Oct. 4, 1932. I. F. DITTMAR 1,880,887

STRIP FINISHING MACHINE

Filed Dec. 7, 1928 4 Sheets-Sheet 1

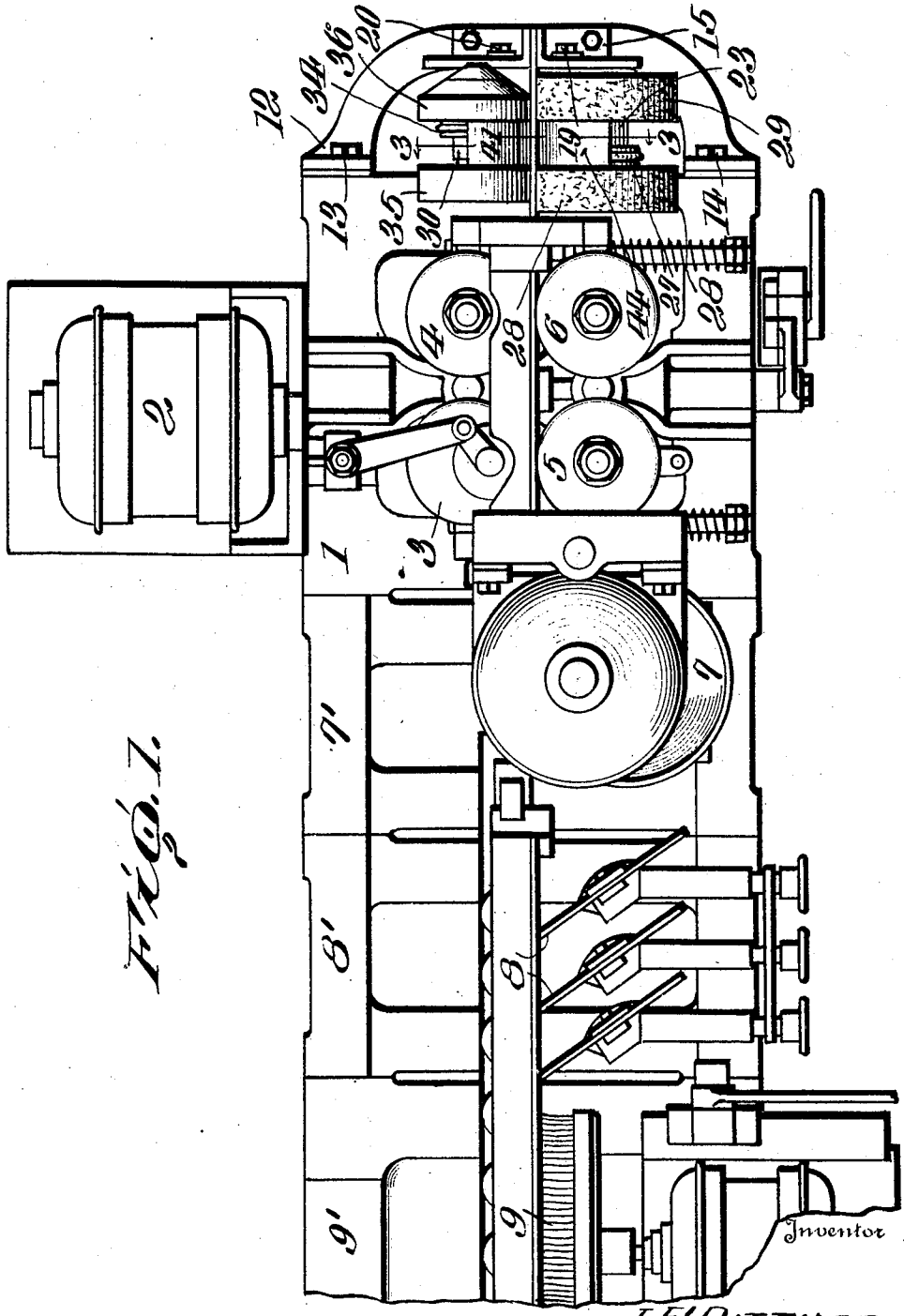


FIG. 1.

