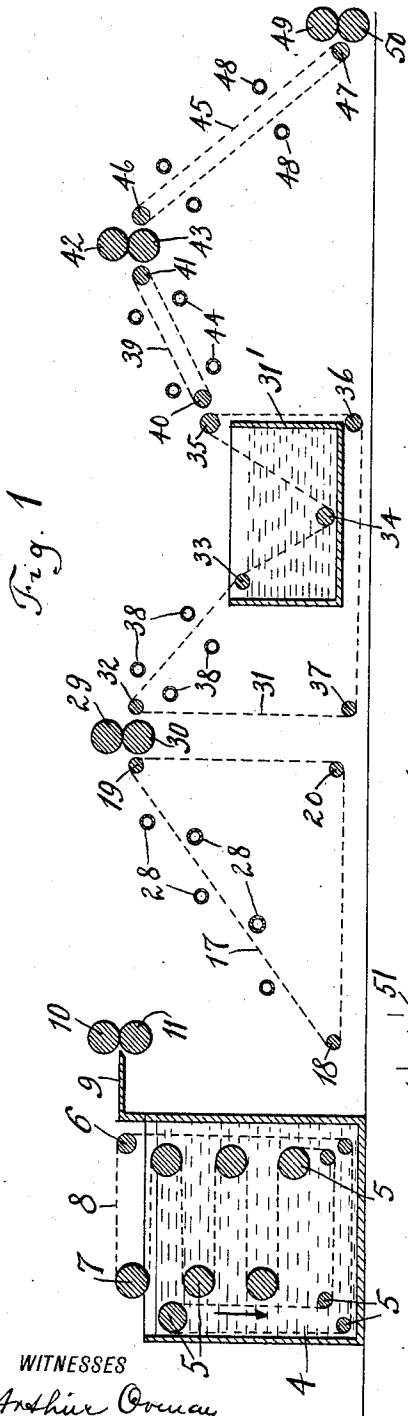


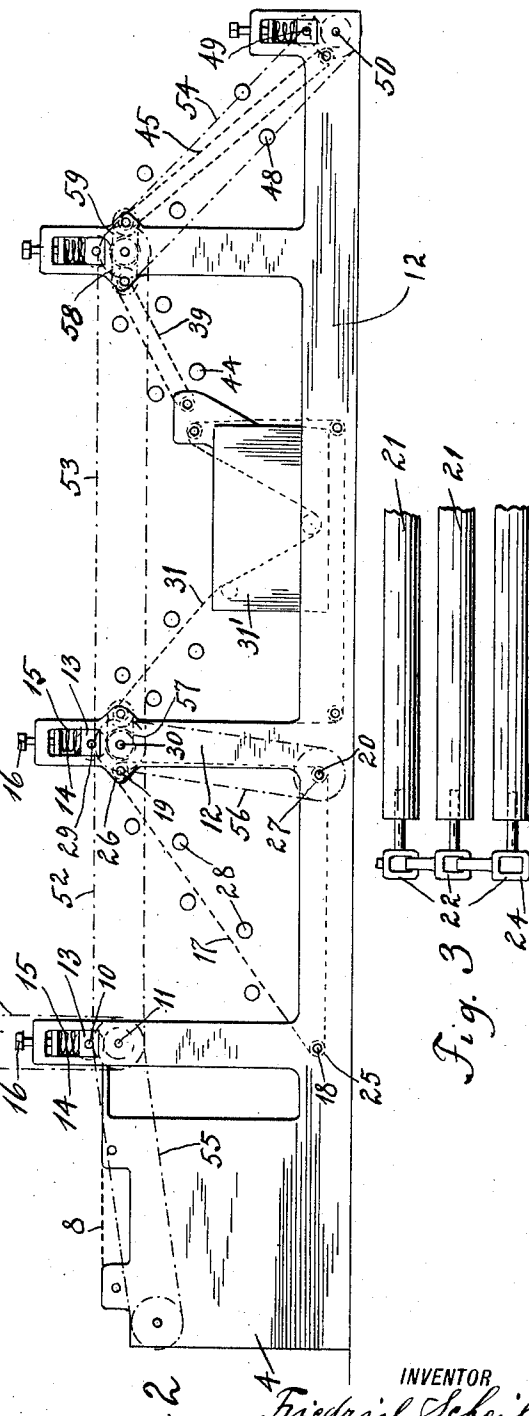
F. SCHEIL.
RUG FINISHING MACHINE.
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1,040,024.

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WITNESSES
Arthur Conway
S. Birnbaum



INVENTOR
Friedrich Scheil
BY
Samuel H. Hays
his ATTORNEY

UNITED STATES PATENT OFFICE.

FRIEDRICH SCHEIL, OF JERSEY CITY, NEW JERSEY.

RUG-FINISHING MACHINE.

1,040,024.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRIEDRICH SCHEIL, a citizen of the United States, and resident of Greenville, Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Rug-Finishing Machines, of which the following is a specification.

The present invention relates to rug finishing machines, and more particularly to a machine of this general character, which is adapted to operate as well upon newly woven as upon old rugs, plain or figured.

