Jan. 23, 1951 E. E. DYSON 2,538,865

WASHING MACHINE FOR VENETIAN BLINDS

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Fig. 1.

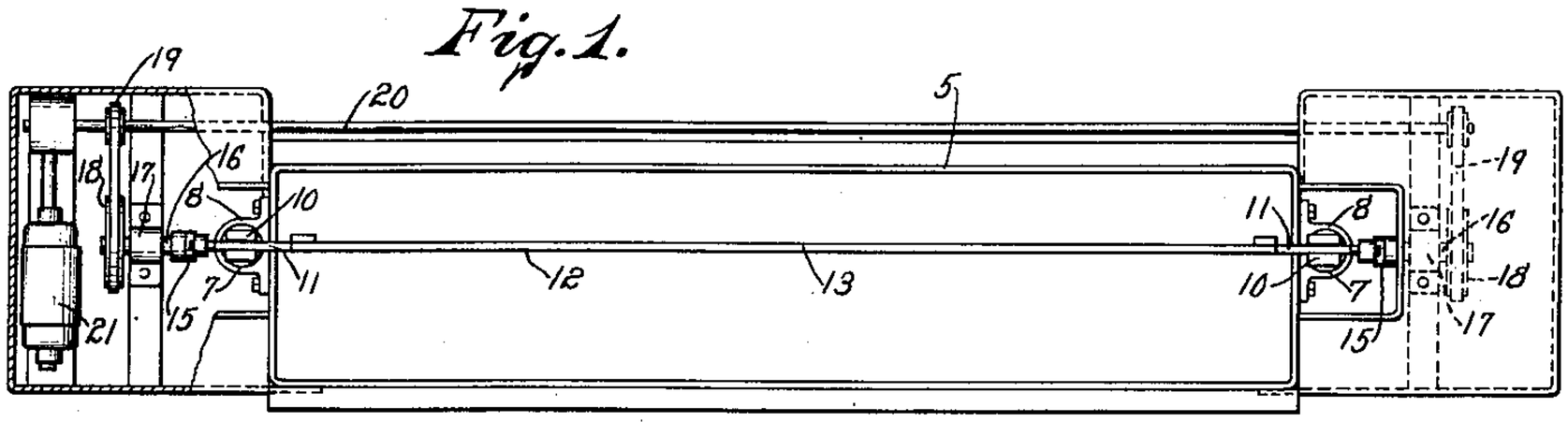

Fig. 2.