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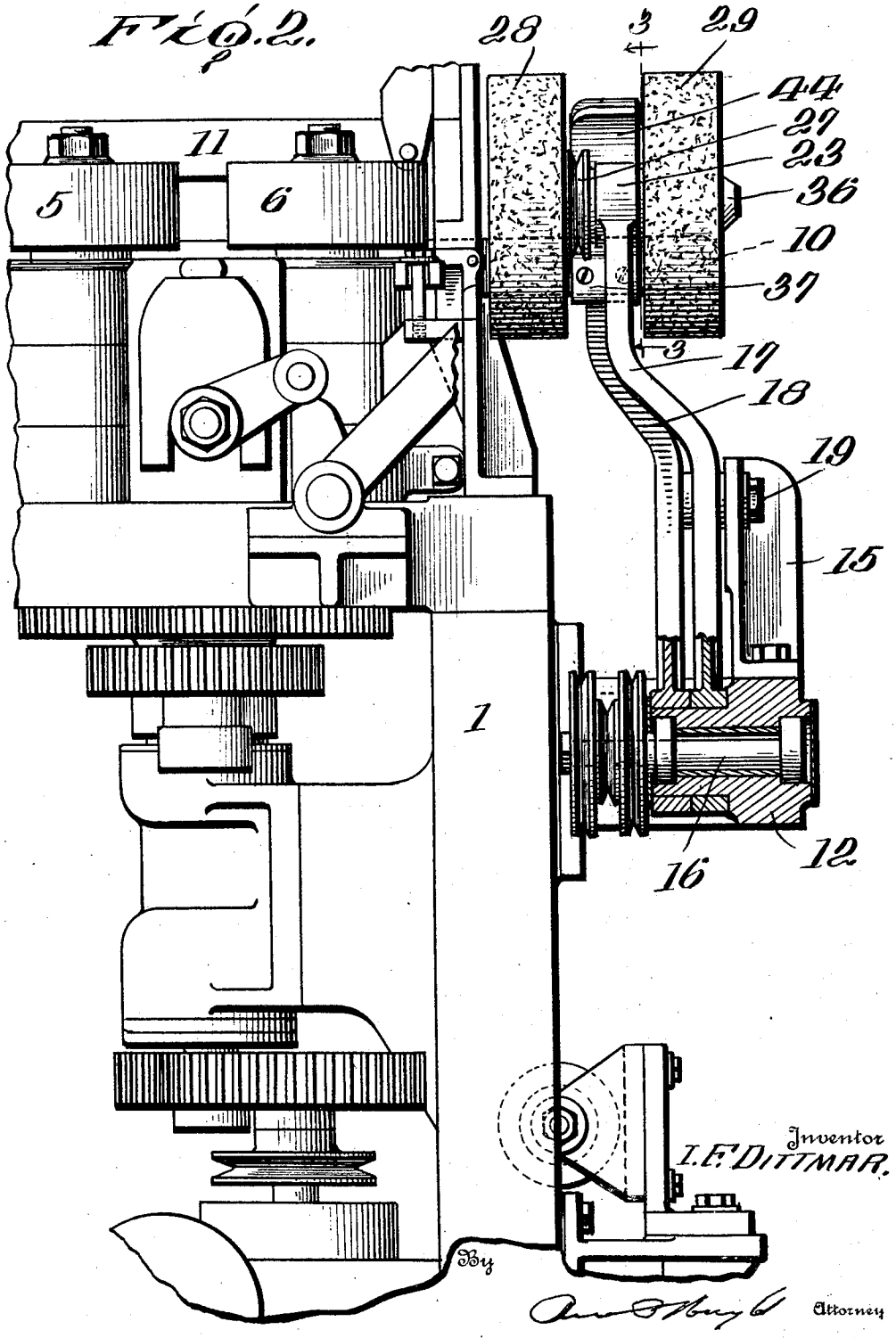
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FIG. 2.



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FIG. 3.

