June 12, 1934. O. A. NICHOLS ET AL 1,962,404

CLOTHESLINE CLEANER AND PRESERVER

Filed Nov. 18, 1933 2 Sheets-Sheet 1

Fig. 1.

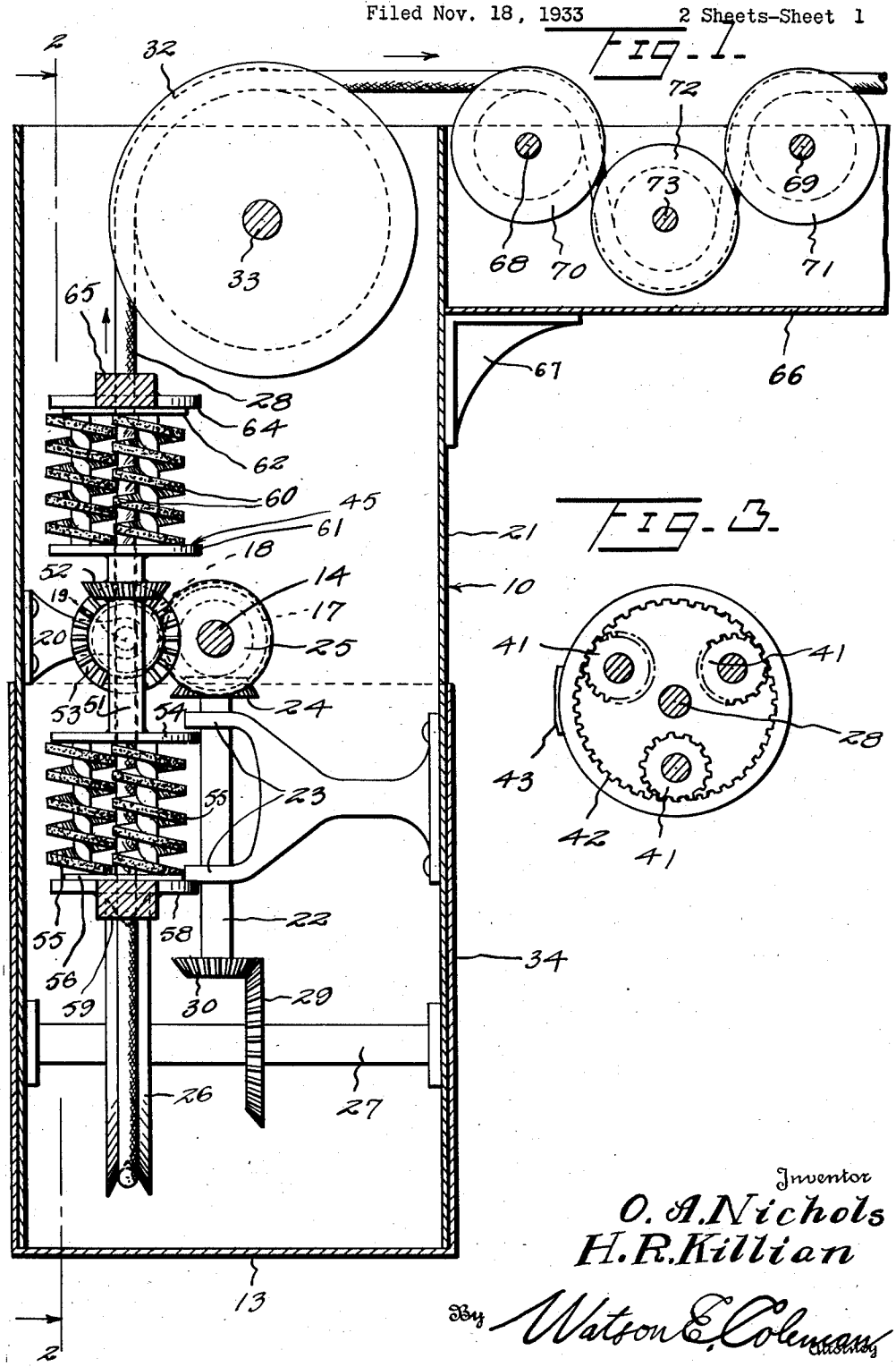


Fig. 3.

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Filed Nov. 18, 1933 2 Sheets-Sheet 2

Fig. 2.

