March 25, 1958 D. V. GUILLEMETTE 2,828,123

FEED ROLL SHEET FEEDING APPARATUS

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Fig. 1.

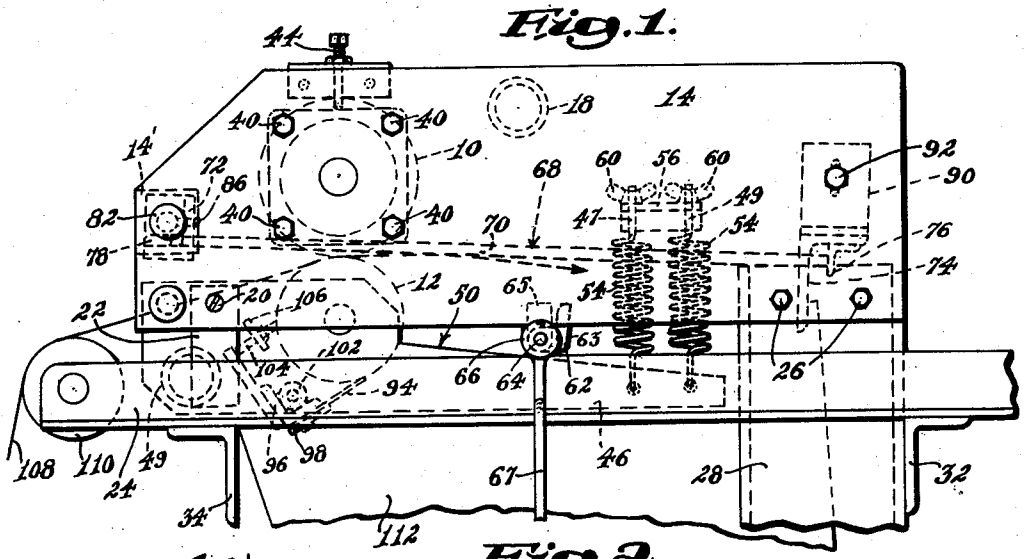
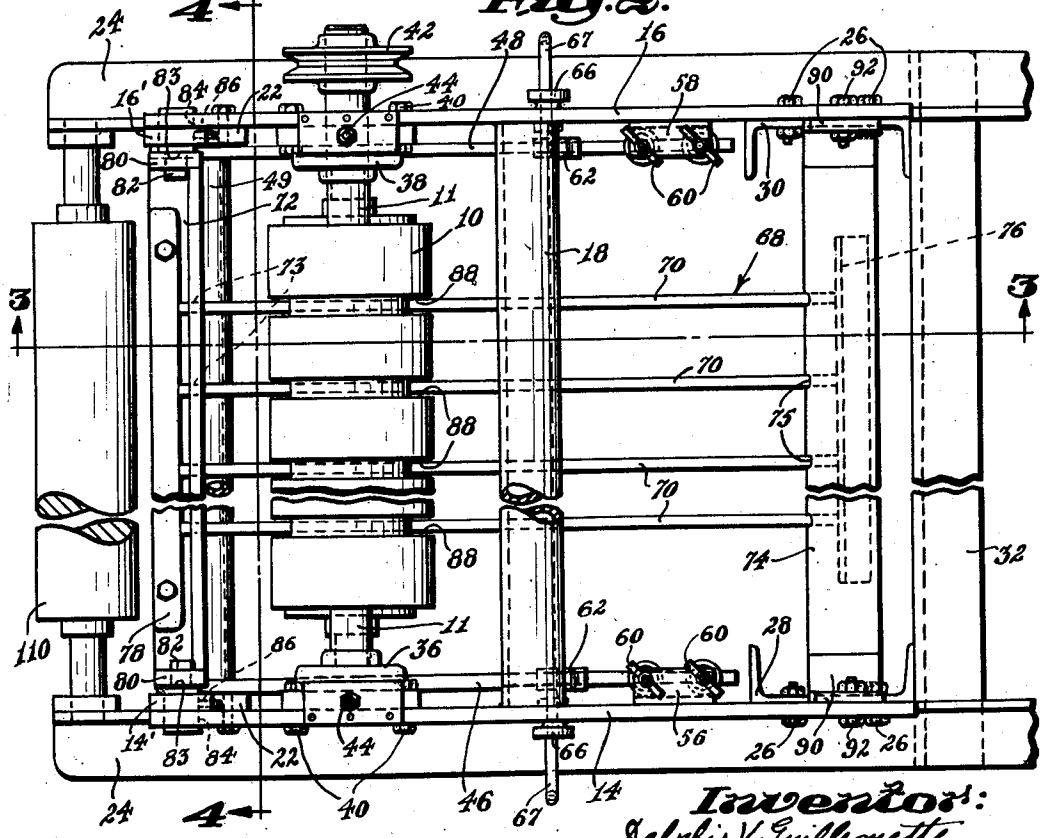


Fig. 2.



