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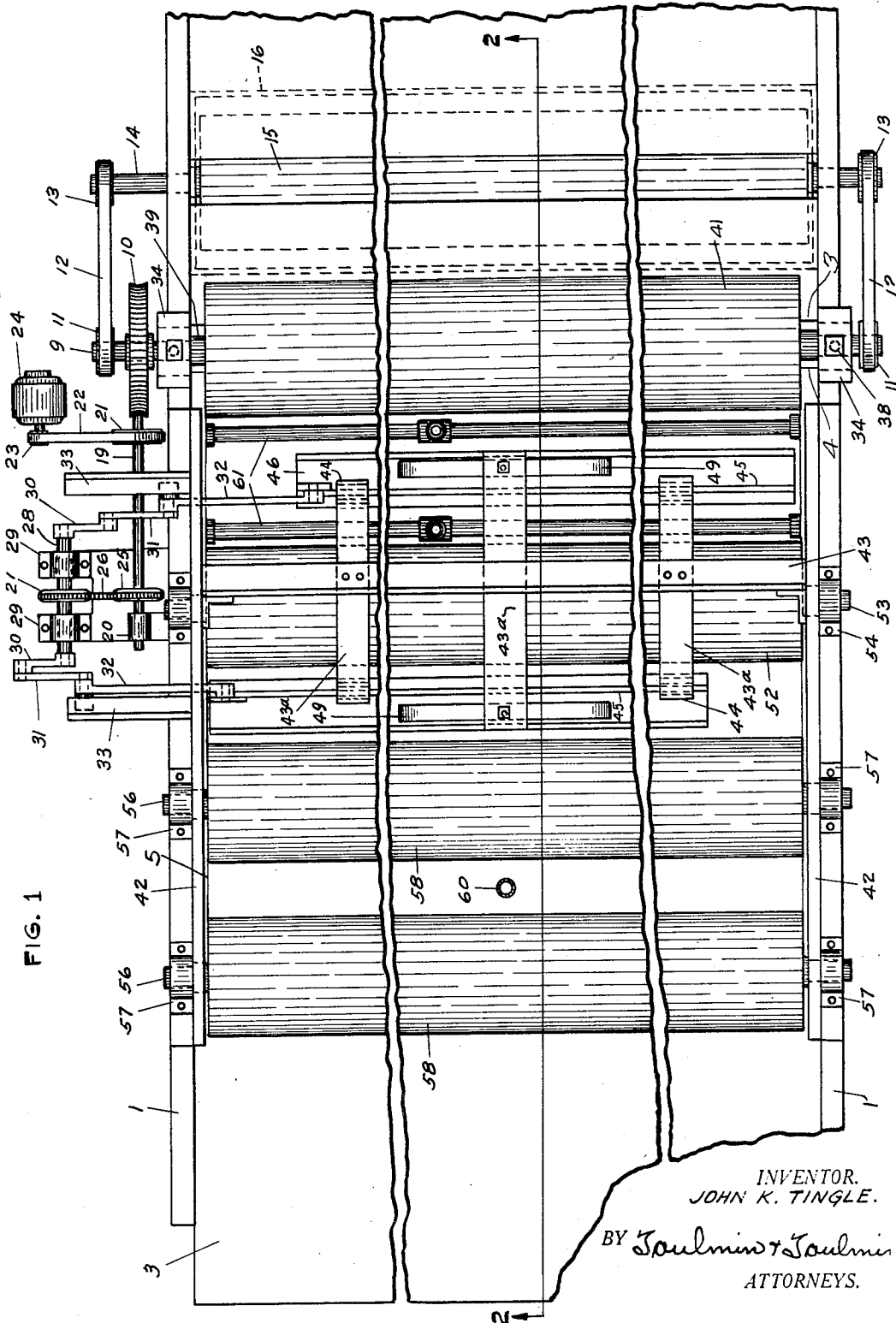
J. K. TINGLE

