L. W. LAWRENCE.

TOBACCO STEMMING MACHINE.

APPLICATION FILED JAN. 5, 1917.

1,267,776.

Patented May 28, 1918.

3 SHEETS—SHEET 1.

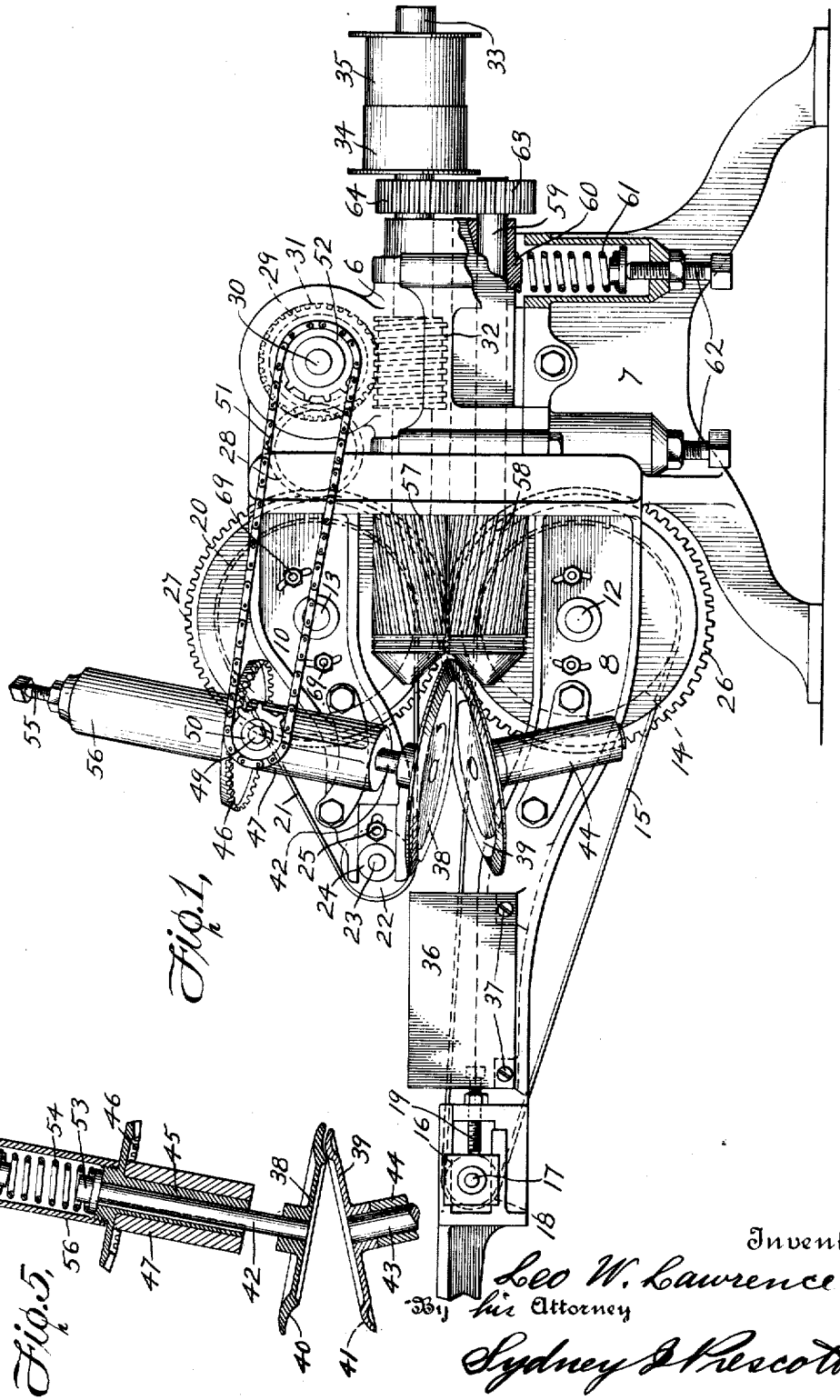


Fig. 1.

Fig. 5.

Inventor

Leo W. Lawrence

By his Attorney

Sydney B. Prescott

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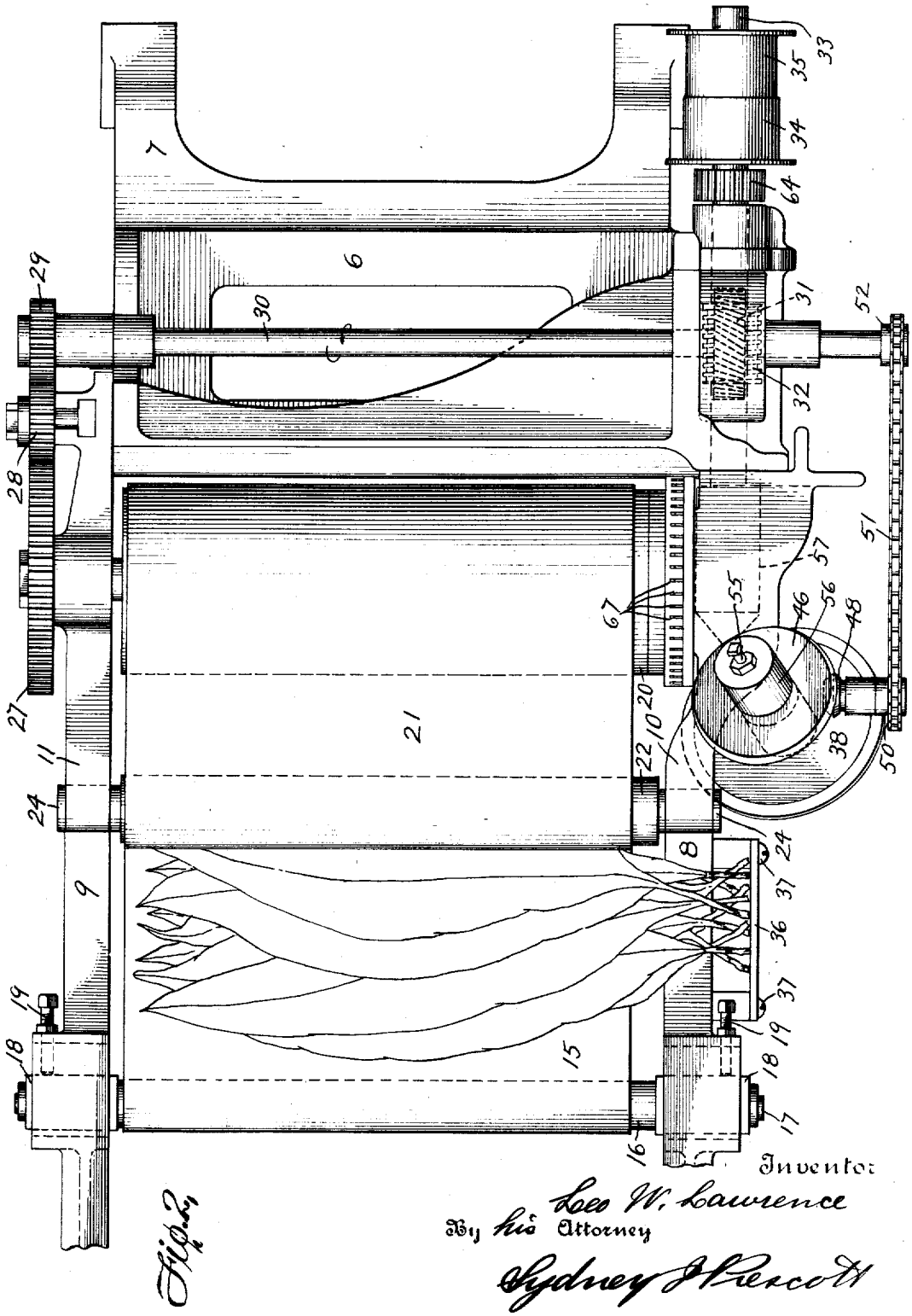