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FEED ROLL SHEET FEEDING APPARATUS

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Fig. 3.

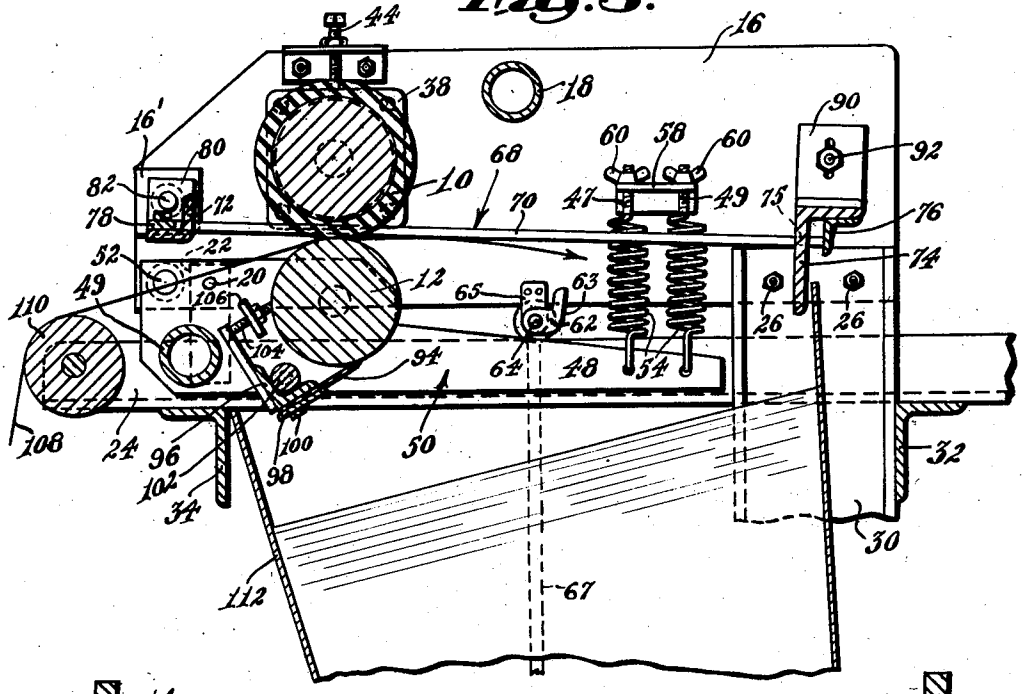
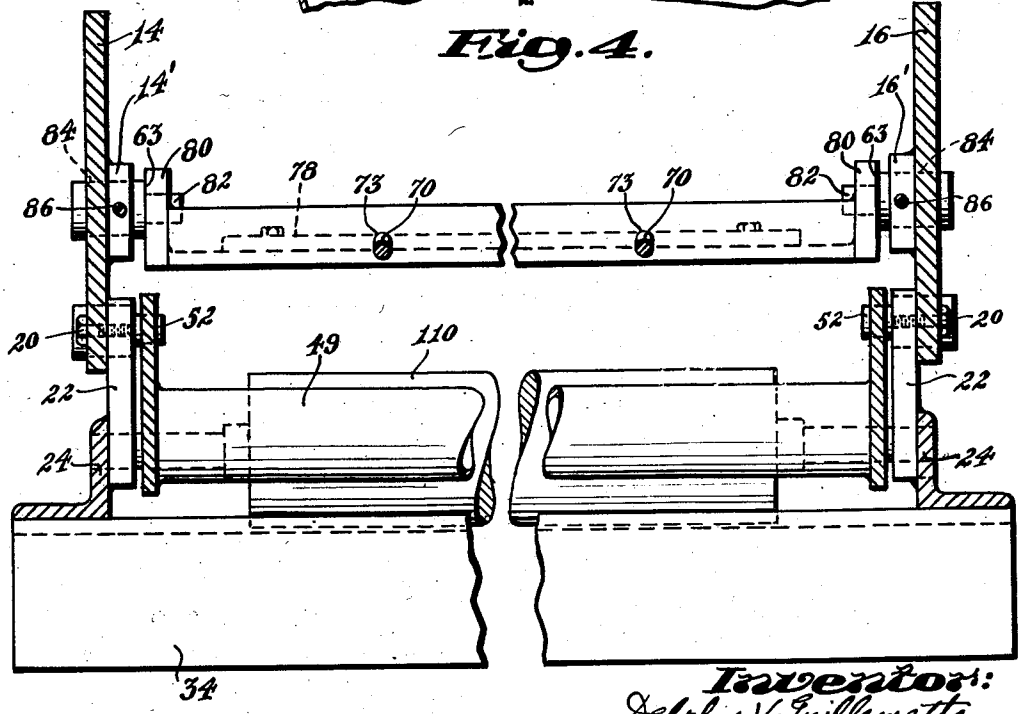


Fig. 4.



