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MEANS FOR SPREADING CUT TOBACCO

Filed Aug. 1, 1929

2 Sheets-Sheet 1

Fig. 1

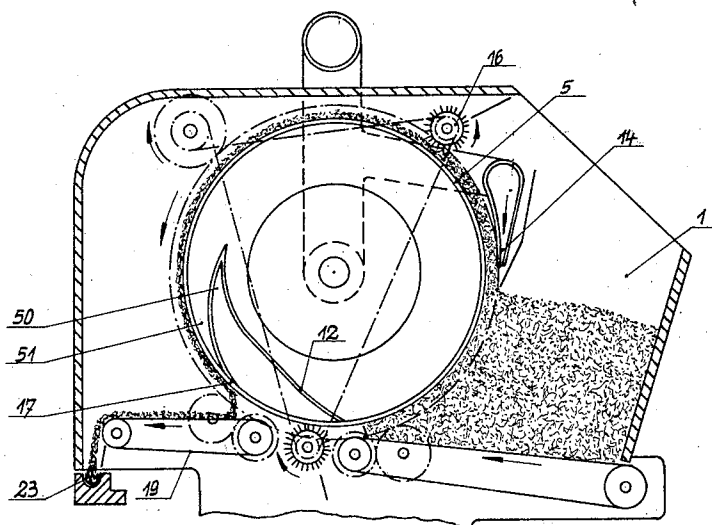
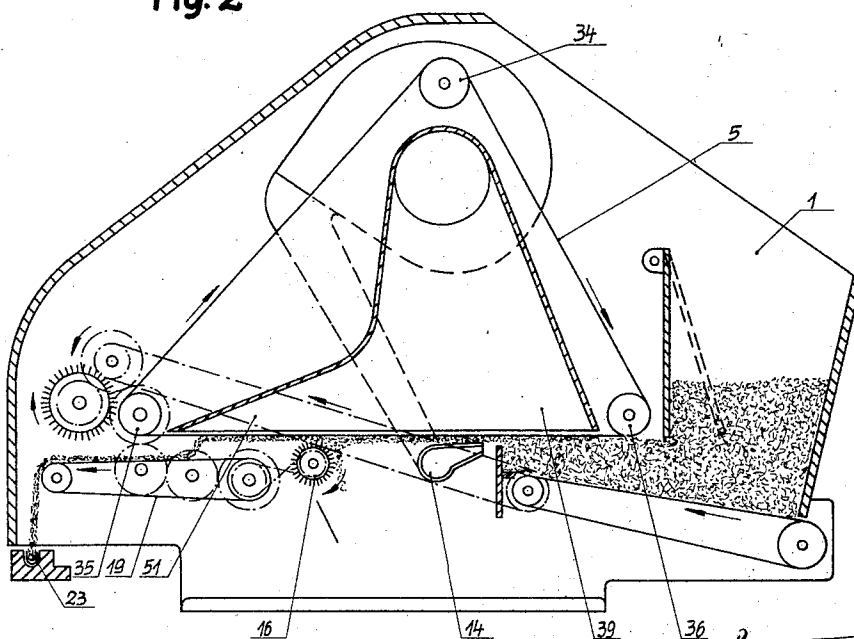


Fig. 2



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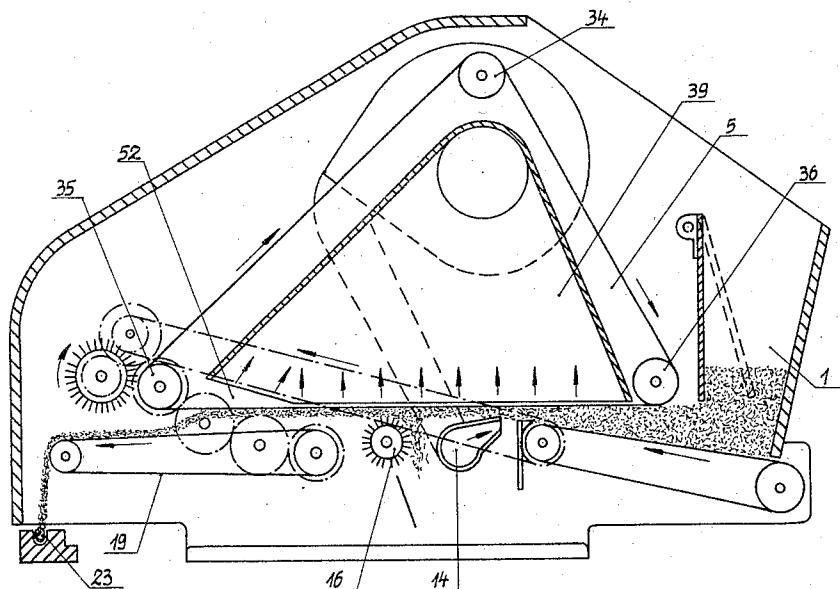
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Fig. 3



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UNITED STATES PATENT OFFICE

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MEANS FOR SPREADING CUT TOBACCO

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In order to take care of the tobacco in tobacco spreaders and protect the fibres before the tearing operation it has been proposed to lead past the tobacco hopper a travelling
5 sieve band or the like subjected to suction action on which the tobacco fibres of the supply hopper settle so that a fleece of tobacco forms on the sieve and on the further movement of the sieve the suction action is interrupted so that a uniform stream of tobacco
10 is delivered from the sieve in the form of a band on to a conveyor.