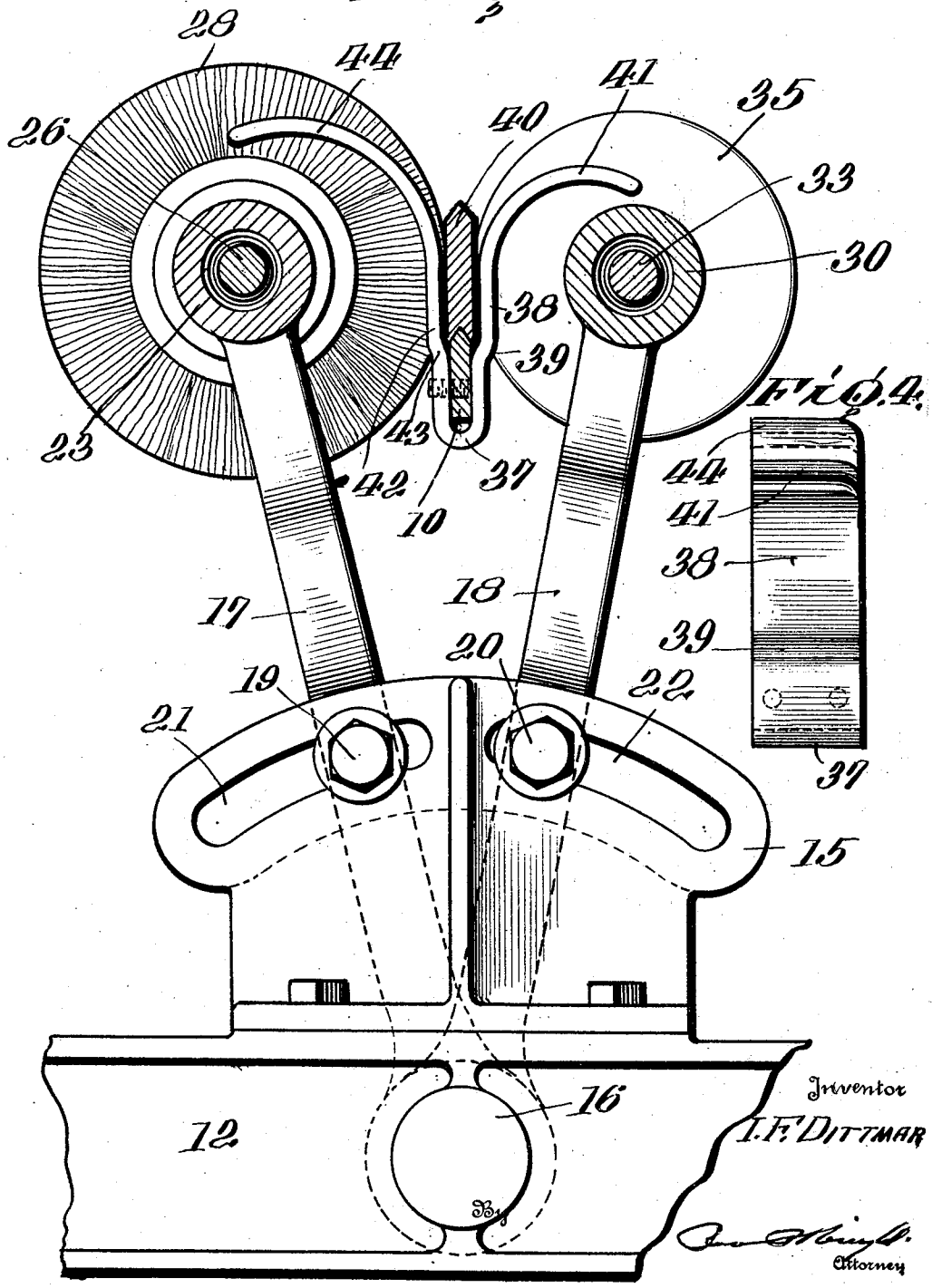


FIG. 4.

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STRIP FINISHING MACHINE

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Fig. 5.