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FEED ROLL SHEET FEEDING APPARATUS

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Fig. 5.

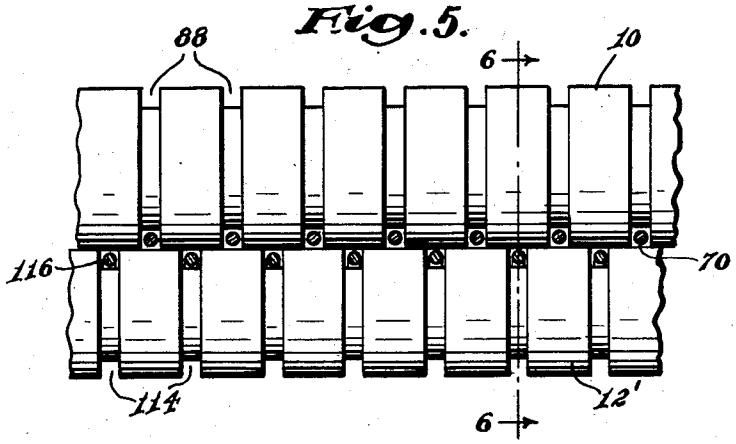
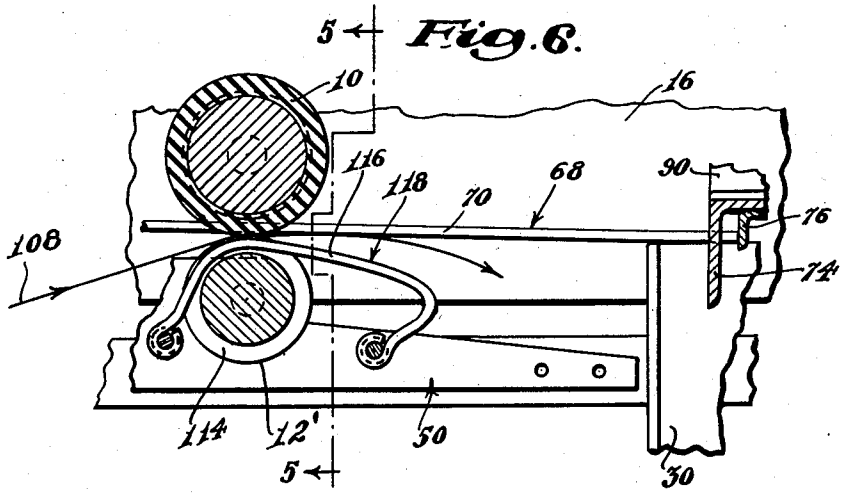


Fig. 6.



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United States Patent Office 2,828,123 Patented Mar. 25, 1958

2,828,123

FEED ROLL SHEET FEEDING APPARATUS

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Application August 28, 1953, Serial No. 377,011

9 Claims. (Cl. 271—2.3)

This invention relates to improvements in feed roll sheet-feeding apparatus. More particularly it provides a sheet-feeding apparatus of the general type wherein two coacting rolls, of which at least one is driven, engage and feed flexible sheet material between them and deliver the sheet material into any suitable receptacle, or the like, wherein it may be desirable to accumulate a supply of the sheet material from which supply the sheet material may be withdrawn as needed. The coacting feed rolls may feed the sheet material at a rate to maintain a predetermined accumulation in the said receptacle with means for automatically stopping the feed whenever said predetermined accumulation is in the receptacle, and for automatically starting the feed whenever said predetermined accumulation in the receptacle has become substantially diminished. The invention provides means for positively avoiding the heretofore troublesome lapping of the travelling sheet upon one or the other of the feed rolls, and simultaneously eliminates from the delivering sheet static electricity which heretofore has been a contributing cause of the said lapping and which has seriously interfered with a proper control of the sheet material delivering from the feed rolls.

In the processing of sheet materials, it frequently is necessary or desirable to accumulate a substantial quantity of the sheet material at some predetermined location and to replenish the accumulation as it becomes reduced by withdrawal as the sheet material advances to a subsequent stage of the processing, or the sheet material may be accumulated in a movable receptacle for storage purposes such as in a box truck which may receive the sheet material from a plaiter, or the like, to which my improved non-lapping feed or nip rolls may deliver. In the processing of textile materials, the feed rolls may deliver into a scray wherein the sheet material is accumulated to provide an intermediate supply from which sheet material may be withdrawn as rapidly or as slowly as may be required with assurance that an adequate intermediate supply always will be available in the scray. Also, in textile hookers and folders, the sheet material delivers from feed rolls into receptacles until a suitable accumulation builds up in the receptacles.