Fig. 2.

Inventor

Leo W. Lawrence

By his Attorney

Sydney J. Prescott

L. W. LAWRENCE.

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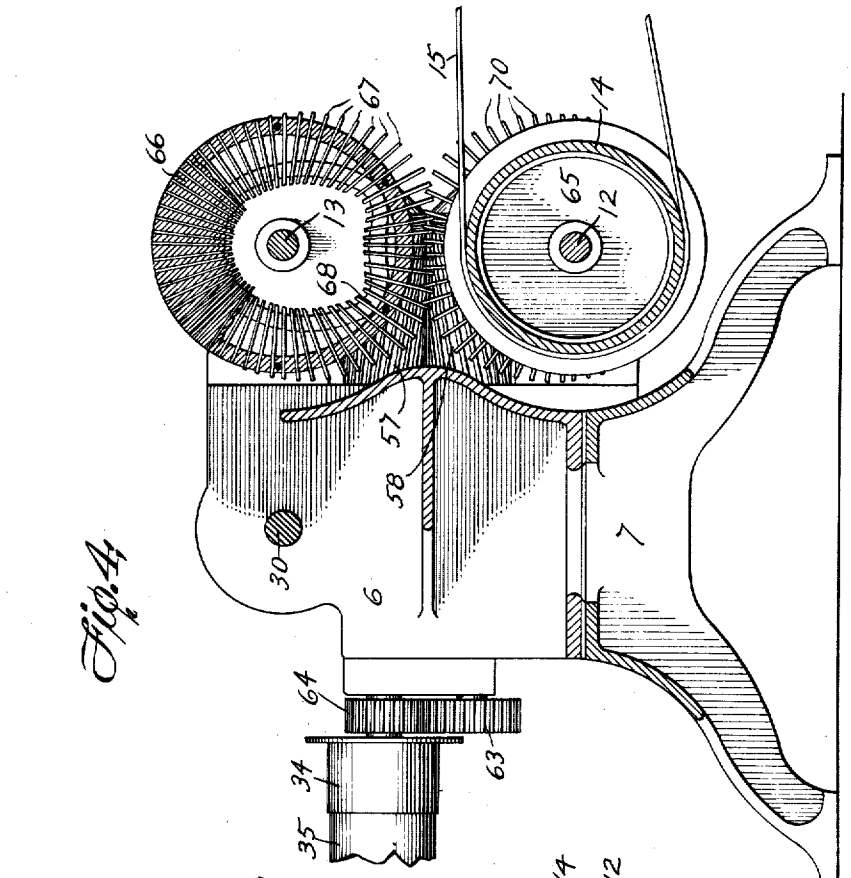


Fig. 4.

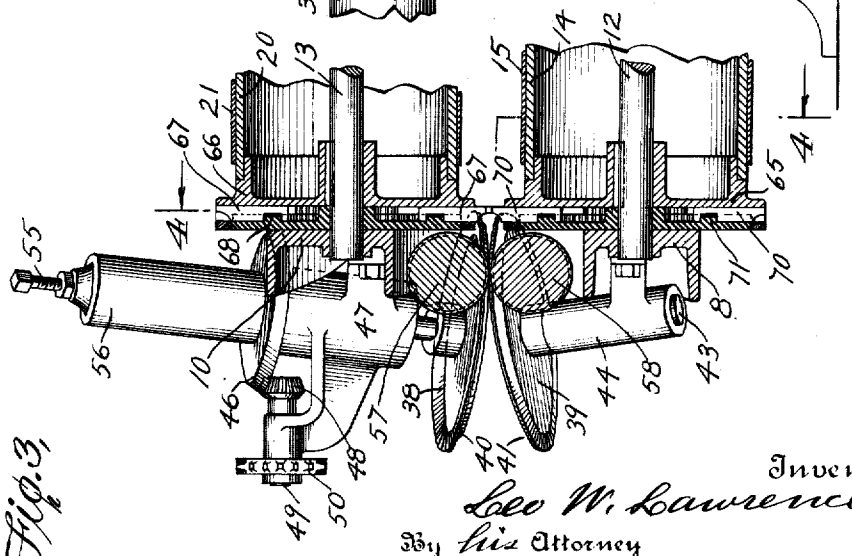


Fig. 3.

Inventor:
Leo W. Lawrence
By his Attorney
Sydney F. Prescott

UNITED STATES PATENT OFFICE.

LEO W. LAWRENCE, OF WINSTON-SALEM, NORTH CAROLINA, ASSIGNOR TO STANDARD TOBACCO STEMMER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF VIRGINIA.

TOBACCO-STEMMING MACHINE.

1,267,776. Specification of Letters Patent. Patented May 28, 1918.

Application filed January 5, 1917. Serial No. 140,850.

To all whom it may concern:

Be it known that I, LEO W. LAWRENCE, a citizen of the United States, residing at Winston-Salem, county of Forsyth, and State of North Carolina, have invented a new and useful Improvement in Tobacco-Stemming Machines, of which the following is a specification.

This invention relates to an improvement in tobacco stemming machines.