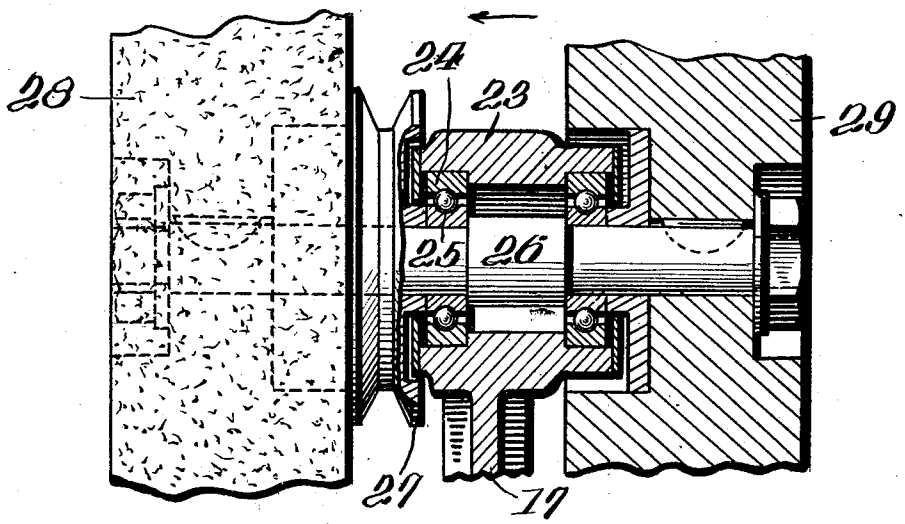
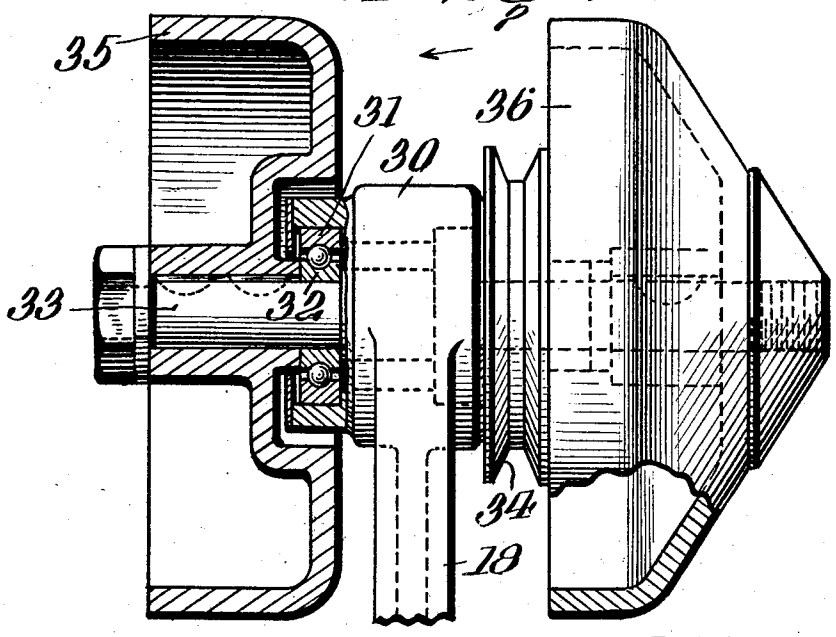


Fig. 6.



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UNITED STATES PATENT OFFICE

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STRIP FINISHING MACHINE

Application filed December 7, 1928. Serial No. 324,347.

My invention relates to improvements in strip finishing machines.

The object of my invention is to provide means for feeding the strip of material to the guides so that it can be gripped by the feed rollers and forced through the machine.

Another object of my invention is to provide a guide rail in which warped strips may be more readily fed to the machine and insure of their proper position between the upper and lower guide rails.

A further object of my invention is to provide a machine of this character in which the cleaning brushes and backing rollers therefore are mounted on a single shaft and independently adjustable so that they may be accurately set in respect to the guide rails, to operate upon the strips passing between the guide rails.

A still further object of my invention is to provide a machine of this character which is simple in construction, easily assembled and having means whereby the cleaning brushes and backing rollers can be readily removed when worn, and having certain details of structure and combination of parts hereinafter more fully set forth.

In the accompanying drawings,

Figure 1 is a top plan view of a strip finishing machine showing my invention applied thereto;

Figure 2 is a side elevation partly in section showing the guide rails extending between the cleaning brushes and the backing rollers.

Figure 3 is a vertical section taken on line 3—3 of Figure 2.

Figure 4 is a side elevation of the guard plate carried by the lower guide rail and extending between the brushes and backing rollers.

Figure 5 is an enlarged vertical sectional view of the cleaning brushes showing one in section for illustrating the manner of mounting the same on the adjustable arm.