Heretofore, the tendency of sheet material being advanced between feed rolls to cling to one of the rolls and become lapped around the roll has greatly interfered with proper feed of the sheet materials and has made it necessary to limit the rate of feed with resulting limitation upon the output of any particular machine or device. The sheet material becomes charged with static electricity which greatly contributes to its tendency to cling to and become lapped upon a feed roll, and the static charge also makes it difficult to control the sheet material delivering from the feed rolls in that the charged sheet is lively and may tend to go in other directions than into the receptacle arranged to receive it. The character of the sheet material has considerable bearing on the tendency of a sheet to become lapped, and also on the effects on the sheet material of any charge of static electricity thereon, which charge tends to be cumulatively increased with extension of the duration of a feeding period. Atmospheric conditions may have a considerable bearing on the amount of static electricity that will be acquired by sheet material

delivering from between feed rolls. Also, a feeding sheet ordinarily acquires static electricity in increasing amounts with increase of the rate of feed of sheet material between the feed rolls.

The tendency of the sheet material to become lapped upon a feed roll, and the effects of static electricity on the delivering sheet material, have additionally limited the extent to which sheet material delivering from feed rolls could be accumulated in a receptacle. Heretofore, it has been necessary to leave a substantial space between the feed rolls and the accumulation of sheet material in the receiving receptacle. Otherwise, sheet material from the accumulation in the receptacle might become caught by the feed rolls.

Various proposals have been advanced heretofore for overcoming the problem of lapping of sheet material advancing between feed rolls and delivering into a receptacle designed to hold an accumulation of the sheet material, but none of these prior proposals, so far as I am aware, has solved the basic problems involved, and none has avoided the need for restricting the permissible rate of feed of sheet material delivering into a receptacle substantially below what would be a practicable rate of feed in the absence of likelihood of lapping and in the absence of control difficulties due to static electricity, particularly at relatively high rates of feed of the sheet materials.

It is among the objects of my invention to provide a feed roll sheet-feeding apparatus wherein it is practically impossible for sheet material delivering from the feed rolls to become lapped upon either feed roll regardless of atmospheric conditions and of the character of the sheet material and of the rate of feed of the sheet material between the feed rolls. According to my invention, one of the feed rolls is a rubber-surfaced roll which is peripherally annularly grooved at relatively closely spaced locations along its extent, and each roll groove has an element extending therethrough at a location between the axes of the two feed rolls, the said elements being in general parallelism and having extent adjacent to the delivery side of the feed rolls generally in the direction of delivery of the sheet material from the feed rolls, whereby the said elements cumulatively constitute a grate-like obstruction to movement of the delivering sheet material in direction toward said grooved feed roll and serve as guides for directing the delivering sheet material toward a receptacle, or the like, in which the sheet material is to be accumulated.

Another object of the invention is to provide a feed roll sheet-feeding apparatus wherein means associated with the feed rolls positively prevents lapping of the sheet material upon a feed roll and also removes objectionable static electricity from the sheet material delivering from the feed rolls, whereby the said delivering sheet material may be more effectively controlled as compared with the prior difficultly controllable sheet material delivering from the feed rolls of prior feed roll sheet-feeding apparatus. The invention provides a grate-like obstruction to movement of the delivering sheet material in direction to become lapped upon the driven one of two feed rolls, and the elements of said grate-like obstruction are of grounded electrically conducting material and are maintained out of contact with said feed rolls and in positions to be engaged by said delivering sheet material, whereby the said elements of the grate-like obstruction remove objectionable amounts of any static charge on the delivering sheet.

A further object of the invention is to provide a feed roll sheet-feeding apparatus wherein elements of a grate-like obstruction extend through annular peripheral grooves in one or both of the feed rolls at locations between the axes of the two feed rolls, the said elements of the grate-

like obstruction being adjustable within said roll grooves to positions in which they are out of contact with the walls of said grooves.

Yet another object of the invention is to provide a feed roll sheet-feeding apparatus wherein a plurality of relatively rigid electrically conducting elements extend in spaced parallel relation between the axes of the two feed rolls and constitute obstructions preventing lapping of sheet material advancing between the rolls and also conduct away any charge of static electricity on the feeding sheet material coming into engagement with said conducting elements at the delivery side of the feed rolls.