In order to separate the tobacco fleece with certainty from the sieve band I have already
15 provided at the point where the suction action is interrupted a nozzle which forces compressed air through the openings in the sieve band and blows the fleece of tobacco off the said band.

In order to simplify the construction of such apparatus in accordance with the present invention the chamber subjected to suction action at that side which is closed by the moving sieve band or the like and at the
25 point where the fleece is delivered by the said band or the like is gradually contracted so that finally by the frictional resistance thereby produced the air stream is affected in a manner favourably influencing the separation of the tobacco fleece from the sieve band.
30 It is thus possible to dispense with the compressed air nozzle without rendering uncertain the complete removal of the tobacco fleece from the sieve band.

In the accompanying drawings which form part of this specification and in which similar reference characters denote corresponding parts;

40 Figs. 1, 2 and 3 are respectively vertical sections of each of three embodiments.

In the construction illustrated in Fig. 1 the moving sieve band 5 is formed as a rotary drum, the tobacco being drawn by the drum from the supply hopper 1. The tobacco
45 fibres are straightened by the jet 14 in the form of a slot by means of compressed air. The brushing roller 16 regulates the thickness of the fleece which moves with the drum and remains under the suction action of the
50 drum until it reaches the forward edge of

the cover 12 in which there is no vacuum. This cover or cap is so shaped as to form between the part 50 of its wall and the wall of the drum a chamber 51 running to a point. As the result the suction action on this face
55 of the wall of the drum bounding this chamber gradually diminishes until it falls to zero at the edge 17. The tobacco has now an opportunity to separate gradually from the sifting drum until at the edge 17 it is completely separated from the drum without the aid of compressed air and falls on the feed
60 band 19 from which it passes in known manner to the usual grooved conveyor 23.

In Fig. 2 a construction is shown in which
65 the sieve band is formed as a conveyor band extending over rollers 34, 35, 36 and over the operative flight of which is located the suction box 39. The tobacco is drawn from the supply hopper 1, and the fibres are straight-
70 ened by the jet 14 by means of compressed air. The brushing roller 16 brings the fleece to the desired thickness. In this embodiment also the suction chamber (or suction box 39) runs to a pointed chamber 51. The suction
75 action gradually diminishes as the said band moves towards this chamber 51 and consequently the tobacco fleece gradually falls from the sieve band and passes to the feed
80 band 19 and from there to the grooved conveyor 23.

The problem of gradually reducing the suction action of the suction chamber 39 in order to permit of dispensing with the use of
85 a compressed air jet can also be solved by the gradual separation of the suction chamber at the side at which it is closed by the moving sieve band 5 or the like from such
90 sieve band towards the point where the fleece is delivered from the sieve band or the like so as to leave a space 52 through which additional air may be drawn into the chamber 39 so that the flow of air under suction is affected in a manner which facilitates the release of the tobacco fleece from the sieve
95 band.

One form of this solution is illustrated in Fig. 3. The above description of Fig. 2 applies to this figure. By the passage of air
100 through the gap 52 between the suction

chamber 29 and the sieve band 5 the suction action exerted by the suction chamber through the sieve band on the fleece is gradually weakened. In consequence the tobacco
5 fleece gradually separates from the sieve band passes on to the feed band 19 and thence to the grooved conveyor 23.

I claim:

1. Means for spreading cut tobacco comprising a moving sieve band for carrying a tobacco fleece, a suction chamber closed by
10 said band and means for gradually reducing the suction action exerted on said sieve band towards one end whereby the fleece may be delivered from the sieve band.

2. Means for spreading cut tobacco comprising a moving perforated band for carrying a tobacco fleece, a suction chamber closed by said band at one side and receding from
20 the perforated band at another point whereby to form a gap between the suction chamber and said band for the supply of additional air and whereby to release the fleece from said perforated band.

3. Means for spreading cut tobacco comprising a moving perforated member carrying a tobacco fleece, a suction chamber having an open end, the latter being closed by
25 said perforated member and means for gradually reducing the suction action exerted on said perforated member toward the delivery end of the latter whereby the fleece may be delivered therefrom.

4. Means for spreading cut tobacco comprising a moving perforated band for carrying a tobacco fleece, means for regulating the thickness of said fleece, a suction chamber closed by said band at one side and receding
35 from the said band at another point whereby to form a gap between the suction chamber and said band for the supply of additional air to release said fleece from said band and means for conveying said released fleece away from said band.

5. Means for spreading cut tobacco comprising a moving perforated band for carrying a tobacco fleece, a suction chamber closed by said band, means for regulating the thickness of said fleece, means for reducing the
40 suction action exerted on said perforated band towards the delivery point of the latter whereby the fleece may be delivered from said band and means for removing said delivered fleece.

6. Means for spreading cut tobacco comprising a moving perforated member for carrying a tobacco fleece, means for directing suction action through a portion of said
55 member and means near the delivery point of the latter for reducing said suction action gradually whereby said fleece may be removed.

In testimony whereof I affix my signature.
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