Figure 6 is an enlarged plan view of the backing rollers showing one of the rollers in section to illustrate the manner of mounting the same in the adjustable arm.

Referring now to the drawings, 1 represents the base upon which is mounted the motor 2 for driving the four feeding rollers 3, 4, 5 and 6 adapted to operate upon the strip of flooring as it is fed to the machine between the guides, and the said strip then passes through the filler receptacle 7 which is mounted upon a separate base 7′, and is then operated upon by the rubbers 8 also mounted upon a separate base 8′, and the buffer 9 is also mounted upon a separate base 9′, and from which it will be seen that additional bases carrying additional filler receptacle, rubbers and buffers may be added without altering the machine. The construction of the filler receptacle, rubbers and buffers are separate inventions covered by other applications and therefore a detail description of the same is not necessary.

The lower guide rail 10 is supported by the frame between the rollers 3, 4, 5 and 6, supported between the said rollers and extending outwardly beyond the rollers and the end of the frame 1, and the upper guide member 11 ends at the end of the frame. The end of the frame is provided with a bracket 12 secured thereto by means of bolts 13 and 14 and the outer upper face of the bracket 12 has secured thereto a segmental plate 15, and the frame 1, below the plate 15, is provided with a shaft or stud 16 upon which are mounted the lower ends of the arms 17 and 18. These arms extend upwardly close to the plate 15 and are fastened to the plate by means of the bolts 19 and 20 which pass through segmental slots 21 and 22 in the plate 15, whereby the arms 17 and 18 are adjusted and held in their adjusted position as will be hereinafter more fully described. The upper end of the arm 17 is provided with a hub portion 23 in which are arranged ball races 24 cooperating with ball races 25 carried by the shaft 26, whereby the shaft is rotatably mounted in the hub portion 23. This shaft 26, as shown in Figure 5 of the drawings, extends out beyond the hub portion 23 and beyond one side of the hub is provided with a pulley 27 over which a belt passes, and whereby the shaft 26 is rotated for rotating the two brushes 28 and 29, secured on the shaft 26 beyond the hub 23, in an inward downward direction toward the guide rail.

The arm 18 is provided at its upper end with a hub portion 30 carrying ball races 31 cooperating with the ball races 32 mounted on the shaft 33, whereby the shaft is rotatably mounted in the hub 30. The shaft 33, on one side of the hub 30, has keyed thereto a pulley 34 over which a belt passes, and by means of which the two backing rollers 35 and 36, carried by the free end of the shaft 33, are rapidly rotated in an inward downward direction opposite to the rotation of the brushes 28 and 29. The lower guide rail 10 for the strip of flooring has secured thereto the guide member 37 which passes around the lower edge of the guide rail 10 as shown in Figure 3 of the drawings, and provided at one side with the upwardly extending arm 38 having the off set portion 39, which extends upwardly parallel with the strip of flooring 40, and is curved outwardly as indicated at 41 between the backing rollers 35 and 36. The guide member 37 on the other side of the guide rail 10 is provided with an upwardly extending arm 42 having the offset portion 43 extending parallel with the strip of flooring 40 and has its upper end curved outwardly as indicated at 44, and extends between the cleaning brushes 28 and 29.

From the foregoing description it will be seen that the lower guide rail 10 extends beyond the end of the frame 1, and is not supported at its extreme outer end. The guide member 37 carried by the lower guide rail 10 will guide the strips to the guide rail as they are moved downward by the brushes and rollers, and will also steady or prevent any twisting or lateral movement of the strip of flooring 40 caused by the pressure of the cleaning brushes 28 and 29, or the pressure of the backing rollers 35 and 36 against the opposite face of the strip of flooring 40. By means of the bolts 19 and 20, it will be seen that the arms 17 and 18 can be swung on the stud or shaft 16 so as to bring the backing rollers 35 and 36 and the brushes 28 and 29 in contact with the strip of flooring 40 and locked in said position by the bolts 19 and 20.

From the foregoing description it will be seen that I have provided a feeding device for strip finishing machines composed of oppositely rotating members, one of which is in the form of a roller and the other in the form of a brush, so that when the material is dropped down between these members it is carried down upon the lower guide and the operator only has to push it between the guides of the machine. It will also be seen that by having one of these rotating members in the form of a brush the material is cleaned before it enters the machine.