One of the objects of the invention is the production of a simplified machine capable of greater production than has heretofore been found obtainable, and with decreased initial and maintenance cost. Another object of the invention is the production of a machine in which bunches or "hands" of tobacco leaves may be introduced within its range of action, automatically arranged, and then successively operated upon to effect the stripping of the stems. Another object is the production of a machine in which the leaves are automatically fed or advanced in bunches, automatically arranged as they are advanced, and then successively and progressively operated upon to strip the stems. Another object is the production of a manipulating mechanism for effecting the arrangement of the stem butts substantially in a line to prepare them for engagement with stripping means. Another object is the production of feeding means for advancing the leaves to stripping position, and stripping means coöperative with the feeding means within the range of action of the latter, in order to eliminate the necessity heretofore existing for transferring leaves from feeding means to stripping means, thus avoiding the difficulties attendant upon re-handling. Another object is the production of a stripping medium traveling with the feeding means at stripping position, and stem drawing means coöperative with the stripping means to effect the stripping of the stems as the leaves are fed forward. Another object is the production of a machine in which all of its component parts are continuously operative so that no time is lost or difficulty encountered due to intermittent operation of one or more of the several mechanisms. Another object is the production of self clearing stripping devices. With these and other objects not specifically mentioned in view, the invention consists in certain parts, constructions and combinations which will be hereinafter fully described and then specifically set forth in the claims hereunto appended.

In the accompanying drawings which form a part of this specification and in which like characters of reference indicate the same or like parts, Figure 1 is a side elevation of a machine constructed in accordance with the invention; Fig. 2 is a plan view of the structure shown in Fig. 1; Fig. 3 is a detail sectional view of the manipulating devices, the stripping devices, and the stem drawing means; Fig. 4 is a cross-sectional view taken mainly on the line 4—4 in Fig. 3, but in part stepped back from said line; and Fig. 5 is a detail sectional view of the manipulating devices.

In carrying the invention into effect, there are provided means for feeding a bunch of leaves, and means arranged and adapted to engage and act upon the leaves successively to strip their stems. There is further provided stem butt arranging means adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means. There is further provided stem drawing means arranged and adapted to successively engage stem butts acted upon and delivered to it by the arranging means. There is further provided stripping means coöperative with the stem drawing means and operative within the range of action of the feeding means.

In the best constructions, the leaf feeding means, the stem butt arranging means, the stem drawing means, and the stripping means all operate continuously and within the range of action of the feeding means, so that the tobacco leaves are supported by the feeding means to the end of the stripping operation, thus eliminating the necessity for mechanism for transferring leaves from the stem butt arranging means to the stripping means, and thus completely avoiding the dropped leaves or "drops" which resulted from imperfect action of such transferring mechanism, and of course avoiding the production cost of re-handling such drops. In the best constructions also, the stem butt arranging means consists in a pair of co-acting devices one of which is positively driven and

yieldingly mounted and the other floating, whereby a manipulating action upon the stem butts is produced to arrange them substantially in a single line for successive delivery to the stem drawing means. In the best constructions also, the stem drawing means consists in a pair of stem drawing rollers the axes of which are parallel to the line of movement of the feeding means and which rotate at high speed in order that the stem may be drawn from the leaf during a relatively small and slow movement of the feeding means. In the best constructions also, the stripping medium consists in stripping members that are projected into engagement with the leaves advanced by the feeding means at stripping position, and then retracted to clear them from strip. In the best constructions also, the stripping means travels with the feeding means and at substantially the same speed, at stripping position. All of the above mentioned means, mechanism and devices may be varied in construction within wide limits.

The machine selected to illustrate the invention is but one of many possible concrete embodiments of the same. The invention, therefore, is not to be restricted to the precise details of the structure shown and described. Moreover, certain parts of the invention are capable of use independent of other parts, and such independent use is contemplated.

Referring to the drawings, which, as before stated, illustrate but one of many possible concrete embodiments of the invention, 6 indicates the main frame of the machine, and this frame is mounted upon the supporting legs 7. Extending laterally from the main frame 6 are two side brackets 8 and 9, one on either side of the machine. Similarly mounted, but above the brackets 8 and 9, are two shorter side brackets 10 and 11. Mounted in suitable bearings in the side brackets 8 and 9 is a shaft 12 extending across the machine. Similarly mounted in the side brackets 10 and 11 is a shaft 13, also extending across the machine. Fast upon the shaft 12 is a drum or pulley 14, and over this drum runs a belt 15. The belt 15 also runs over a small idle pulley 16 fixed upon a shaft 17 which is journaled in suitable journal boxes 18, one in the side bracket 8 and the other in the side bracket 9. Both of these journal boxes are adjusted for belt tightening purposes by means of adjusting screws 19. Similarly, fast upon the shaft 13 is a drum 20 over which runs a belt 21. The belt 21 also runs over an idle pulley 22 fast upon a shaft 23 which is journaled in boxes 24, these boxes being adjustably secured to the side brackets 10 and 11 by means of bolts 25, only one of which is shown. These two belts 15 and 21 constitute the tobacco leaf feeding means of the machine, and they operate continuously. The means for so operating them includes two intermeshing gears 26 and 27, respectively fast upon the shafts 12 and 13. The gear 27 is in mesh with an intermediate pinion 28, and this intermediate pinion is in mesh with a driving pinion 29 fast upon a shaft 30 extending across the machine and mounted in suitable bearings in the main frame 6 before referred to. Upon the opposite end of the shaft 30 is fixed a worm wheel 31 which meshes with a worm 32 fast upon a shaft 33. The shaft 33 is the main power shaft of the machine and carries a fast pulley 34 and a loose pulley 35. The shaft 33 is driven by means of a belt not shown.

For the purpose of assisting the machine operator in placing bunches of tobacco leaves upon the feed belt 15, there is provided a whip rail and stem abutment which consists in a plate 36 secured to two projections from the side bracket 8 by means of screws 37. In placing a hand of tobacco leaves upon the belt, the operator first unties the hand, then whips the stem butts on the edge of the plate 36 to loosen the bunch of stem butts, and then lays the bunch of leaves upon the belt with the ends of the stems touching the plate 36. It will be noted that the plate 36 is spaced a considerable distance from the edge of the feed belt. This is for the purpose of properly positioning the stem butts to be acted upon by mechanism subsequently coming into action.