1,934,749

CARPET MACHINE

Filed March 10, 1932

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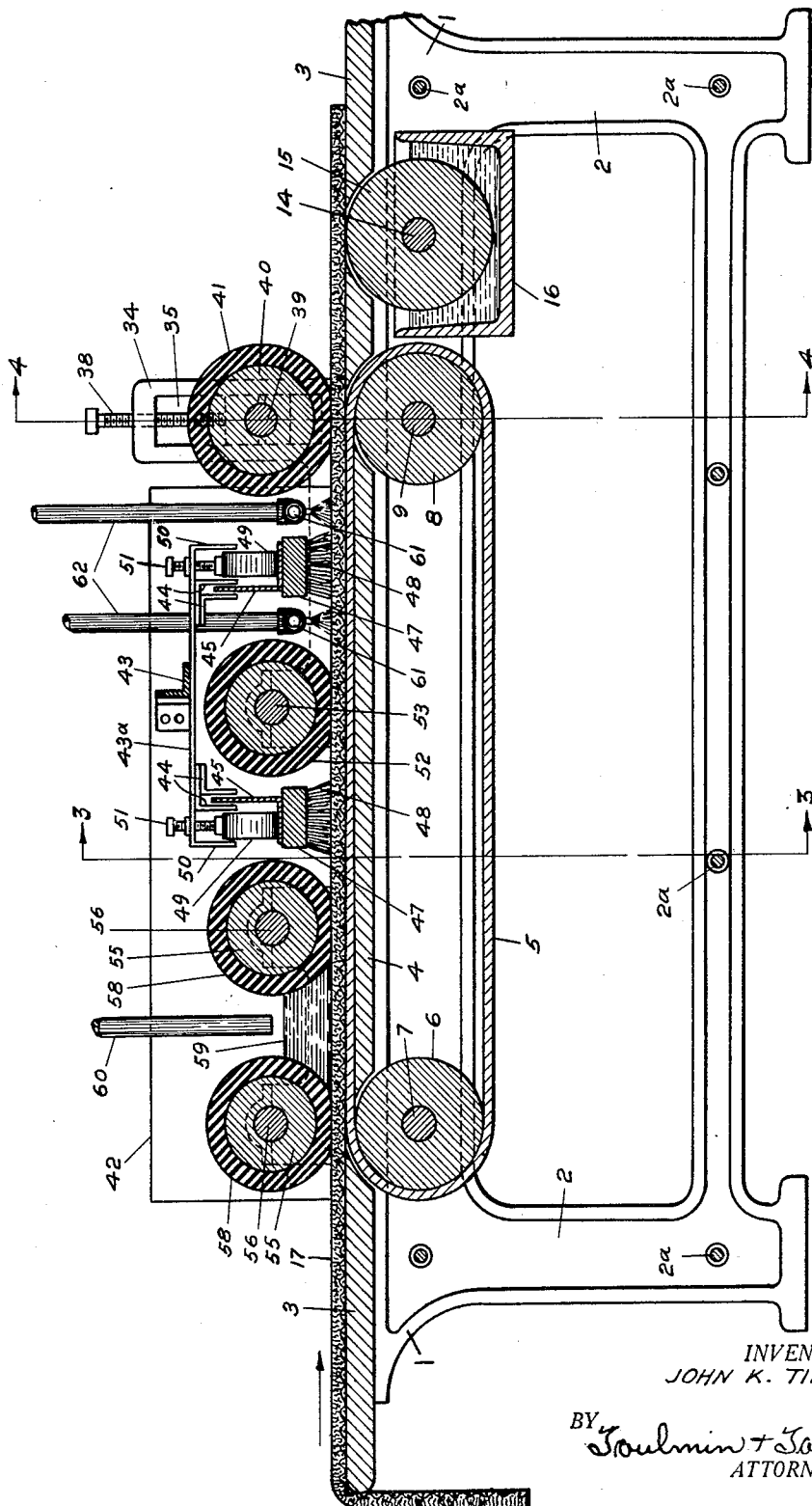
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FIG. 2