Another object of the invention is to provide a feed roll sheet-feeding apparatus wherein one of the feed rolls has a multiplicity of spaced annular grooves therein, and a grate-like frame has a multiplicity of parallel metallic elements each of which extends between the two feed rolls and through one of said grooves in the grooved feed roll, whereby said grate-like frame constitutes an obstruction preventing lapping of a feeding sheet and extends in position to be contacted by the sheet delivering from the rolls for conducting away any static electricity on the delivering sheet.

It is, moreover, my purpose and object generally to improve feed roll sheet-feeding mechanisms and apparatus and more especially such mechanisms and apparatus wherein the feed rolls deliver intermittently into a receptacle in which a predetermined accumulation of the sheet material is to be maintained or in which a predetermined quantity of the sheet material is to be accumulated preparatory to transfer of the receptacle to another location.

In the accompanying drawings:

Fig. 1 is a side elevation of feed roll sheet-feeding apparatus embodying features of the invention;

Fig. 2 is a top plan view of the apparatus of Fig. 1;

Fig. 3 is a cross-sectional view on line 3—3 of Fig. 2;

Fig. 4 is a cross-sectional view on line 4—4 of Fig. 2, on a larger scale;

Fig. 5 is a fragmentary elevational view of a modified form of coacting feed rolls with associated elements of grate-like frames in cross-section on line 5—5 of Fig. 6; and

Fig. 6 is a cross-sectional view on line 6—6 of Fig. 5.

Referring to the drawings, two feed rolls **10**, **12** are shown rotatably supported between two plate elements **14**, **16** which are rigidly secured in spaced general parallelism by a rigid tubular connecting element **18** which conveniently, may be welded at its opposite ends to the plate elements **14**, **16**, or it may be otherwise rigidly secured to the plate elements.

Each plate element **14**, **16** is secured at one end portion thereof, as by the screw **20**, to a plate projection **22** which may be rigidly secured, as by welding, to an angle iron member **24** of which there is one extending along each side of the apparatus. The opposite end portion of each plate element **14**, **16** is secured, as by bolts **26**, to the oppositely disposed channel iron supporting member **28** or **30**. The said angle iron members **24**, with the plate elements **14**, **16** connected thereto, may be mounted as a unit on any suitable supporting frame structure, such as the said channel iron members **28**, **30** and angle iron elements, **32**, **34**.

Feed roll **10** is rotatably mounted in bearings **36**, **38** which are suitably supported on plate elements **14**, **16** as by being secured thereto by the bolts **40**, the roll having end trunnions **11** journaled in the said bearings, and one trunnion **11** having substantial extent beyond the adjacent plate element **16**, with a pulley **42**, or the like, thereon for belt drive of roll **10** from any suitable source of power. Preferably, each bearing **36**, **38** is engaged by a pressure adjusting screw **44** which may be adjusted while the bearing bolts **40** are relatively loose. A slight play of the bolts in the bolt holes in the bearing permits adjustment of roll **10** to provide greater pressure between

the rolls **10**, **12** at their ends which are remote from the pulley **42** than at their ends which are adjacent to the pulley. This permissible slight adjustment of roll **10** prior to tightening of bolts **40** is a feature of importance inasmuch as roll **10**, as herein represented, has a surface of rubber, or the like, which tends to become somewhat distorted when pressure between rolls **10**, **12** is equal from end to end and power is applied only at one end of roll **10**. Under such conditions, torque tends to twist the rubber surface and sheet material feeding between the rolls delivers in a skewed condition. By increasing the pressure between the rolls at their ends remote from pulley **42** as compared with the pressure between the rolls at their other ends, the distorting effects of the torque may be overcome and skew in the delivering sheet is avoided. Feed roll **12** is rotatably mounted between the side members **46**, **48** of a pivoted frame indicated generally at **50**, the frame being pivotally supported at **52** on the plate elements **14**, **16**. The frame side members **46**, **48** may be rigidly secured together by a tube **49** whose opposite ends may be welded or otherwise secured to the side members **46**, **48**. Roll **12** is located in frame **50** for sheet-feeding coaction with driven roll **10** but may be moved away from roll **10** by swinging frame **50** clockwise (Figs. 1 and 3) about its pivot at **52**. The frame side members **46**, **48** have substantial extent in general direction away from pivot **52** and the free end portion of each side member has a pair of tension springs **54** connected thereto and constantly biasing the frame counter-clockwise about pivot **52**, as best seen in Fig. 3. Each spring has one end connected to a frame side member **46** or **48** and has its other end connected to a tension-adjusting member **47** or **49** whose threaded shank extends loosely through a bracket **56** or **58** fixed on one or the other of the plate elements **14**, **16**. A wing nut **60** on the threaded end of each tension-adjusting member **47**, **49** permits adjustment of the spring tension for varying the pressure on a sheet engaged between the feed rolls **10**, **12**.