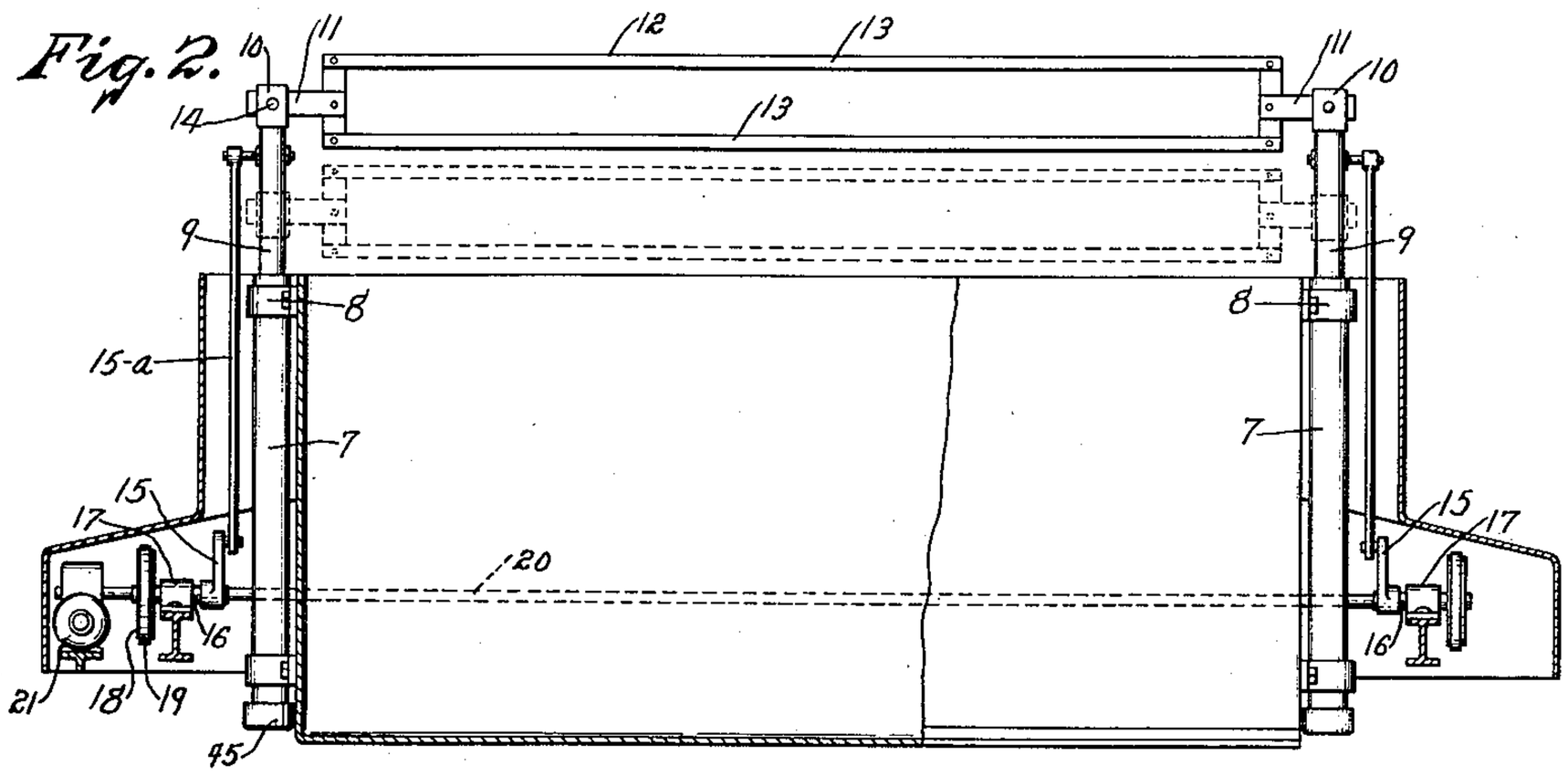

Fig. 3.

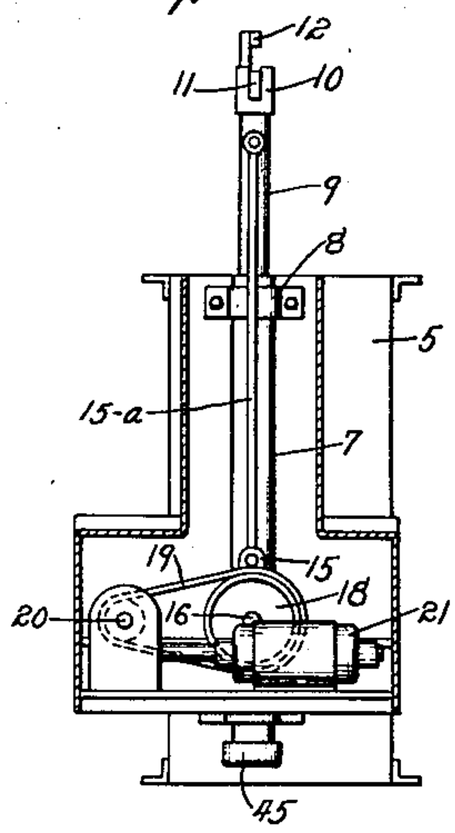

Fig. 4.