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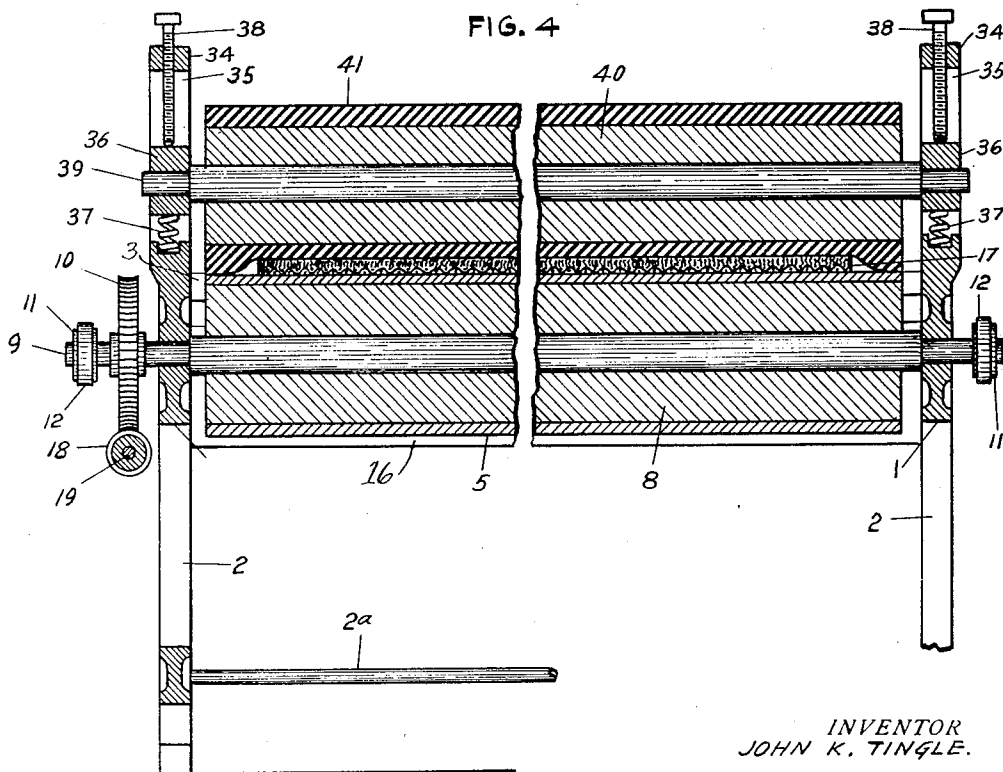
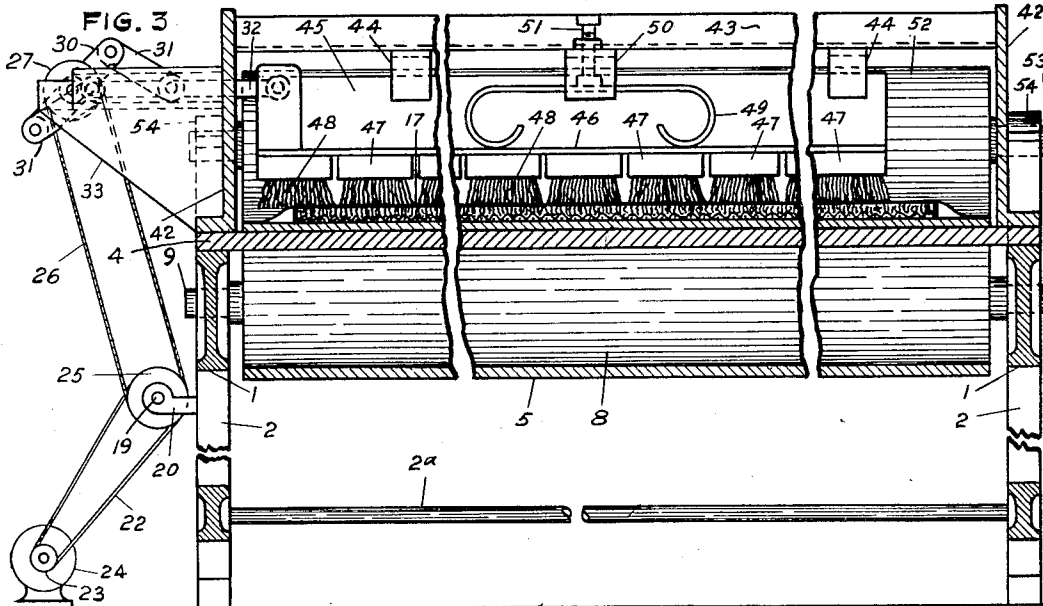
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1,934,749

CARPET MACHINE

John K. Tingle, Connersville, Ind.

Application March 10, 1932. Serial No. 598,002

4 Claims. (Cl. 15—40)

This invention relates to improvements in carpet machines, and has for its object to provide a machine that will clean a carpet by having it pass longitudinally through the machine.

5 It is particularly the object of this invention to provide, in connection with a carpet cleaning machine, a housing composed of side plates and two rollers, forming a trough for containing a mixture of soap and water, the mixture being
10 worked into the carpet by means of rollers forming two sides of the trough.

It is also an object of this invention to provide, in connection with a traveling strip of carpet, brushes arranged transversely of the direction of
15 movement of the carpet and so supported that the entire weight of the brushes is supported by the carpet.

It is a further object of this invention to provide, in connection with a carpet cleaning machine having brushes adapted to move transversely of the carpet moving through the machine, a plurality of brush members composed of brush sections so supported that the brush members move freely vertically and longitudinally across
20 the carpet, and each section may be removed when worn.

It is a further object to provide, in connection with the transversely arranged brush members, means to cause the brush members to pass back
25 and forth across the carpet, and means to hold the brush members in contact with the surface of the carpet.