Any suitable means may be provided for manual actuation of frame **50** clockwise about its pivot **52**, in Fig. 3, when it may be desired to mechanically open the feed rolls to release a sheet which may be extending between them or to condition the feed rolls for insertion of a sheet between them. For this purpose, a manually operable member **62** is shown mounted at each side of the apparatus although a frame-actuating member **62** at only one side ordinarily will suffice. Each member **62** is fixed on the inner end of its own separate stub shaft **64** which may be rotatably mounted in a bracket bearing **65** depending from the adjacent plate element **14** or **16**. An actuator **66** on the outer end of each stub shaft has a depending handle **67** and either handle may be manually actuated to effect rotation of a member **62** to depress the frame **50** clockwise about its pivot **52** when it may be desired to move roll **12** away from roll **10**. Each member **62** has a generally flat surface portion **63** for engaging the upper edge of the adjacent side member **46** or **48** of frame **50** when a member **62** is rotated clockwise, as viewed in Fig. 3, and this surface **63** engages flatwise upon the frame element **46** or **48** to hold it depressed until the member **62** is rotated counter-clockwise back to its position of Fig. 3.

An important feature of the invention resides in a grate-like frame which is indicated generally at **68**. A multiplicity of relatively rigid rods or bars **70** extend in spaced general parallelism between two angle iron members **72**, **74**, angle iron member **72** having a multiplicity of holes **73** therein for slidably receiving the rods or bars **70**, and angle iron member **74** having similar holes **75** therein for slidably receiving said rods or bars **70**. Preferably, an abutment **76** is fixed on angle iron member **74** opposite the holes **75** therein, and the rods or bars **70** conveniently may be inserted through the holes **73** in

angle iron member 72 and be pushed longitudinally until their leading ends enter the holes 75 in member 74 and engage abutment 76. Then an abutment 78 may be secured in place on angle iron member 72 opposite the adjacent ends of the rods or bars 70 thereby to maintain the rods or bars 70 in the grate-like frame 68.

Angle iron member 72 has plate pieces 80 fixed on its opposite ends, as by welding, and pivot pins 82 extend through holes 84 in the plate elements 14, 16 and through the plate pieces 80 whereby the grate-like frame 68 is pivotally supported at one end on plate elements 14, 16. As shown, a bearing block 14' is fixed, as by welding, on the inner side of plate element 14, and a similar bearing block 16' is fixed on the inner side of plate element 16. Preferably, the grate-like frame 68 is appreciably less in width than the spacing of the bearing blocks 14', 16' on the plate elements 14, 16, so that frame 68 may be adjusted laterally therebetween. Each pivot pin 82 has a portion of larger diameter adjustable axially within the hole 84 which extends through a bearing block 14' or 16' as well as through one of the plate elements 14 or 16, and each pivot pin has a reduced diameter portion extending through the adjacent plate piece 80 of frame 68, so that the shoulder 83 of the pivot pin may be engaged against the plate piece 80 when the latter has been properly adjusted laterally, after which the pivot pin is secured to its plate element 14 or 16 by a set screw 86, or the like, which may be in the bearing block 14' or 16'.

The described lateral adjustability of the grate-like frame 68 is important because each rod or bar 70 extends within one of a multiplicity of peripheral annular grooves 88 in the driven feed roll 10, and it is desirable to locate the rods or bars 70 in spaced relation to the opposite side walls of the roll grooves 88.

Angle iron member 74 at the opposite end of grate-like frame 68 has a bracket 90 fixed on each of its ends by means of which this end of the frame may be adjustably secured to plate elements 14, 16 as by the bolts 92, each of which extends through a bracket 90 and the adjacent plate element 14 or 16, with one or the other of these elements slotted to permit adjustment of this end of frame 68 about the pivot pins 82 to ensure that the portions of rods or bars 70 which extend through the grooves 88 in roll 10 may be located in spaced relation to the bottom walls of grooves 88.

The illustrated relative length of the grate rods or bars 70 is a suitable length for a sheet feeding apparatus associated with a particular textile scray. However, it should be understood that the grate-like frame 68 and its rods or bars 70 may be as short or as long as may be found appropriate under any particular set of conditions.

Feed roll 12 preferably has a doctor blade 94 associated therewith to avoid the possibility of sheet material being carried clockwise around the under side of the roll. Preferably, the doctor blade 94 is formed of fibre, or a comparable material, and it is shown clamped to an angle iron member 96 by means of the clamping plate 98 and the series of spaced screws 100. Member 96 is pivotally mounted on frame 50 by means of a rigid rod 102 which is welded or otherwise secured to the member 96, with end portions journalled in the frame side members 46, 48. An abutment screw 104 is adjustable in a supporting bracket 106 on frame 50 to maintain the edge of the doctor blade 94 in proper relation to the periphery of roll 12.