As indicated by the diagrammatic illustration of the tobacco leaves in Fig. 2, the stem butts are fed forward in irregular formation, superposed and unevenly spaced, or, in other words, as they naturally lie after the hand is untied and the stem butts are loosened up. It is highly desirable that the stem butts be arranged substantially in a single line before the stripping operation is begun. There is therefore provided stem butt arranging means which consists in a pair of co-acting manipulating disks 38 and 39 respectively having curved peripheral operating surfaces 40 and 41. The disk 38 is fast upon a shaft 42, and the disk 39 is fast upon a shaft 43. The shaft 43 rotates in a bearing 44 bolted to the side bracket 8 before referred to, but is not driven. The disk 39 therefore floats and is rotated only when stem butts lie between it and the disk 38. The shaft 42 is splined to the long hub 45 of a bevel gear 46, the hub being journaled in a suitable bearing 47, which bearing is bolted to the side bracket 10 before referred to. In mesh with the bevel gear 46 is a bevel pinion 48 fast upon a short shaft 49 which also carries a sprocket 50. The sprocket 50 is driven by means of a chain 51 which also runs over a sprocket 52 fast upon the shaft 30 before referred to. The upper disk is thus driven continuously. For the purpose of permitting stem butts to pass between the

superposed disks and to cause them to be manipulated into a single line in so passing, the upper disk 38 is yieldingly mounted. With this end in view, the upper end of the shaft 42 is provided with an enlarged head 53 against which one end of a spring 54 bears. The other end of the spring is adjustably positioned by means of an adjusting screw 55 mounted in a spring inclosing housing 56 threaded upon the hub of the bevel gear 46. By inspection of the disks in Figs. 1, 3 and 5, it will be readily seen that they are mounted in relative angular relation and that they co-act to form what may be termed a stem gathering throat into which the feed belt moves the stem butts in irregular formation as they are placed upon said belt by the machine operator. Since only one of the disks is driven, the stem butts will not be positively seized by the disks and carried along thereby as presented to them. The upper disk will yield and rise as the stem butts pass into the throat and if two or more stem butts are superposed the spring 54 will tend to press them down into a single line. This tendency is aided by the lower disk which will not turn at the same speed as the upper disk but will be more or less retarded in accordance with the particular formation of the bunch of stem butts. It may even in some instances be rotated backward slightly as the upper disk presses downwardly upon the bunch of stem butts. The action is further aided by the differential speeds of the inner and outer edges of the curved peripheral operating surfaces of the two disks, as well as by the curvature of said surfaces. And it is still further aided by the orbital path of the disk operating surfaces when in contact with the stem butts. The action of the disks simulates the action of an operator alining stem butts by hand, and it is therefore herein termed a manipulating action, and the disks are termed manipulating disks. It will be understood that this stem butt manipulating and arranging means delivers the stem butts successively at a definite position.

For the purpose of avoiding the delays and difficulties heretofore encountered in transferring leaves from a feeding means to a stripping mechanism, the machine illustrated is so organized that the stem butt manipulating and arranging means delivers the stem butts successively at stripping position and directly to stem drawing means operating in conjunction with stripping mechanism, and within the range of action of the feeding means. The stem drawing means includes a stem drawing roller 57 formed on one end of the power shaft 33, and a co-acting stem drawing roller 58 formed on a shaft 59. This shaft 59 is mounted in a pair of journal boxes 60 one of which is clearly shown in Fig. 1. These journal boxes are yieldingly mounted and held to their work by means of a pair of springs 61 and adjusting screws 62. The shaft 59 carries a gear 63 which is in mesh with a driving gear 64 fast upon the power shaft 33. The stem drawing rollers may separate enough for operation upon a single line of stem butts, without disengaging the gears 63 and 64. By an inspection of Fig. 1, it will be noted that the main operating surfaces of the stem drawing rollers are spirally knurled, that their entrance ends are in part threaded and in part conical, the conical ends respectively overlying and underlying the manipulating disks 38 and 39. The purpose of the conical ends of the stem drawing rollers is to guide stem butts delivered to them by the arranging means into the range of action of the threaded part of the rollers. The purpose of the threaded part of the rollers is first to guide the stem butts into the range of action of the knurled part of the rollers, and second to begin the drawing action without danger of breaking the stems. The rollers rotate at high speed and the gripping power of the threaded part thereof is inferior to that of the knurled part. While feeding the stem butts toward the knurled part of the rollers, the threaded part exerts force enough to start the drawing action, with more or less slip however, so that the stems will not be broken. By the time the stem butt reaches the knurled part of the rollers, slippage ceases and the drawing action is completed by the continued operation of the rollers. The spiral nurling of the rollers produces a feeding effect upon the stems along the rollers as said stems are drawn therebetween. When the stem butts are fed along close together, the stem drawing rollers act upon them successively and progressively; that is to say, the drawing action upon one stem is begun before the drawing action upon the preceding stem is completed.

For the purpose of effecting the stripping of the stems as they are fed along by the feeding means and arranged by the manipulating means, and without causing interruption of the travel of the leaves through the machine, continuously operative mechanism presenting a substantially continuous stripping medium traveling with and at substantially the same speed as the feeding means at stripping position, is provided. This mechanism consists in a pair of stripping devices, superposed and substantially alike in structure and action. These devices each include a plurality of stripping members capable of being projected into engagement with the leaves advanced by the feeding means, and retracted out of engagement therewith. Since these devices are alike, a description of one will answer for both. The head of the drum 14 nearest the stem drawing rollers 57 and 58 is marked

65 and serves as a support for the members of one of the stripping devices. Similarly, the head of the drum 20 nearest the rollers 57 and 58 is marked 66 and serves as a support for the members of the other stripping device. The support 66 is provided with a plurality of radial slots in which are mounted a plurality of stripping members 67, these members being preferably rigid blades, although this is not essential. Each of the stripping members is provided with a recess in constant engagement with an orbital stationary cam 68. This cam is adjustably secured to the side bracket 10 by means of bolts 69. By an inspection of Fig. 4, it will be understood that as the drum 20 and support 66 rotate, the stripping members 67 will be projected beyond the support and into engagement with the leaves carried by the feeding means, just before the stem drawing means comes into action. It will be further understood that just after the stem drawing action is completed, the stripping members will again be housed within the support, and that this housing action will disengage the stripping members from the strip and leave the latter free to fall clear of the oncoming leaves. The support 65 of the drum 14 is similarly provided with a plurality of stripping members 70 the movement of which is controlled by a cam 71 similar in all respects to the cam 68. It will be further understood that the speed of the stem drawing rollers is high and that the speed of the feed belt is relatively low, and that in consequence the stem stripping operation is completed while the stripping members are interlocked, as shown in Fig. 4, so that the leaves cannot escape the action of said members. It is to be further understood that the strip will fall below the drum 14 into a chute or other receptacle not shown.

In view of the foregoing, a detailed description of the operation of the machine is deemed unnecessary and is therefore omitted in the interest of brevity.

What is claimed is:

1. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stripping means, and stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means and to deliver said stem butts directly to said stripping means.

2. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stripping means, and stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means and to deliver said stem butts directly to said stripping means.

3. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating disks adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means and to deliver said stem butts at leaf stripping position.

4. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating devices mounted in relative angular relation to form therebetween a stem gathering throat and adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means and to deliver said stem butts at leaf stripping position.

5. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stripping means, and stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices yieldably mounted with respect to each other to compensate for varying thickness of stems and adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means and to deliver said stem butts directly to said stripping means.

6. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stripping means, and stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices one of which is yieldably mounted and adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means and to deliver said stem butts directly to said stripping mechanism.

7. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary manipulating disks having co-acting curved peripheral operating surfaces to which the feeding means delivers stem butts.

8. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices one of which is positively driven and the other floating to produce a relative manipulating action upon stem butts delivered to it by the feeding means.

9. In a tobacco stemming machine, the

combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices one of which is positively driven and yieldably mounted and the other floating.

10. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating disks one of which is positively driven and yieldably mounted and the other floating.

11. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary manipulating disks having co-acting curved peripheral operating surfaces and mounted in relative angular relation to form therebetween a stem gathering throat into which stem butts are moved by the feeding means.

12. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stripping means, and stem butt arranging means comprising operating connections and a pair of oppositely disposed co-acting manipulating devices supported by separated mounts therefor and adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means and to forward said stem butts between said devices directly to said stripping means.

13. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stripping means, and stem butt arranging means comprising operating connections and a pair of superposed co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means and to deliver said stem butts directly to said stripping means.

14. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of superposed co-acting manipulating devices the upper device being yieldably mounted and positively driven and the lower device floating.

15. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of superposed rotary co-acting manipulating disks the upper disk being yieldably mounted and positively driven and the lower disk floating.

16. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stripping means, and stem butt arranging means located alongside the feeding means and comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts projecting beyond the feeding means and moved by said feeding means in irregular formation into the range of action of the arranging means and to deliver said stem butts directly to said stripping means.

17. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means, and stem drawing means for successively engaging stem butts acted upon and delivered to it by the arranging means.

18. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means, and a pair of co-acting stem drawing rollers for successively engaging stem butts acted upon and delivered to it by said arranging means.

19. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means, and a pair of co-acting stem drawing rollers the meeting line of which is substantially coincident with the meeting line of the manipulating devices.

20. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means, and a pair of co-acting stem drawing rollers having spirally knurled operating surfaces for successively engaging stem butts acted upon and delivered to it by said arranging means and to advance said stem butts along said rollers during the drawing action.

21. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means, and a pair of co-

acting stem drawing rollers having spirally knurled operating surfaces and threaded entrance ends for successively engaging stem butts acted upon and delivered to it by said arranging means and to advance said stem butts along said rollers during the drawing action.

22. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means, and a pair of co-acting stem drawing rollers having spirally knurled operating surfaces and entrance ends in part threaded and in part conical for successively engaging stem butts acted upon and delivered to it by said arranging means and to advance said stem butts along said rollers during the drawing action.

23. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means, and stem drawing means located beyond and adjacent the arranging means and adapted to successively engage stem butts acted upon and delivered to it by said arranging means.

24. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary co-acting disks mounted in relative angular relation, and stem drawing means for successively engaging stem butts acted upon and delivered to it by said arranging means.

25. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating disks mounted in relative angular relation, and a pair of co-acting stem drawing rollers for successively engaging stem butts acted upon and delivered to it by said arranging means.

26. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating disks mounted in relative angular relation, and a pair of stem drawing rollers the meeting line of which is substantially coincident with the meeting line of the manipulating disks.

27. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating disks mounted in relative angular relation, and a pair of co-acting stem drawing rollers having spirally knurled operating surfaces for successively engaging stem butts acted upon and delivered to it by said arranging means and to advance said stem butts along said rollers during the drawing action.

28. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating disks mounted in relative angular relation, and a pair of stem drawing rollers having spirally knurled operating surfaces and threaded entrance ends for successively engaging stem butts acted upon and delivered to it by said arranging means and to advance said stem butts along said rollers during the drawing action.

29. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating disks mounted in relative angular relation, and a pair of co-acting stem drawing rollers having spirally knurled operating surfaces and entrance ends in part threaded and in part conical for successively engaging stem butts acted upon and delivered to it by said arranging means and to advance said stem butts along said rollers during the drawing action.

30. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating disks mounted in relative angular relation, and stem drawing means located beyond and adjacent the arranging means and adapted to successively engage stem butts acted upon and delivered to it by said arranging means.

31. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means cooperating with said feeding means, stem drawing means for successively engaging stem butts acted upon and delivered to it by said arranging means, and stripping means coöperating with said stem drawing means and said feeding means.

32. In a tobacco stemming machine, the combination with continuously operative means for feeding tobacco leaves, of stem butt arranging means coöperating with said feeding means, stem drawing means for successively engaging stem butts acted upon and delivered to it by said arranging means, and stripping means coöperating with said stem drawing means and said feeding means.

33. In a tobacco stemming machine, the combination with means for feeding tobacco

leaves, of continuously operative stem butt arranging means coöperating with said feeding means, stem drawing means for successively engaging stem butts acted upon and delivered to it by said arranging means, and stripping means coöperating with said stem drawing means and said feeding means.

34. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means cooperating with said feeding means, continuously operative stem drawing means for successively engaging stem butts acted upon and delivered to it by said arranging means, and stripping means coöperating with said stem drawing means and said feeding means.

35. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means cooperating with said feeding means, stem drawing means for successively engaging stem butts acted upon and delivered to it by said arranging means, and continuously operative stripping means coöperating with said stem drawing means and said feeding means.

36. In a tobacco stemming machine, the combination with means for feeding tobacco leaves sidewise, of means coöperating with said feeding means for arranging the stem butts in a single line, stem drawing means for successively engaging stems acted upon and delivered to it by said arranging means and draw them from the feeding means, and stripping means coöperating with said stem drawing means and said feeding means.

37. In a tobacco stemming machine, the combination with means for feeding tobacco leaves sidewise at low speed, of means cooperating with said feeding means for arranging the stem butts in a single line, high speed stem drawing means for successively engaging stems acted upon and delivered to it by said arranging means and draw them from said feeding means, and stripping means coöperating with said stem drawing means and said feeding means.

38. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means, stem drawing means for successively engaging stem butts acted upon and delivered to it by said arranging means, and stripping means coöperating with said stem drawing means and said feeding means.

39. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of means coöperating with said feeding means for arranging the stem butts in a single line, a pair of co-acting stem drawing rollers for successively engaging stem butts acted upon and delivered to it by said arranging means, and stripping means coöperating with said stem drawing means and said feeding means.

40. In a tobacco stemming machine, the combination with means for feeding tobacco leaves, of means coöperating with said feeding means for arranging the stem butts in a single line, a pair of co-acting stem drawing rollers for successively engaging stem butts acted upon and delivered to it by said arranging means, and stripping means traveling with the feeding means and coöperating with said stem drawing means.

41. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of mechanism presenting a substantially continuous stripping medium traveling in the same direction as the feeding means at stripping position, and coöperating means for seizing the leaf stems and drawing them through the stripping medium.