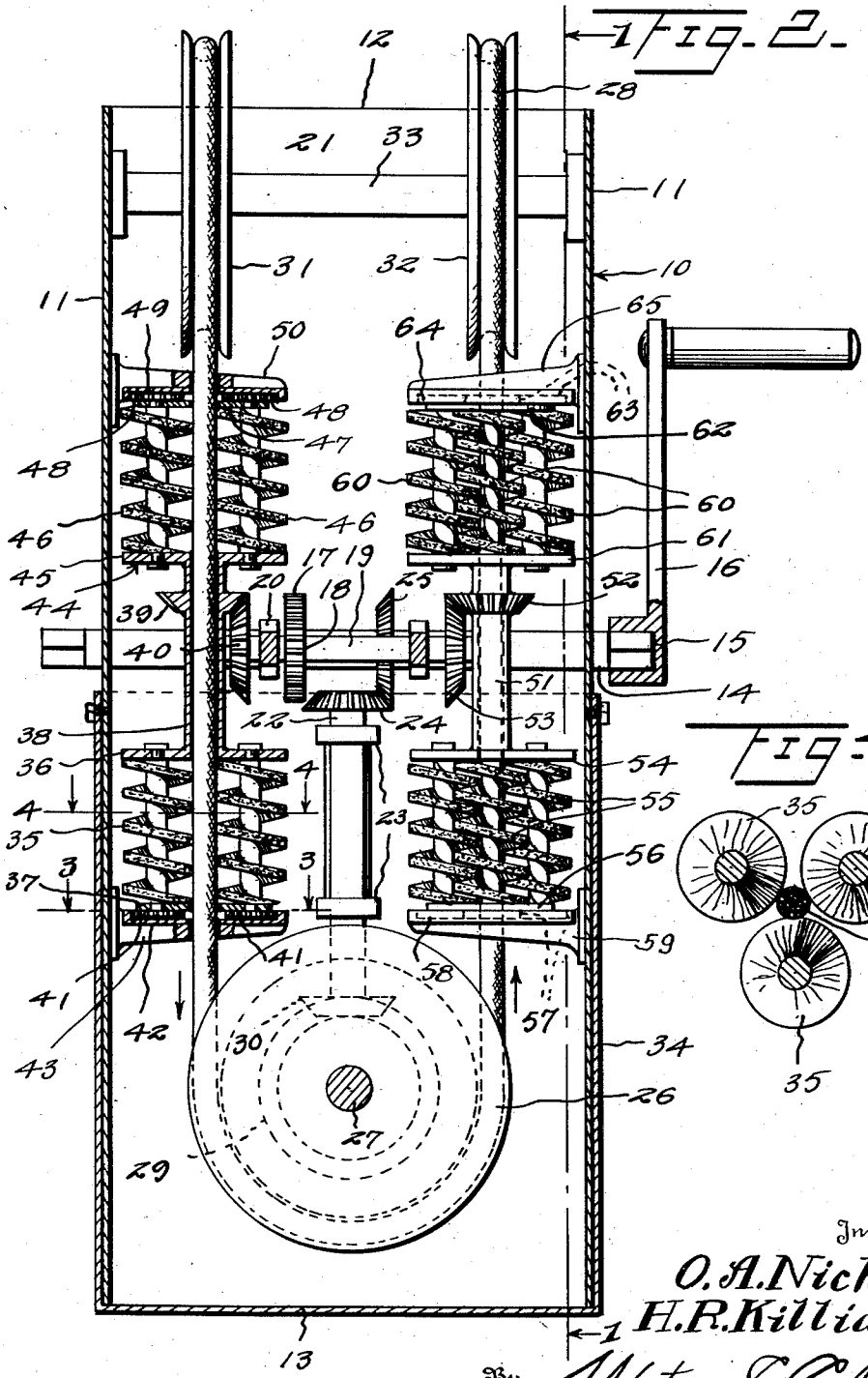


Fig. 4.

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CLOTHESLINE CLEANER AND PRESERVER

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5 Claims. (Cl. 68—3)

This invention relates to clothes line cleaners and has for an important object thereof the provision of a means for cleaning the outside of the clothes line so that the line may be left outdoors or suspended between several supports for an indefinite period of time.

Another object of this invention is to provide a device of this kind which also includes means whereby a preservative may be disposed on the line so as to preserve the fiber or fabric of the line which is continually left exposed.

A further object of this invention is to provide a device of this kind which is so constructed that it can be operated from either side and can be mounted on any vertically disposed frame structure or support such as the side of a building, post or the like.

The above and various other objects and advantages of this invention will in part be described and in part be understood from the following detailed description of the present preferred embodiment, the same being illustrated in the accompanying drawings wherein:—

Figure 1 is a vertical section taken on the line 1—1 of Figure 2 of a device constructed in accordance with our invention.

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

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a sectional view taken on the line 4—4 of Figure 2.