In operation, a sheet of cloth or other flexible material 108 is threaded between the feed or nip rolls 10, 12, preferably while the roll 12 is held by one of the members 62 in spaced relation to roll 10. Sheet 108 may be drawn from any suitable source of supply and is shown engaging over a guide roll 110 which is rotatably mounted between the angle iron members 24. After the sheet has been threaded between rolls 10, 12, frame 50 may be released by rotating the holding member 62 counter-clockwise, as viewed in Fig. 3, thereby permitting the springs 54 to draw the frame 50 counter-clockwise until the roll 12 engages the sheet and presses it against roll 10 so that the sheet is advanced to the right between the rolls whenever the roll 10 is driven in counter-clockwise direction, as viewed in Fig. 3, and the material delivering from between the rolls 10, 12 may be received in any suitable receptacle. In Figs. 1 and 3 the receiving receptacle is a scray chute 112 in which the delivering sheet material is accumulated to provide an intermediate supply from which sheet material may be withdrawn as needed.

Roll 10 preferably has a surface of rubber, or comparable material, and roll 12 may be a hard surface roll of brass, or the like.

According to the invention, the grate-like frame 68 is mounted generally in a horizontal plane, or a plane slightly tilted from horizontal, with the rods or bars 70 extending as barriers positively preventing the sheet material from being carried upward and becoming lapped around the roll 10, and doctor blade 94 prevents lapping around roll 12. But the rods or bars 70 perform the additional important function of removing static electricity from the delivering sheet material thereby eliminating a troublesome condition which heretofore has made it difficult to properly guide and control the sheet material delivering from between the feed or nip rolls 10, 12. The rods or bars 70 have substantial extent in the general direction of travel of the sheet material delivering from rolls 10, 12 and have substantial extent forwardly in the direction of feed so that they are in positions to be engaged by the sheet material delivering from the feed rolls. Apparently, the delivering material intimately contacts the spaced elements 70 and loses static electricity to the elements 70. In any event, the presence of the grate-like frame 68 and elements 70 eliminates the previously troublesome effects of static electricity in the delivering sheet material. As a result, the delivering material falls naturally away from the elements 70 into the chute 112 as distinguished from the action of electrically charged sheet material which heretofore has resisted attempts to guide and direct it and which has made it necessary to only partially fill a chute or other receptacle lest the charged sheet material become lapped around one or both of the feed rolls. The invention makes it feasible to fill a chute, or other receptacle, to a height relatively close to the lower feed roll 12 without danger of lapping. Also, the elimination of all objectionable amounts of static from the delivering sheet material makes it feasible to lay the sheet material more uniformly and compactly in a chute or other receptacle, as compared with prior comparable sheet-feeding procedures.

Figs. 5 and 6 show a pair of coacting feed rolls each of which has its surface annularly grooved and each of which has a grate-like frame associated with it. The roll 10 and the grate-like frame 68 associated with it may be the same as the roll 10 and frame 68 of the earlier described embodiment, with the elements 70 extending within the grooves 88. The lower roll 12' may be mounted in the same manner as roll 12 of the earlier described embodiment but roll 12' has annular grooves 114 therein located in staggered relation to the grooves 88 of roll 10. Relatively rigid elements 116 of a grate-like frame 118 have extent within the grooves 114 of roll 12' between the axes of the two rolls and have substantial extent in the general direction of feed of the sheet material delivering from the feed rolls. Hence, the sheet material 108 advancing to the feed rolls 10, 12' enters between the elements 70 and 116 of the two grate-like frames 68, 118 and delivers from the rolls between the elements 70 and 116 of the two frames, with elements 70 preventing lapping of the sheet material around roll 10 and with elements 116 preventing lapping of the sheet material around roll 12'. The grate-like frame 118 may be mounted in any suitable manner on the pivoted frame 50 in

which roll 12' may be mounted the same as roll 10. Hence frame 118 will move with the pivoted frame 50 and roll 12'. Elements 116 are shorter than elements 70 and, preferably, curve or pitch downwardly at their end portions past which the sheet material delivers in the scray chute 112, or other receptacle.

It presently is preferred to employ an available variety of magnetic stainless steel rods as the elements 70 and 116 of the grate-like frames 68 and 118, but these elements may be of other electrically conducting material capable of removing static electricity from the feeding sheet material.

The drawings illustrate one practical and efficient embodiment of the invention in connection with a scray chute 112 into which the sheet material delivers and in which it is accumulated. However, it will be obvious that the invention may be variously employed and variously modified without departing from the spirit and scope of the invention as defined in the appended claims, and it is intended that the patent shall cover, by suitable expression in the claims, such features of patentable novelty as exist in the invention disclosed.