42. In a tobacco stemming machine, the combination with a belt for feeding tobacco leaves to stem stripping position, of mechanism presenting a substantially continuous stripping medium traveling alongside and in the same direction as the feed belt at stripping position, and coöperating means for seizing the leaf stems and drawing them through the stripping medium.

43. In a tobacco stemming machine, the combination with a pair of superposed belts the upper belt being shorter than the lower for feeding tobacco leaves to stem stripping position between the belts, of mechanism presenting a substantially continuous stripping medium traveling alongside and in the same direction as the feed belts at stripping position, and coöperating means for seizing the leaf stems and drawing them through the stripping medium.

44. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of a pair of co-acting devices presenting a substantially continuous stripping medium traveling alongside and in the same direction as the feeding means at stripping position, and coöperating means for seizing the stems and drawing them through the stripping devices.

45. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of a pair of superposed co-acting devices presenting a substantially continuous stripping medium traveling alongside and in the same direction as the feeding means at stripping position, and coöperating means for seizing the stems and drawing them through the stripping devices.

46. In a tobacco stemming machine, the combination with means for feeding tobacco

leaves to stem stripping position, of a pair of devices presenting a pair of co-acting substantially continuous stripping mediums traveling in the same direction as the feeding means at stripping position, and coöperating means for seizing the stems and drawing them through the stripping mediums.

47. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of mechanism presenting a pair of superposed co-acting substantially continuous stripping mediums interlocked and traveling in the same direction as the feeding means at stripping position, and coöperating means for seizing the stems and drawing them through the stripping mediums.

48. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of mechanism presenting a substantially continuous stripping medium traveling in the same direction as the feeding means at stripping position, and coöperating means for seizing the stems and drawing them through the stripping mechanism in a direction different from that in which the feeding means travels.

49. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of mechanism presenting a substantially continuous stripping medium traveling in the same direction as the feeding means at stripping position, and a pair of co-acting stem drawing rollers for seizing the leaf stems and drawing them through the stripping mediums.

50. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of mechanism presenting a substantially continuous stripping medium traveling in the same direction as the feeding means at stripping position, and a pair of superposed co-acting stem drawing rollers for seizing the leaf stems and drawing them through the stripping mediums.

51. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of mechanism presenting a substantially continuous stripping medium traveling in the same direction as the feeding means at stripping position, and a pair of superposed co-acting stem drawing rollers for seizing the leaf stems and drawing them through the stripping medium the axes of said rollers being parallel to the direction in which the feeding means moves.

52. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of mechanism presenting a substantially continuous stripping medium traveling in the same direction and at substantially the same speed as the feeding means at stripping position, and coöperating means for seizing the leaf stems and drawing them through the stripping medium.

53. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of stem butt arranging means adapted to act upon the stem butts before the leaves reach stem stripping position, stripping mechanism traveling in the same direction as the feeding means at stripping position, and co-operating means for seizing the leaf stems and drawing them through the stripping mechanism.

54. In a tobacco stemming machine, the combination with a belt for feeding tobacco leaves to stem stripping position, of stem butt aranging means adjacent the belt and adapted to act upon the stem butts before the leaves reach stem stripping position, stripping mechanism traveling in the same direction as the feed belt at stripping position, and coöperating means for seizing the leaf stems and drawing them through the stripping mechanism.

55. In a tobacco stemming machine, the combination with a pair of superposed belts the upper belt being shorter than the lower for feeding tobacco leaves to stem stripping position between the belts, of stem butt arranging means adapted to act upon the stem butts before the leaves reach stem stripping position, stripping mechanism traveling in the same direction as the feed belts at stripping position, and coöperating means for seizing the leaf stems and drawing them through the stripping mechanism.

56. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of stem butt arranging means adapted to act upon the stem butts before the leaves reach stem stripping position, a pair of coacting stripping devices traveling in the same direction as the feeding means for seizing the leaf stems and drawing them through the stripping devices.

57. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of stem butt arranging means adapted to act upon the stem butts before the leaves reach stem stripping position, a pair of superposed co-acting stripping devices traveling in the same direction as the feeding means, and means for seizing the leaf stems and drawing them through the stripping devices.

58. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of stem

butt arranging means adapted to act upon the stem butts before the leaves reach stem stripping position, a pair of superposed interlocking and co-acting stripping devices traveling in the same direction as the feeding means, and means for seizing the leaf stems and drawing them through the stripping devices.

59. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of stem butt arranging means adapted to act upon the stem butts before the leaves reach stem stripping position, stripping mechanism traveling in the same direction as the feeding means at stripping position, and coöperating means for seizing the leaf stems and drawing them through the stripping mechanism in a direction different from that in which the feeding means travels.

60. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of stem butt arranging means adapted to act upon the stem butts before the leaves reach stem stripping position, stripping mechanism traveling in the same direction as the feeding means at stripping position, and a pair of co-acting stem drawing rollers for seizing the leaf stems and drawing them through the stripping mechanism.

61. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of stem butt arranging means adapted to act upon the stem butts before the leaves reach stem stripping position, stripping mechanism traveling in the same direction as the feeding means at stripping position, and a pair of superposed co-acting stem drawing rollers for seizing the leaf stems and drawing them through the stripping mechanism.

62. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to stem stripping position, of stem butt arranging means adapted to act upon the stem butts before the leaves reach stem stripping position, stripping mechanism traveling in the same direction as the feeding means at stripping position, and a pair of superposed co-acting stem drawing rollers for seizing the leaf stems and drawing them through the stripping mechanism, the axes of said rollers being parallel to the direction in which the feeding means moves.

63. In a tobacco stemming machine, the combination with a support, of stripping mechanism, coöperating means for seizing the leaf stems and drawing them through the stripping mechanism, and means for projecting said stripping mechanism beyond said support to cause it to engage tobacco leaves before the stem drawing means comes into action and for afterward retracting said stripping mechanism to cause it to be disengaged from the strip.

64. In a tobacco stemming machine, the combination with a traveling support, of stripping mechanism, coöperating means for seizing the leaf stems and drawing them through the stripping mechanism, and means for projecting said stripping mechanism beyond said support to cause it to engage tobacco leaves before the stem drawing means comes into action and for afterward retracting said stripping mechanism to cause it to be disengaged from the strip.

65. In a tobacco stemming machine, the combination with means for supporting and feeding tobacco leaves, of stripping mechanism, coöperating means for seizing the leaf stems and drawing them through the stripping mechanism, and means for projecting said stripping mechanism beyond said supporting and feeding means to cause it to engage tobacco leaves carried thereby before the stem drawing means comes into action and for afterward retracting said stripping mechanism to cause it to be disengaged from the strip.