Referring to the drawings wherein like numerals of reference designate corresponding parts throughout the several views, the numeral 10 designates generally a frame comprising a pair of vertically disposed frame members 11, and upper and lower frame members 12 and 13, respectively. A horizontally disposed drive shaft 14 is journaled between the vertical frame members 11 and extends outwardly beyond these frame members and is provided at the opposite ends thereof with angular end portions 15 for engagement by one end of a crank handle 16. The drive shaft 14 has secured thereto a spur gear 17 at a desired point intermediate the two vertical frame members 11, and this spur gear 17 meshes with a second spur gear 18 mounted on a shaft 19 journaled in bearing members 20. The bearing members 20 are secured to the rear wall 21 of the frame. Another shaft 22 is journaled in bearings 23 secured to the rear wall 21, and this shaft 22 has a beveled gear 24 secured thereto meshing with a beveled gear 25 secured to the shaft 14.

A pulley or grooved wheel 26 is secured to a shaft 27 journaled between the side frame members 11 at a point adjacent the bottom of these frame members, and this pulley or wheel 26 is adapted to have a clothes line 28 trained thereover. A beveled gear 29 is mounted on the shaft 27 at one side of the wheel 26 and meshes with a beveled gear 30 secured to the lower end of the driven shaft 22. A pair of upper pulleys 31 and 32 are mounted for rotation on an upper shaft 33 disposed between the vertical frame members 11 adjacent the upper ends of these frame members 11 and the clothes line 28 is adapted to be trained over these pulleys 31 and 32.

A reservoir or tank 34 is secured to the frame comprising the side members 11, upper and lower members 12 and 13, and the rear member 21, and is adapted to receive a cleaning liquid of desired composition. The lower or drive wheel or pulley 26 is preferably submerged in the liquid disposed in the tank 34.

In order to clean the periphery of the clothes line 28 as it enters the tank 34, I have provided a plurality of rotatable brush members 35 which are disposed between a pair of plates 36 and 37. The brush members 35 are disposed about one run of the clothes line 28 and the plate 36 is secured to a hollow shaft 38 having a gear 39 which meshes with a gear 40 secured to the shaft 19. The brushes 35 are rotatable relative to the plates 36 and 37, the rotation being effected by means of gears 41 secured to the brush 35 which meshes with a ring gear 42 carried by a bracket 43 secured to one of the vertical frame members 11. Through the use of the gears 41 and 43, the planetary rotation of the brushes 35 is effected so that the entire surface or periphery of the line 28 will be engaged by the bristles of the brush 35.

An upper cleaning member, generally designated as 44, is secured to the hollow shaft 38, and comprises a plate 45 having the lower ends of brushes 46 journaled therein. An upper plate 47 engages the upper ends of the brushes 46 and the upper ends of the brushes 46 are also provided with gears 48 meshing with a ring gear 49 carried by a bracket 50. This cleaning member 44 is used in the form of a dry cleaning member or dusting member to initially brush the periphery of the line 28 before it enters the cleaning compound or material disposed in the tank 34.

A second hollow shaft 51 is provided with a bevel gear 52 meshing with a bevel gear 53 secured to the end of the shaft 19 opposite from

the gear 40. The hollow shaft 51 has a plate 54 secured to the lower end thereof and the upper ends of brush members 55 are journaled in this plate 54 in a position about the axial center of the plate 54 and the lower ends of the brush members 55 are journaled in a lower plate 56. The lower ends of the brush members 55 have gears 57 secured thereto meshing with a ring gear 58 carried by a bracket 59 which is fixed to the frame 10. The brush or cleaning member secured to the lower end of the hollow shaft 51 coacts with the brush or cleaning member secured to the lower end of the hollow shaft 38 in cleaning the periphery of the brush, and the brush members 55 act to remove the liquid from the line 28 as it passes upwardly and out of the reservoir 34.

An additional cleaning member in the form of brushes 60 secured to a plate 61 carried by the upper end of the shaft 51 coacts with the brush members 55 in cleaning the periphery of the brush after it leaves the tank 34. The brushes 35 and 55 are preferably adapted to be submerged either wholly or partially in the liquid disposed in the tank 34. The line 28 is adapted to pass vertically and downwardly through the hollow shaft 38 and upwardly through the hollow shaft 51 when the crank handle 16 is disposed on the end of the shaft 14 shown in the drawings. However, this rotation can be reversed by mounting the handle 16 on the opposite end of the shaft 14. The brush members 60 are rotatable relative to the plate 61 being journaled at their lower ends in the plate 61 and are journaled in an upper plate 62.