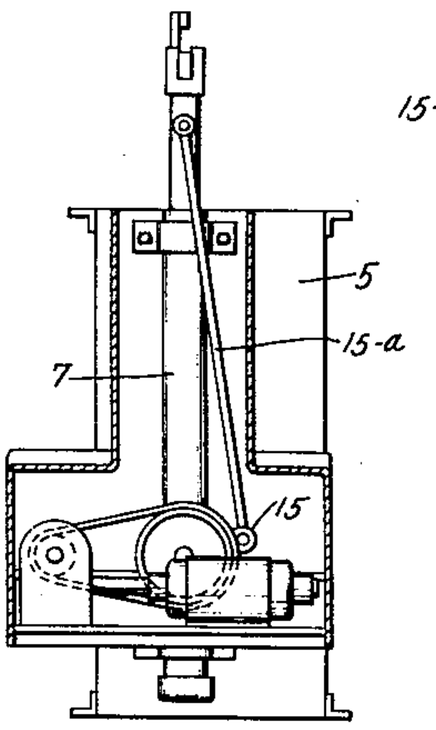

Fig. 5.

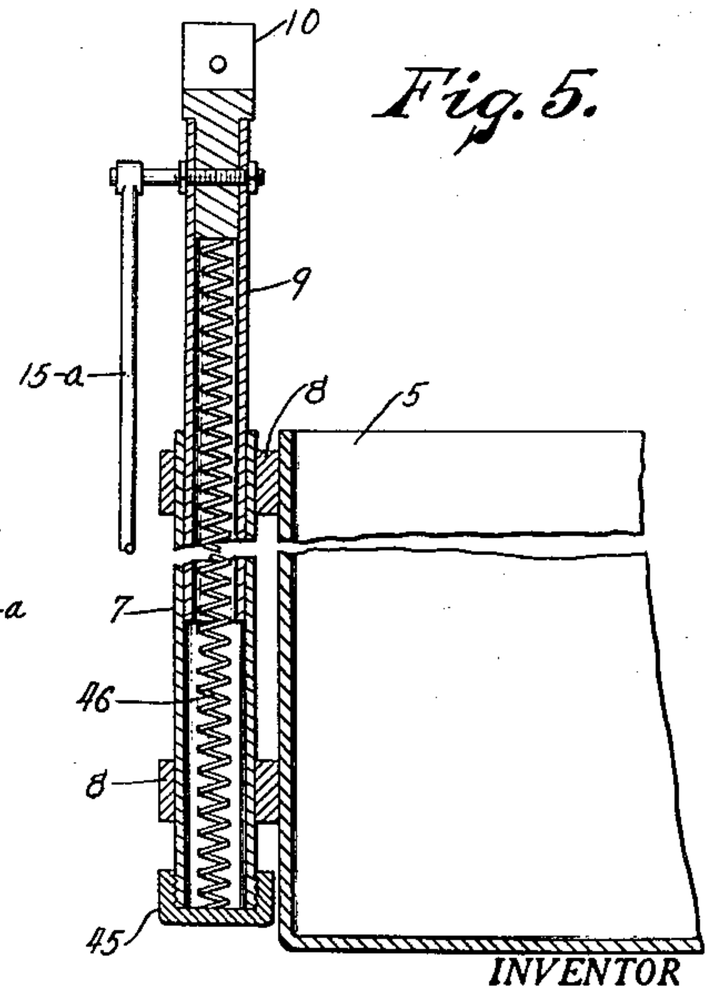

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Fig. 6.