66. In a tobacco stemming machine, the combination with means for supporting and feeding tobacco leaves, of stripping mechanism traveling with the supporting and feeding means at stripping position, coöperating means for seizing the leaf stems and drawing them through the stripping mechanism, and means for projecting said stripping mechanism beyond said supporting and feeding means to cause it to engage tobacco leaves carried thereby before the stem drawing means comes into action and for afterward retracting said stripping means to cause it to be disengaged from the strip.

67. In a tobacco stemming machine, the combination with means for supporting and feeding tobacco leaves sidewise, of stripping mechanism traveling with the feeding means at stripping position, coöperating means for seizing the leaf stems and drawing them through the stripping mechanism in a direction angular with respect to the line of movement of the feeding means, and means for projecting said stripping mechanism beyond said support to cause it to engage tobacco leaves carried thereby before the stem drawing means comes into action and for afterward retracting said stripping mechanism to cause it to be disengaged from the strip.

68. In a tobacco stemming machine, the combination with means for supporting and feeding tobacco leaves sidewise, of stripping mechanism traveling with the feeding means at stripping position, a pair of co-acting rollers for seizing the leaf stems and drawing them through the stripping mechanism in a direction angular with respect to the

line of movement of the feeding means, and means for projecting said stripping mechanism beyond said support to cause it to engage tobacco leaves carried thereby before the stem drawing rollers come into action and for afterward retracting said stripping mechanism to cause it to be disengaged from the strip.

69. In a tobacco stemming machine, the combination with means for supporting and feeding tobacco leaves, of stem butt arranging means, stripping mechanism, cooperating means for seizing the leaf stems and drawing them through the stripping mechanism, and means for projecting said stripping mechanism beyond said support to cause it to engage tobacco leaves carried thereby before the stem drawing means comes into action and for afterward retracting said stripping mechanism to cause it to be disengaged from the strip.

70. In a tobacco stemming machine, the combination with means for supporting and feeding tobacco leaves, of a pair of co-acting stripping devices, coöperating means for seizing the leaf stems and drawing them through the stripping devices, and means for projecting said stripping devices into the path of movement of leaves in the feeding means before the stem drawing means comes into action and for afterward retracting said stripping devices to cause them to be disengaged from the strip.

71. In a tobacco stemming machine, the combination with means for supporting and feeding tobacco leaves, of a pair of co-acting stripping devices, a pair of co-acting rollers for seizing the leaf stems and drawing them through the stripping devices, and means for projecting said stripping devices into the path of movement of leaves supported by the feeding means before the stem drawing means comes into action and for afterward retracting said stripping mechanism to cause it to be disengaged from the strip.

72. In a tobacco stemming machine, the combination with means for supporting and feeding tobacco leaves, of a pair of co-acting stripping devices traveling with the feeding means at stripping position, a pair of co-acting rollers for seizing the leaf stems and drawing them through the stripping devices, and means for projecting said stripping devices into the path of movement of leaves supported by the feeding means before the stem drawing means comes into action and for afterward retracting said stripping mechanism to cause it to be disengaged from the strip.

73. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to leaf stripping position, of mechanism presenting a substantially continuously stripping medium traveling in the same direction as the feeding means at stripping position, coöperating means for seizing the leaf stems and drawing them through the stripping medium, and means for clearing the stripping medium of strip.

74. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to leaf stripping position, of mechanism presenting a substantially continuous stripping medium traveling in the same direction as the feeding means at stripping position, coöperating means for seizing the leaf stems and drawing them through the stripping medium, and means for operating said mechanism to clear the stripping medium of strip.

75. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to leaf stripping position, of mechanism presenting a substantially continuous stripping medium traveling in the same direction as the feeding means at stripping position, coöperating means for seizing the leaf stems and drawing them through the stripping medium, and means for operating said mechanism to clear the stripping medium of strip arranged to be brought into action immediately after the stripping operation is completed.

76. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to leaf stripping position, of mechanism presenting a substantially continuous stripping medium traveling in the same direction as the feeding means at stripping position, coöperating means for seizing the leaf stems and drawing them through the stripping medium, and means for producing an additional movement of the stripping medium whereby it is cleared of strip.

77. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to leaf stripping position, of mechanism presenting a substantially continuous stripping medium traveling in the same direction as the feeding means at stripping position, coöperating means for seizing the leaf stems and drawing them through the stripping medium, and means for retracting the stripping medium out of the path of movement of the tobacco leaves to clear said medium of strip.

78. In a tobacco stemming machine, the combination with means for feeding tobacco leaves to leaf stripping position, of mechanism presenting a substantially continuous stripping medium traveling in the same direction and at substantially the same speed as the feeding means at stripping position, coöperating means for seizing the leaf stems and drawing them through the stripping medium, and means coöperative with the feeding means for clearing the stripping medium of strip.

79. In a tobacco stemming machine, the combination with a support, of tobacco leaf

feeding means actuated by and operative to advance leaves to said support, a plurality of stripping members carried by said support, and means for producing relative movements of said support and said members whereby the members are positioned to operate upon the tobacco leaves and are then disengaged therefrom.

80. In a tobacco stemming machine, the combination with a support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of stripping members carried by said support, and means for producing movements of said members with respect to said support whereby the members are positioned to operate upon the tobacco leaves and are then disengaged therefrom.

81. In a tobacco stemming machine, the combination with a support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of stripping members carried by said support, and a cam engaging and adapted for producing movements of said members with respect to said support whereby the members are successively positioned to operate upon the tobacco leaves and are then disengaged therefrom.

82. In a tobacco stemming machine, the combination with a rotary support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of stripping members carried by said support, and a stationary orbital cam engaging and adapted for producing movements of said members with respect to said support whereby the members are positioned to operate upon the tobacco leaves and are then disengaged therefrom.

83. In a tobacco stemming machine, the combination with a rotary support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of stripping members radially mounted in said support, and means for producing radial movements of said members whereby the members are positioned to operate upon the tobacco leaves and are then disengaged therefrom.

84. In a tobacco stemming machine, the combination with a support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of stripping members housed within said support, and means for projecting said members beyond said support to position them for operating upon the tobacco leaves and then retracting said members within the support to disengage them from the strip.

85. In a tobacco stemming machine, the combination with a support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of stripping members housed within said support, and means for successively projecting said members beyond said support to position them for operating upon the tobacco leaves and for then successively retracting said members within the support to disengage them from the strip.

86. In a tobacco stemming machine, the combination with a support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of stripping members housed within the support, and a cam engaging and adapted for projecting said members beyond said support to position them for operating upon the tobacco leaves and for then retracting said members within the support to disengage them from the strip.

87. In a tobacco stemming machine, the combination with a rotary support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of stripping members housed within said support, and a stationary orbital cam coöperative with the support and engaging said members and adapted for successively projecting said members beyond said support to position them for operating upon the tobacco leaves and for then retracting said members within the support to disengage them from the strip.