The brush members 60 have gears 63 on the upper ends thereof which mesh with a ring gear 64 carried by an upper bracket 65. A tank or upper reservoir 66 is mounted on brackets 67 carried by the frame 10 at a point adjacent the upper end of the frame 10, and this tank or reservoir is open on the upper side and has disposed therein a pair of shafts 68 and 69. The shaft 68 has a pair of pulleys 70 mounted thereon for rotation and the shaft 69 has a pair of pulleys 71 mounted thereon for rotation. The pulleys 70 and 71 are preferably partially submerged in a line preserving liquid which is adapted to be placed in the tank 66. The line 28 is trained over the pulleys 70 and 71. A pair of intermediate pulleys 72 are mounted on a shaft 73 disposed between the two shafts 68 and 69 in the tank 66, and this pulley 72 is adapted to have the line 28 trained therebeneath and acts to submerge the line 28 in the preserving liquid disposed in the tank 66. Preferably, only the return run of the line 28 is submerged in the liquid disposed in the tank 66.

In the use and operation of the line cleaning and preserving means herein disclosed, the clothes line 28 is preferably formed of endless construction with the line engaging a remotely disposed sheave or pulley and the line trained over the pulleys 31, 26 and 32. The line 28 is also trained over the pulleys 70, 71 and 72, which latter pulleys are mounted in the preserving liquid receiving tank 66. The crank 16 may be placed on either end of the shaft 14 and this shaft turned, which action will rotate the driven shaft 22 through the gears 24 and 25. The rotation of the shaft 22 will rotate the pulley 26 through the gears 29 and 30, thereby moving the line 28 through the liquid disposed in the tank 34. As the shaft 14 rotates, the line cleaning or brushing members mounted on the hollow shafts 38 and 51 will also be rotated in a planetary movement about the periphery of the line so that the entire surface of the line will be brushed before, during and after submersion of the line in the cleaning tank 34. Where it is desired, in addition to cleaning the line, to coat the line with a preservative, the tank 66 is filled with the desired preserving compound and the line 28 engaged with the pulleys 70, 71 and 72 preferably on the return or outward run of the line so that the line 28 will only be submerged in the liquid in the tank 66 after it has been cleaned by passing through the tank 34.

It is, of course, understood that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims.

What is claimed is:—

1. A device as set forth comprising a frame, a hollow shaft journaled in the frame, means for rotating said shaft, said shaft loosely engaging about a clothes line, a plate fixed to said shaft, a plurality of brush members rotatably mounted on said plate and rotatable therewith, means carried by the frame and the brush members to rotate said brush members in a planetary movement about the clothes line, and a liquid holding tank carried by said frame, said brush members being submerged in a liquid in said tank.

2. A device as set forth comprising a frame, a hollow shaft disposed in the frame and adapted to loosely receive therein a clothes line, means for rotating said shaft, a plate carried by one end of said shaft, a plurality of brush members rotatably engaging said plate, gears carried by the other end of said brush members, a ring gear fixed to said frame and engaging said gears on said brush members to rotate said brush members in a planetary movement about a clothes line extending through said hollow shaft, and a liquid holding tank carried by said frame, said brush members being submerged in a liquid in said tank.

3. A device as set forth comprising a frame, a hollow shaft journaled in said frame, means for rotatably supporting said shaft in said frame, means for rotating said shaft, a pair of plates secured one to each end of said shaft, a plurality of brush members rotatably mounted on each of said plates, a tank supported by the frame and engaging about one of said series of brush members whereby to submerge one of the series of brush members in a cleaning liquid disposed in said tank, means carried by the frame and each of the brush members to rotate the brush members in a planetary movement about a clothes line extending through said hollow shaft, and means for moving a clothes line longitudinally through said hollow shaft.

4. A device as set forth comprising a frame, a pair of hollow shafts rotatably supported in the frame in spaced parallel relation to each other, a pair of brush members carried by each of said hollow shafts one at each end thereof, means for rotating said brush members in a planetary movement about a clothes line extending through said shafts, means for moving a clothes line longitudinally through said shafts,

and a tank carried by the frame and engaging about one pair of brush members whereby to submerge said one pair of brush members in a cleaning liquid disposed in said tank.

5. A device as set forth comprising a frame, a pair of hollow shafts journaled in said frame and disposed in spaced parallel relation to each other and adapted to engage loosely about a clothes line, means for rotating said shafts together, means for drawing the clothes line through said shafts, a pair of line cleaning members carried by each shaft one on each end thereof, said line cleaning members including a plurality of rotatable brush members, and means for rotating said brush members in a planetary movement about the clothes line.

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