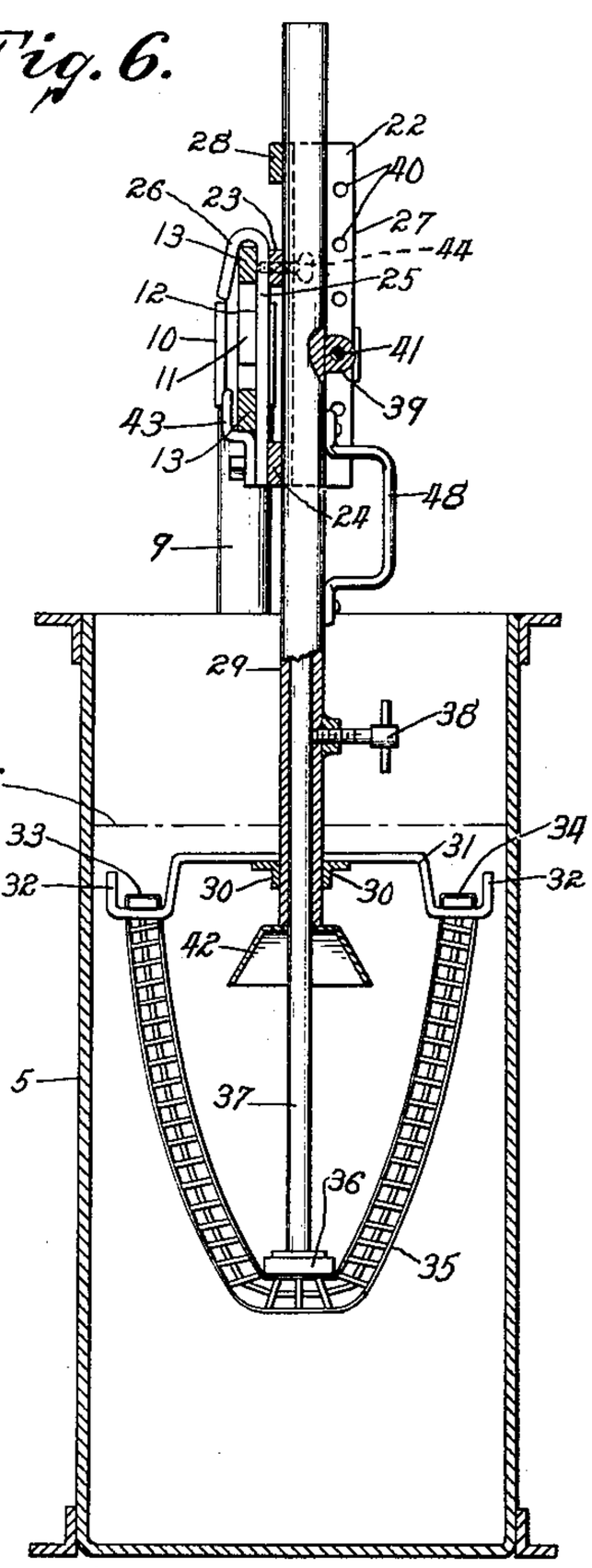
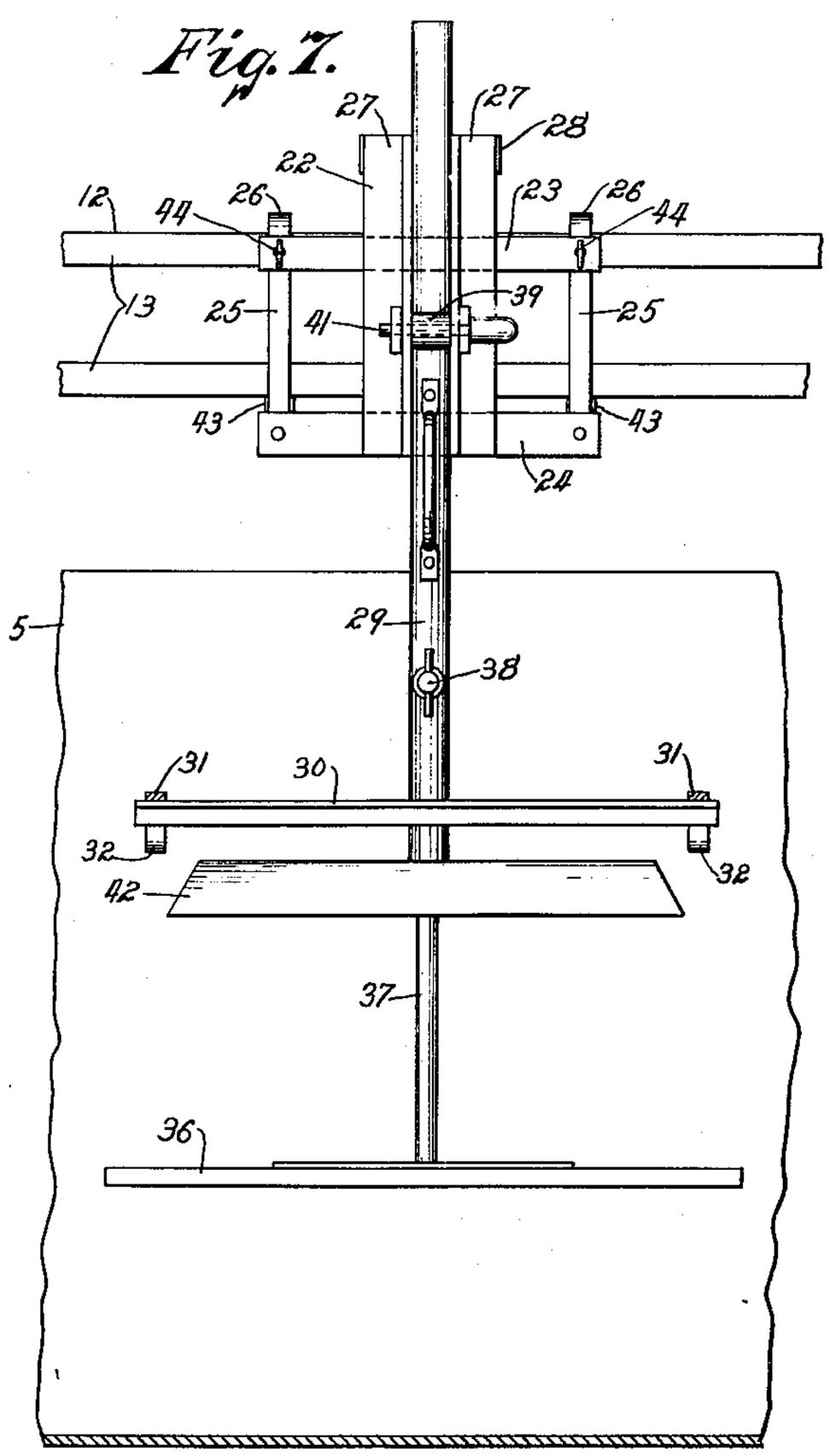