It is a further object to provide rolls with soft rubber coverings so that they will not only engage
30 the surface of the carpet to form a seal to prevent the exit of fluid, in conjunction with the side walls of the machine, but will also overlap over the sides of the carpet to prevent leakage laterally from the traveling belt of the conveyor.

It is an object to provide these brushes so they are renewable.

These and other advantages will appear from the following description taken in connection with the drawings.

45 Referring to the drawings:

Figure 1 is a top plan view of a carpet cleaning mechanism.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a section on the line 3—3 of Figure 2.

50 Figure 4 is a section on the line 4—4 of Figure 2.

The carpet cleaning mechanism is supported by means of a frame 1, which has legs 2. This frame may be constructed of two parts, one part on each side, joined together by means of trans-
55 verse rods 2a, as shown clearly in Figures 2, 3 and

4. On the upper ends of the legs and forming the top of the frame structure, there is provided a table member 3. This table member is divided into three sections, the front and rear sections being similar in form, size and shape, and having their upper surfaces in alignment with each other. The intermediate section 4 has an upper surface lower than the surfaces of the end sections to provide a support for a belt 5. The upper surface of the belt resting upon the section 4 is in line with the upper surfaces of the end portions of the table, thereby forming a continuous straight, even surface over which the carpet to be cleaned travels through the agency of the traveling belt 5.

This belt 5 is supported at one end by means of a roller 6 supported on a shaft 7, properly journaled in the sides of the frame. The other end of the belt is supported by means of a roller 8, having a shaft 9 properly journaled in the
75 frame 1.

The shaft 9 extends beyond the sides of the frame and has on one end, adjacent the side of the frame, a worm gear 10. On the same shaft, beyond the worm gear from the side of the frame, 80 is a pulley 11 connected by means of a belt 12 to a pulley 13 on one end of a shaft 14. The other end of the shaft 9 has a similar pulley 11 connected by a belt 12 to a pulley 13 on the end of the shaft 14, opposite the pulley 13. By this
85 means the shaft 14 is driven from both ends of the shaft 9. On the shaft 14 is a sizing roller 15 partly submerged in a container or vessel 16 for containing a sizing liquid.

The carpet being cleaned is indicated by the 90 numeral 17, as shown in Figure 2. This carpet moves through the machine in the direction indicated by the arrow at the lefthand end of this figure. The worm gear 10 adjacent the end of the shaft 9 meshes with a worm 18 on one end of a 95 shaft 19, supported at one side of the frame by means of brackets 20. On the shaft 19, adjacent the worm gear 10, is a pulley 21 which has thereon a belt 22 passing over a second pulley 23 on the shaft of a motor 24. By means of the motor 100 24 the shaft 19 is caused to rotate, thereby rotating both the roller 8 and the roller 15.

There is also located on the shaft 19 a sprocket wheel 25, engaged by a sprocket chain 26 which passes over a second sprocket wheel 27, located 105 on a shaft 28. This shaft 28 is supported by brackets 29 constituting bearings, and has on each end a crank 30. These cranks extend in opposite directions, and each has pivoted to its free end a link 31, attached at one end to the crank 30 and 110

at its other end to one end of a link 32. There are two of these links, one end of each of which is connected to one end of the link 31 and guided horizontally by guide brackets 33 attached to one of the plates 42, while the other end of each of these links is attached to the brush holder 45, hereinafter to be described.

On each side of the frame, immediately above the shaft 9, is located a bracket 34, with a vertical slot 35 therein, as is clearly shown in Figure 2. In each slot 35 is a bearing block 36. Each bearing block is supported by means of a spring 37. Extending down through the top of the bracket is a screw 38 for adjusting the bearing block with relation to the bracket so that a shaft 39, supported at one of its ends by this block, may be adjusted.

This shaft 39 has a roller 40 thereon, surrounded by a rubber covering 41, and cooperating with the belt and the roller 8 for pressing the water out of the carpet after it has passed substantially through the machine. On each side of the machine is a vertically disposed side plate 42. These side plates support, near the center of the machine and near the tops of the plates, a transversely arranged guide support 43, attached at each end to one of the side plates.

Supported beneath the guide support is a plurality of guide arms 43a, which extend longitudinally of the machine and in opposite directions from the guide support. In the present instance, as shown in Figure 1, there are three of these guide arms, and each outer one has at each end a pair of downwardly extending spaced fingers 44. The fingers on each side of the guide support constitute guides for a brush holder 45. This brush holder extends between the fingers on one end of each of the outer guide arms.