In the operation of the machine, by having two rotary members rotating in opposite directions, the strip of flooring is drawn onto the lower guide rail and while in the drawings I have shown these rotating members constructed in a particular manner, I am aware that various changes can be made in the form of rotating members used without departing from the spirit of my invention.

While in the drawings I have only shown the use of two revolving members for guiding the strip in position on the guideway, it is, of course, understood that I am aware that any number of these units composed of two oppositely rotating members can be used without departing from the spirit of my invention.

Having thus fully described my invention, what I claim is:

1. The combination with the guide rail of a strip finishing machine, of feeding and brushing means for the strips, comprising brushing rollers on one side of the guide rail above the same, backing rollers on the opposite side of the guide rail above the same, said brushing rollers and backing rollers being rotated in a direction to move the strip towards said guide rail, means for moving the strip longitudinally over said guide rail, and guide members carried by the guide rail for guiding the strips between the brushing rollers and backing rollers onto the guide rail.

2. The combination with the guide rail of a strip finishing machine, of feeding and brushing means for the strips, comprising brushing rollers arranged on one side of the guide rail above the same, backing rollers arranged on the opposite side of the guide rail above the same, means for rotating the brushing rollers and backing rollers in opposite directions toward the guide rail to feed the strip towards the same, and guide members carried by the guide rail for guiding the strips between the brushing rollers and backing rollers to the guide rail.

3. The combination with the guide rail of a strip finishing machine, of feeding and brushing means for the strips, comprising brushing rollers arranged in pairs, backing rollers arranged in pairs opposite the brushing rollers, said backing and brushing rollers rotating in a direction towards the guide rail, the guide rail passing between the brushing rollers and the backing rollers, a guide member carried by one face of the guide rail and extending parallel with the faces of the strips and having its outer end curved outwardly between the two backing rollers, and a guide member carried by the other face of the guide rail and extending up parallel with the sides of the strips, and having its upper end curved outwardly between the two brushing rollers.

4. An attachment for a strip finishing machine having a stud carried by the end thereof carrying two arms pivotally mounted on said stud, a segmental plate arranged adjacent said arms, said arms carrying bolts passing through segmental slots in said plate whereby the arms may be locked in

their adjusted position, hubs carried by the upper ends of the arms, shafts rotatably mounted in the upper ends of the arms, two backing rollers mounted on the free ends of the shaft carried by the one arm, two brushing rollers carried by the free ends of the shaft mounted in the upper end of the other arm, said brushes and rollers forming means for positioning material for subsequent feeding into said machine.

5. The combination with a guide rail of a strip finishing machine, of positioning and brushing means for the strip comprising two spaced backing rollers arranged at one end of the machine, two spaced brushing rollers mounted opposite the backing rollers, said brushing and backing rollers rotating in a direction towards said guide rail, said guide rail extending between the brushing rollers and the backing rollers and guide members carried by the outer faces of said guide rail and extending parallel with the faces of the strips between the guide members and having their upper ends respectively turned outwardly between the two backing rollers and the two brushing rollers.

6. The combination with a guide rail of a strip finishing machine, of feeding and brushing means for positioning the strips on the guide rail comprising two spaced brushing rollers arranged on one side of the guide rail and two spaced backing rollers arranged on the opposite side of the guide rail and opposite the brushing rollers, means for rotating said brushing rollers and backing rollers towards the guide rail, means for adjusting the backing and brushing rollers to and from the guide rail and guide members carried by the lower guide rail and extending parallel with the faces of the strips between the guides having their upper ends respectively turned outwardly between the two backing rollers and the two brushing rollers.

7. The combination with the guide rail of a strip finishing machine, of feeding and brushing means for positioning the strips on the guide rail comprising two arms pivotally mounted adjacent one end thereof, means for adjusting said arms, hubs carried by the upper ends of said arms, shafts rotatably mounted in the upper ends of the arms, two backing rollers mounted on the free ends of the shaft carried by one arm, two brushing rollers carried by the free ends of the shaft mounted in the upper end of the other arm, driving pulleys carried by said shafts and a guide member for guiding the strips between the brushing rollers and the backing rollers onto the guide rail.

In testimony whereof I hereunto affix my signature.

IRVIN F. DITTMAR.