Fig. 7.



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WASHING MACHINE FOR VENETIAN BLINDS

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5 Claims. (Cl. 134—156)

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This invention relates to a washing machine for Venetian blinds and, more particularly, to a machine for washing or cleaning Venetian blinds of different widths and lengths.

The object of this invention is to provide a machine in which one or more Venetian blinds may be mounted to be dipped in a cleaning solution with a reciprocal motion until they are satisfactorily cleaned.

A further object of this invention is to provide a machine with an improved mechanism by means of which the Venetian blinds may be readily mounted in the machine or removed therefrom.

Further objects and advantages of this invention will be more clearly understood from the following description and the acompanying drawing in which:

Fig. 1 is a plan view of a Venetian blind cleaning machine embodying my invention with the blind supporting frame removed.

Fig. 2 is a side view of said machine, with parts thereof broken away to show its construction.

Fig. 3 is an end view of said machine with parts broken away and showing the dipping mechanism in its raised position.

Fig. 4 is a similar view showing the said mechanism in a partly lowered position.

Fig. 5 is an enlarged side view, in central vertical section, of a portion of the end of said machine.

Fig. 6 is an enlarged view of the said machine in vertical section.

Fig. 7 is a front view of a portion of said machine with parts thereof shown in central vertical section.

In the embodiment illustrated in the drawings, a machine embodying my invention may comprise a tank 5 to contain a suitable liquid cleaning solution, preferably to a level indicated at 6. The dipping mechanism provided by my invention may include supports 7—7 which are preferably tubular in form and of which there is one mounted at each end of the machine by means of suitable brackets 8.

Each of said supports has a carrier member 9—9 slidably positioned therein and preferably provided with a yoke 10 at the top thereof to receive a supporting bar 11 of a rack 12 comprising a pair of parallel bars 13—13 which are removably secured to the slide members 9 by means of pins 14.