The brush holder has a laterally extending horizontal flange part 46, to which brush blocks 47 are attached. These brush blocks extend the full length of the brush holder but are not integral, being formed into separate block members which may be easily removed and replaced when the brush bristles 48 carried thereby become worn.

One of the guide arms 43a is extended at each end and has its ends bent downwardly to form flanges 50. Each of these flanges cooperates with the guide fingers 44 in holding and guiding a spring 49. Each spring is supported by the extension on one end of one guide arm by means of a screw 51. By means of this screw the spring may be pressed against the top of the horizontal flange 46, thereby pressing the brush members down into engagement with the carpet. The brush members are arranged in pairs, one on each side of the guide support 43.

Supported between the brush members is a sponge rubber roller 52 supported by means of a shaft 53 in bearings 54, located on the frame. This roller serves to press the soap and water mixture out of the carpet after the carpet has been treated with the soap and water mixture and thoroughly scrubbed by means of one of the brush members.

Located at the front end of the machine is a pair of cleaning rollers 55, each supported by means of a shaft 56 journaled in bearings 57 located on the sides of the frame. The outer periphery of each of these rollers is composed of sponge rubber, indicated by the numeral 58. These rollers 55, cooperating with the side plates 42, form a trough or container for containing a soap and water mixture 59, as clearly shown in Figure 2. This soap and water mixture is sup-

plied to this trough by means of a pipe 60. These two rollers, as well as the roller 52, are operated by the movement of the carpet. These rollers are not operatively connected with any power driven part of the machine.

For the purpose of supplying clean water there is located between the roller 52 and the roller 40, and on each side of one of the brush members, a spray pipe 61 for spraying clean rinsing water upon the carpet after the mixture of soap and water has been partly pressed from the carpet by means of the roller 52. These spray pipes are supplied by means of vertically disposed feed pipes 62.

When it is desired to operate the machine a current is supplied to the motor. The operation of the motor causes the shaft 19 to rotate. This shaft 19 drives the roller 8, which causes the belt 5 to travel. The shaft 19 also causes the brush members to move back and forth across the top of the carpet, traveling through the machine by the operation of the belt 5.

In the cleaning operation the mixture of soap and water is applied to the carpet between the two cleaning rollers 58. These rollers serve, in cooperation with the side plates 42, to form a trough or container that holds the mixture. This mixture of soap and water is worked into the carpet, both by the second of the rollers 55 and by the brush member adjacent one of the rollers 55.

After the mixture of soap and water has been applied to the carpet a great deal of it is pressed out of the carpet by means of the roller 52, after which clean rinsing water is sprinkled over the carpet and the mixture of soap and water removed therefrom by means of one of the brush members, and also by means of the roller 40 cooperating with the roller 8.

After the water has been substantially removed from the carpet it passes over the surface of a sizing roller 15 so that a sizing liquid is applied to the under surface of the carpet. Each of the rollers engaging the upper surface of the carpet has around its periphery a layer of soft rubber so that these rollers are adapted to engage substantially evenly all parts of the carpet that equal cleansing, rinsing and drying effects are produced by these rollers on the upper surface of the carpet.

It will be further understood that the resilient coverings on the rollers may be sponge rubber so they will overlap and engage the surface and sides of the carpet.

It is my object to provide a traveling conveyor for yieldingly supporting the under side of the carpet with the yielding rollers on the upper side of the carpet.

I desire to comprehend within my invention such modifications as may be embraced within my claims and the scope of my invention.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a carpet cleaning apparatus, means to cause a carpet to travel, brush members loosely resting upon the carpet, a support extending across the carpet, means on the support to guide each brush member, means on the support to press the brush members against the carpet, and means to cause the brush members to move across the carpet.

2. In a carpet cleaning apparatus, means to cause a carpet to travel, brush members loosely resting upon the carpet, each brush member

consisting of an angle member having on one leg a plurality of removable brush parts, and means engaging the other leg of the angle member to guide the brush members.

3 3. In a carpet cleaning apparatus, means to cause a carpet to travel, brush members loosely resting upon the carpet, each brush member consisting of an angle member having on one leg a plurality of removable brush parts, means
10 engaging the other leg of each angle member to guide the brush member, and means to reciprocate the brush members across the carpet.

4. In combination, a carpet support, a carpet engaging roller mounted over said support having a resilient covering adapted to engage with and overlap the sides of the carpet, a second roller having a resilient covering, and side walls
80 on either side of the carpet and closely adjacent the rollers, whereby the rollers will form a seal on the carpet in conjunction with the side walls for retaining a pool of cleaning fluid on the carpet.
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