I claim as my invention:

1. Apparatus for feeding and accumulating a supply of continuous flexible sheet material, comprising a pair of coacting feed rolls mounted for delivering sheet material generally in horizontal direction, one of said rolls being a driven roll having a plurality of annular surface grooves therein in spaced relation along its axis, means for guiding sheet material in continuous sheet form to said feed rolls, a receptacle disposed below said feed rolls and having a top opening through which the delivering material falls by gravity into the said receptacle for accumulating a supply of the material in the receptacle, a plurality of relatively rigid elements arranged in spaced general parallelism and each having a portion extending within a said surface groove of the driven roll and each having substantial generally horizontal extent outward from the feed rolls and over and across said top opening of the receptacle at a location appreciably below the axis of the upper one of said rolls, said elements providing a barrier grating opposite said top opening of the receptacle restraining both delivering and delivered sheet material against upward movement beyond said grating.

2. Apparatus for feeding and accumulating a supply of continuous flexible sheet material as defined in claim 1, wherein said elements of the grating are grounded elements of electrically conducting material in positions to be contacted by electrically charged material delivering from between the rolls and tending to move upwardly, said grounded elements having the effect of relieving electrically charged sheet material coming in contact therewith of its electrical charge thereby conditioning it for falling by gravity into said receptacle.

3. Apparatus for feeding and accumulating a supply of continuous flexible sheet material as defined in claim 1, wherein said elements of the grating are substantially straight elements which extend between the feed rolls at the region of contact between the rolls, and means for locating said elements with their portions within said grooves out of contact with all walls of the grooves.

4. Apparatus for feeding and accumulating a supply of continuous flexible sheet material as defined in claim 1, wherein said grating elements are connected together at their opposite ends to provide a grating unit, means pivotally supporting the said unit at one end thereof, means at the other end of the unit for securing the latter said end in selected positions of adjustment about the said pivotal support, and means on said unit for adjusting the individual said elements thereof to positions out of contact with the side walls of said driven roll grooves.

5. Apparatus for feeding and accumulating a supply of continuous flexible sheet material as defined in claim 1, wherein there is means for applying power to only one end of said driven feed roll, and an adjustable bearing mounting that end of the driven roll which is remote from said power applying means for increasing the pressure between the rolls at their ends which are remote from said power applying means appreciably above the pressure between the opposite ends of the rolls thereby to ensure equal feed of opposite edges of the sheet material delivering from said rolls.

6. Apparatus for feeding and accumulating a supply of continuous flexible sheet material as defined in claim 1, wherein both rolls of the pair of feed rolls have annular surface grooves therein with the grooves in one roll staggered with relation to the grooves in the other roll, and wherein, in addition to said grating elements having portions within the grooves of the driven roll, there are elements constituting a second grating associated with the grooves of the other roll, said elements of both of said gratings extending between the rolls and having extent at the entrance side and at the delivery side of said rolls, whereby sheet material is guided to said rolls by passing between the two gratings at the entrance side of the rolls and delivers between said gratings at the delivery side of the rolls.

7. In an apparatus for feeding and accumulating a supply of continuous flexible sheet material having a receptacle with a top opening, and a pair of coacting feed rolls, of which one is a driven roll, for delivering sheet material by gravity into said receptacle through the said top opening therein, the combination wherein said feed rolls are mounted above the receptacle with their axes in a common vertical plane, and the upper one of said rolls has a relatively soft resilient surface and the other has a relatively hard surface, means providing a series of axially spaced annular grooves in the surface of said upper soft surface roll, a series of relatively straight generally parallel rod elements extending between the said rolls with each rod located in a different one of said grooves and projecting at each side of said rolls, said rod elements being disposed above the sheet material passing between and delivering from said rolls and having substantial generally horizontal extent at the delivery side of the rolls over and across said top opening of the receptacle, whereby delivering and delivered material is restrained by said rod elements against movement upwardly appreciably above the general plane of delivery of sheet material from between said rolls, and stripper means associated with said lower hard surface roll.

8. In an apparatus for feeding and accumulating a supply of continuous flexible sheet material as defined in claim 7, wherein a stripper blade extends along the surface of said hard surface roll in relatively close proximity thereto at a location substantially below the axis of the said hard surface roll.

9. In an apparatus for feeding and accumulating a supply of continuous flexible sheet material as defined in claim 7, wherein said upper relatively soft surface roll is a driven roll having driving means at one end thereof, and there is adjustable supporting means for at least one end portion of the latter said roll for substantially increasing the pressure between said pair of rolls at the end portion thereof to which power is applied as compared with its opposite end portion thereby to ensure equal feed of opposite edges of the sheet material delivering from said feed rolls.

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