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In order to provide for vertical reciprocal movement of the said rack 12 there is included, for each slide member 9, a suitable mechanism comprising a crank 15 which is mounted on a crank shaft 16 that rotates in a bearing 17 and is driven by a suitable pulley or sprocket 18 by means of a belt or chain 19 which in turn is driven from a drive shaft 20 that is operated by suitable power means, such as an electric motor 21. The shaft 20 extends to the opposite ends of the machine and drive a similar reciprocating mechanism at both ends so as to move the rack 12 up and down, into both in its raised position and its lowered position which is indicated in dotted lines in Fig. 2.

As illustrated in Figs. 6 and 7, my invention provides hangers 22, each of which comprises a pair of parallel bars 23 and 24 which are secured to a pair of vertically extended hook bars 25—25, each having a hook portion 26 that is adapted to receive the top bar 13 of the rack 12 for supporting the hanger on the rack. A pair of angle bars 27—27 are secured to the parallel bars 23 and 24, and to a tie bar 28, and are spaced apart to receive, between them, a supporting bar 29 which carries a Venetian blind supporting rack that is constructed of a pair of angle bars 30—30 secured at opposite sides of said bar 29 and having supporting bars 31—31 at the opposite ends thereof. The said supporting bars 31—31 have a hook portion 32, at each end thereof, to receive the top and bottom bars 33 and 34 of a Venetian blind, as indicated at 35, which, as shown in Fig. 6, is hung on said bars 31—31.

A positioning bar 36 is provided at the end of a shaft 37 which telescopes into the supporting bar 29 and is adjustable therein by means of a suitable adjusting screw 38.

The said supporting bar 29 is provided with a boss 39 having a hole extending transversely therethrough, and the angle bars 27—27 are provided with a series of openings 40 which register with the hole in the boss 39 so that a supporting pin 41 may be inserted through said openings 40 and the hole in said boss for adjustably mounting the bar 29 on the hangers 22.

The said supporting bar 29 is provided, at the bottom thereof, with an elongated inverted agitator cup 42 for the purpose to be hereinafter described.

The hanger 22 is retained on the rack 12 by

means of retaining clips 43 which are secured to the bar 24 of the hanger and engage the lower bar 13 of the rack. The said hanger is secured against lateral movement on said rack by means of clamping screws 44—44 which extend through the bar 23 and the vertical bars 25—25 and are threaded thereto so that they may be turned against the bar 33 and thereby clamp the hanger in position.

As illustrated in Fig. 5 of the drawings, it will be noted that the bottoms of the support members 7—7 are each provided with a cap 45 and a spring member 46 is mounted within each member 7, between the cap 45 and the top of the sliding member 9, to urge each sliding member 9 upwardly and thereby apply a lifting action to the rack 12 to counterbalance the weight of the Venetian blinds thereon, and provide for smoother operation of the driving mechanism of the machine.

In the operation of my improved washing machine, the Venetian blinds are first mounted upon the supporting bars 31—31 of the hanger racks by inserting the upper and lower bars 33 and 34 of each Venetian blind in the hook portions 32—32. The positioning bar 36 is then adjusted in the supporting bar 29 to retain the Venetian blind in position by engaging the middle of the blind to hold it downwardly so that the blind will not float upwardly when submerged into the liquid which is contained within the tank 5.

The supporting bar 29, with the Venetian blind hung thereon, is then placed between the bars 27—27 of the hanger 22 and the supporting pin 41 is inserted, through holes 40, and the hole in the boss 39, to support the Venetian blind at the desired plane within the tank 5. It will be noted that a handle 48 is provided on the bar 29 to facilitate handling it while placing it onto the hanger or removing it therefrom.

After the Venetian blinds which are to be washed are hung on the rack 12, the machine is operated by energizing the motor 21. This will cause motion of the cranks 15—15 which, through their respective connecting rods 15-*a*, will apply a reciprocal vertical movement to the slide carrier members 9—9 and the rack 12, and thereby cause the Venetian blinds to be dipped up and down in the liquid solution within the tank 5. During this vertical reciprocal motion of the Venetian blinds, the agitator cup 22 will act to agitate the liquid in the tank to create a turbulence therein which will cause the said liquid to flow between the slats of the Venetian blinds and therefore increase the washing efficiency of the machine.