88. In a tobacco stemming machine, the combination with a rotary support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of stripping members radially mounted in said support, and means for successively projecting said members radially beyond said support to position them for operating upon the tobacco leaves and for then retracting said members within the support to disengage them from the strip.

89. In a tobacco stemming machine, the combination with a support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of inherently rigid stripping members carried by said support, and means for producing relative movements of said support and said members whereby the members are positioned to operate upon the tobacco leaves and are then disengaged therefrom.

90. In a tobacco stemming machine, the combination with a support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of inherently rigid stripping members carried by said support, and means for producing movements of said members with respect to said support whereby the members are positioned to operate upon the tobacco leaves and are then disengaged therefrom.

91. In a tobacco stemming machine, the combination with a support, of tobacco leaf feeding means actuated by and operative to

advance leaves to said support, a plurality of inherently rigid stripping blades carried by said support, and means for producing movements of said blades with respect to said support whereby the members are positioned to operate upon the tobacco leaves and are then disengaged therefrom.

92. In a tobacco stemming machine, the combination with a rotary support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of inherently rigid stripping blades radially mounted in said support, a stationary orbital cam engaging and adapted for producing radial movements of said blades with respect to said support whereby the blades are positioned to operate upon the tobacco leaves and are then disengaged therefrom.

93. In a tobacco stemming machine, the combination with a rotary support, of tobacco leaf feeding means actuated by and operative to advance leaves to said support, a plurality of inherently rigid stripping blades radially mounted and housed within the support, and a stationary orbital cam engaging and adapted for producing radial movements of said blades to project said blades beyond the support to position them for operating upon the tobacco leaves and for then retracting said blades within the support to disengage them from the strip.

94. In a tobacco stemming machine, the combination with means for supporting and feeding a bunch of tobacco leaves, of means coöperative with said feeding means for arranging the leaf stem butts in a single line, and stripping means within the range of action of and coöperating with said feeding means.

95. In a tobacco stemming machine, the combination with a traveling belt for supporting and feeding a bunch of tobacco leaves, of means coöperative with said belt for arranging the leaf stem butts in a single line, and stripping means within the range of action of and coöperating with said belt.

96. In a tobacco stemming machine, the combination with means for supporting and feeding a bunch of tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means, and stripping means within the range of action of and coöperating with said feeding means.

97. In a tobacco stemming machine, the combination with means for supporting and feeding a bunch of tobacco leaves, of stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices adapted to gather and aline stem butts that are moved in irregular formation into its range of action by the feeding means and to deliver said stem butts at leaf stripping position, and stripping means within the range of action and coöperating with said feeding means.

98. In a tobacco stemming machine, the combination with means for supporting and feeding a bunch of tobacco leaves, of stem butt arranging means coöperative with said feeding means, stem drawing means arranged and adapted to engage stem butts acted upon and delivered to it by said arranging means, and stripping mechanism within the range of action of and coöperating with said stem drawing means and said feeding means.

99. In a tobacco stemming machine, the combination with means for supporting and feeding a bunch of tobacco leaves, of stem butt arranging means coöperative with said feeding means, mechanism comprising a substantially continuous stripping medium cooperative with and traveling in the same direction as the feeding means at stripping position, and coöperating means for seizing the leaf stems and drawing them through the stripping medium.

100. In a tobacco stemming machine, the combination with means for supporting and feeding a bunch of tobacco leaves, of stem butt arranging means coöperative with said feeding means, mechanism within the range of action of and coöperating with said feeding means and comprising a substantially continuous stripping medium traveling in the same direction as the feeding means at stripping position, a pair of co-acting rollers for seizing the leaf stems and drawing them through the stripping medium, and means for clearing the stripping medium of strip.

101. In a tobacco stemming machine, stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating disks adapted to gather and aline stem butts that are moved in irregular formation into its range of action and to deliver said stem butts at a definite point.

102. In a tobacco stemming machine, stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating devices mounted in relative angular relation to form therebetween a stem gathering throat and adapted to gather and aline stem butts that are moved in irregular formation into its range of action and to deliver said stem butts at a definite point.

103. In a tobacco stemming machine, stem butt arranging means comprising operating connections and a pair of rotary manipulating disks having co-acting curved peripheral operating surfaces.

104. In a tobacco stemming machine, stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices one of which is positively

driven and the other floating to produce a relative manipulating action.

105. In a tobacco stemming machine, stem butt arranging means comprising operating connections and a pair of co-acting manipulating devices one of which is positively driven and yieldably mounted and the other floating.

106. In a tobacco stemming machine, stem butt arranging means comprising operating connections and a pair of rotary co-acting manipulating disks one of which is positively driven and yieldably mounted and the other floating.

107. In a tobacco stemming machine, stem butt arranging means comprising operating connections and a pair of rotary manipulating disks having co-acting curved peripheral operating surfaces and mounted in relative angular relation to form therebetween a stem gathering throat.

108. In a tobacco stemming machine, stem butt arranging means comprising operating connections and a pair of rotary manipulating disks having co-acting curved peripheral operating surfaces and mounted in relative angular relation one of said disks being positively driven and yieldably mounted and the other floating.

109. In a tobacco stemming machine, stem butt arranging means comprising operating connections and a pair of superposed rotary coacting manipulating disks adapted to gather and aline stem butts that are moved in irregular formation into its range of action and to deliver said stem butts at a definite point.

110. In a tobacco stemming machine, stem butt arranging means comprising operating connections and a pair of superposed co-acting manipulating devices the upper device being yieldably mounted and positively driven, and the lower device being floating.

111. In a tobacco stemming machine, stem butt arranging means comprising operating connections and a pair of superposed rotary co-acting manipulating disks the upper disk being yieldably mounted and positively driven and the lower disk floating.

In testimony whereof, I have signed my name to this specification.

LEO W. LAWRENCE.

DISCLAIMER.

1,267,776. *Leo W. Lawrence*, Winston-Salem, N. C. TOBACCO-STEMMING MACHINE. Patent dated May 28, 1918. Disclaimer filed April 22, 1922, by the assignee, *Standard Tobacco Stemmer Company.*

Enters this disclaimer as follows:

"1. In respect of claims 41, 42, 43, 44, 45, 48, 52, 74, 75, and 78, the combination of the recited elements is hereby disclaimed except when and unless said elements are so constructed and coordinated that the stripping medium therein recited operates continuously at stripping position in performing the stripping operation.

"2. In respect of claims 46, and 47, the combination of the recited elements is hereby disclaimed except when and unless said elements are so constructed and coordinated that the stripping mediums therein recited operate continuously at stripping position in performing the stripping operation."

[*Official Gazette May 9, 1922.*]