobacco looper having a feed hopper for the successive reception of tobacco hands or bundles, a revoluble looper shaft carrying a stem rest for receiving the stems of hands or bundles arranged in the hopper, a looper arm carried by said shaft for guiding and carrying a looping cord around the rest to engage the stems arranged therein, means for rotating the looper shaft at intervals and alternately in opposite directions, a stick supporting cradle for holding a stick in a position adjacent to the plane of the stem rest, and means for communicating a step by step forward movement to the cradle to advance the stick as the bundles are successively applied thereto, the operating means including a drive shaft carrying oppositely positioned mutilated gears, and

the looper shaft being positioned between said gears and having a pinion for alternate engagement by the teeth thereof.

5. A tobacco looper having a feed hopper for the successive reception of tobacco hands or bundles, a revoluble looper shaft carrying a stem rest for receiving the stems of hands or bundles arranged in the hopper, a looper arm carried by said shaft for guiding and carrying a looping cord around the rest to engage the stems arranged therein, means for rotating the looper shaft at intervals and alternately in opposite directions, a stick supporting cradle for holding a stick in a position adjacent to the plane of the stem rest, and means for communicating a step by step forward movement to the cradle to advance the stick as the bundles are successively applied thereto, said cradle having a rack bar and provided with fingers for engaging the terminals of the stick, and the operating means including a drive shaft provided with pins for successively engaging the teeth of the rack bar.

6. A tobacco looper having a feed hopper for the successive reception of tobacco hands or bundles, a revoluble looper shaft carrying a stem rest for receiving the stems of hands or bundles arranged in the hopper, a looper arm carried by said shaft for guiding and carrying a looping cord around the rest to engage the stems arranged therein, means for rotating the looper shaft at intervals and alternately in opposite directions, a stick supporting cradle for holding a stick in a position adjacent to the plane of the stem rest, and means for communicating a step by step forward movement to the cradle to advance the stick as the bundles are successively applied thereto, the cradle having a rack bar, a tiltable guide for the rack bar, and means for securing the guide in its adjusted positions, and the operating means having a drive or main shaft provided with pins for successively engaging the teeth of the rack bar.

In testimony whereof he affixes his signature.

LEMUEL H. MILLIS.