When the washing operation has been completed, the blinds may be readily removed from the machine by simply pulling out the pin 41 and lifting the bar 29 from the hanger.

I claim:

1. A Venetian blind washing machine of the character described comprising an elongated tank for containing a liquid washing solution, a rack extending along and over the top of said tank, a hanger adjustably secured on and along said rack; said hanger including a pair of spaced vertically extending bars having a hooked portion at the upper ends thereof adapted to engage said rack, transverse spaced parallel bars secured to said vertical bars, a pair of spaced vertically extending angle bars secured to said transverse bars, a supporting bar set between said angle bars, the said supporting bar having a boss thereon with an opening extending transversely therethrough, the said vertical angle bars having a series of openings extending therethrough and adapted to receive a pin extending through said boss for adjustably mounting the said supporting bar at different positions on said hanger, means for hanging a Venetian blind on said supporting bar including an elongated transverse bar secured to said supporting bar, a pair of spaced hooks at each end and at opposite sides of said transverse bar adapted to receive the top and bottom bars of a Venetian blind and to suspend said Venetian blind with its intermediate portion suspended downwardly within said tank, a positioning bar adjustable vertically on the supporting bar and engaging the intermediate portion of said Venetian blind to retain it in position to be submerged in said liquid solution, and means for applying reciprocal vertical movement to said rack for moving the Venetian blind up and down in the said liquid solution.

2. A Venetian blind washing machine as set forth in claim 1, wherein there is provided means, at the bottom of said supporting bar, for agitating the said liquid solution during the up and down movement of the Venetian blind.

3. A Venetian blind washing machine as set forth in claim 1, wherein there is provided means, above the intermediate portion of the Venetian blind and in close proximity thereto, for agitating the said liquid solution and causing a turbulence in the said tank for accelerating the movement of the liquid washing solution through the slats of the Venetian blind.

4. A Venetian blind washing machine of the character described comprising an elongated tank for containing a liquid solution therein, a rack comprising a pair of vertically spaced parallel bars extending over and along the top of said tank, a hanger adjustably mounted on said bars, a supporting member, means for vertically adjustably securing said supporting member to said hanger, means on said supporting member for suspending a Venetian blind therefrom with the intermediate portion of said blind depending downwardly, a bar vertically adjustable on said supporting member, a horizontal bar at the end of said supporting bar engaging the intermediate section of the Venetian blind and retaining it in position to prevent flotation thereof when the Venetian blind is submerged in said liquid, means at the end of said supporting member for agitating the liquid to create a turbulence therein for accelerating the movement thereof through the slats of the Venetian blind, and means for applying vertical reciprocal movement to said rack to thereby move the Venetian blind up and down in said solution.

5. A Venetian blind washing machine of the character described comprising a tank for containing a liquid washing solution therein, an elongated tubular member mounted at each end of said tank, a carrier member vertically slidable in each of said tubular members, a spring within each of said tubular members for urging said carriers upwardly, a crank at each end of said tank, a connecting rod between each of said cranks and its respective carrier member, a common drive shaft extending exteriorly of said tank to the opposite ends thereof for driving said cranks, a motor for driving said shaft, a rack including a pair of parallel spaced bars extending over and along the top of said tank and mounted on the said carrier members, a hanger mounted on said rack, means for adjustably se-

curing said hanger along said rack, a supporting member secured to said hanger and vertically adjustable thereon to different planes, and means on said supporting member for receiving the opposite ends of the bars at the top and bottom of a Venetian blind, to suspend the said Venetian blind within the said tank.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
586,858	Mesta	July 20, 1897
672,788	Lieber et al.	Apr. 23, 1901
1,555,837	Dudley	Oct. 6, 1925
1,787,820	Haines	Jan. 6, 1931
1,816,393	Morris	July 28, 1931
1,871,339	Pearson	Aug. 9, 1932
2,019,206	Williams	Oct. 29, 1935
2,050,649	Davies	Aug. 11, 1936
2,410,934	French	Nov. 12, 1946
2,443,859	Jacobs	June 22, 1948