Oriental rugs of Turkish or Persian origin are, when leaving the loom, of bright but mostly of raw and harsh colors, which in most of the cases do not meet the artistic requirement of the present day conception of decorative color treatment. Of course, these raw and harsh colors become under the influence of time softer and enriched, and the rug will then have subdued tones and a silky sheen, which is a characteristic of the old oriental rug. Obviously years and years elapse until these changes in the colors of the rug are brought about.

To bring about the desired chromatic changes more expeditiously, and on the other hand, to soften the raw and harsh colors of the new rug, the same is subjected to a well known process, whereby rugs are treated with chemicals, effecting the desired changes, and then washed in order to remove the chemicals to prevent injury to the pile of the rug.

Heretofore the rugs had been finished by hand in a number of separate apparatus, requiring a considerable time and skilled mechanics.

It is now the object of the present invention to provide a rug finishing machine, which is of simple and inexpensive nature and which unites the different steps of the treatment in one continuous process.

Another object of the invention is to provide a machine of the character specified, whereby the progress of the treatment of the rugs in the trough, containing the chemicals, may be observed without stopping the operation of the apparatus.

A further object of the invention is to provide a machine of the character above mentioned, which removes the chemicals

used in the treatment in an efficient manner, whereby injury to the rug is prevented.

Other objects will be apparent from a reading of the specification and an inspection of the drawings, forming part of the present application for Letters Patent.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a diagrammatic sectional view of the apparatus constructed in accordance with this invention, Fig. 2 is a side elevation of the apparatus, and Fig 3 illustrates a detail of construction.

The different steps of the process of finishing the rugs may be specified as follows:

First: The rugs are treated with chemicals in order to soften the raw and harsh colors; chiefly soap powder, soda-ash, caustic soda, muriatic acid and sulfuric acid are used for the various preparations with which the rugs are treated. Under this treatment the bright, harsh colors are softened into delicate tones, whereby the whole rug assumes a richness, suggestive of classic maturity,

Second: After this treatment the rugs are thoroughly washed so as to remove the chemicals adhering to the fabric.

Third: The rug is drawn through a weak solution of bleaching liquids, such as chlorid of lime, whereby the colors are still more softened and, on the other hand, foreign matter not soluble in water is removed from the fabric.

Fourth: The fabric is again washed and rinsed and fifth, the surplus water is squeezed out of the same after which the rug is dried.

The apparatus for carrying out this process consists, therefore, of two or more troughs or vats, containing chemicals, washing and rinsing means, and of a plurality of wringer roller sets.

In the drawings, 4 indicates a tank or vat, containing a solution of one or more of the chemicals above referred to and used for treating the rug, and provided with a plurality of guide rollers, such as 5, 5, arranged horizontally, and journaled in the sides of the tank. Rollers 6 and 7 are journaled in a supporting frame above the tank, for a purpose hereinafter to be described. An endless apron 8 travels

over these rollers. Following the course of the apron in the direction of the arrow, it will be seen that a rug fastened to this apron in any suitable manner, such as, for instance, by means of clothes pins, will pass down near to the bottom of the tank, and thence travel in lines parallel to the bottom of the tank until it reaches the roller 7, after which it travels toward the roller 6. Reaching this roller, the rug passes again down to the bottom of the tank and back to its starting point to follow again the course described. The rollers 6 and 7 are arranged above the tank and thus above the level of the liquid, in order to allow the operator to examine the rug, as the same travels from the roller 7 to the roller 6, without stopping the operation of the machine.

Should the operator consider the treatment not to be sufficient when the rug travels over the roller 7 for the first time, the same is allowed to pass down again from the roller 6 to the bottom of the tank and take its whole course again. Should, however, the treatment be sufficient after the first cycle, then the fastening means, such as clothes pins, are disengaged from the endless apron, whereby the rug will pass to the platform 9, arranged on the side of the tank, which directs the course of the rug toward the wringer rollers 10 and 11, whereby the chemicals are squeezed out of the rug.

The wringer rollers are journaled in the side frame 12 of the apparatus, and more particularly, the lower roller 11 is journaled in said frame, while the upper roller 10 is journaled in movable boxes 13, for which guide-recesses 14 are provided in said frame. Springs 15 are arranged to bear at their ends against the journal boxes 13 and the tension screws 16, which are provided to adjust the pressure of the rollers upon the rug.

The wringer rollers 10 and 11, having squeezed out the chemicals, feed the rug to an endless apron 17, traveling over guide rollers 18, 19 and 20. This endless apron is, as shown in Fig. 3 of the drawings, composed of slats 21, connected at their ends to the links 22 of a sprocket chain 24. The rollers 18, 19 and 20 are provided with sprocket wheels 25, 26 and 27, respectively, at their ends to receive the sprocket chains 24. As the rug travels upon this apron toward the roller 19, the same is rinsed by means of sprinkler pipes 28, which are arranged above and under the apron, whereby both sides of the rug will be thoroughly rinsed with water.

These pipes 28 extend through the whole width of the apparatus and are perforated throughout their length with a series of small holes, through which the liquid escapes in a series of fine jets. Obviously the pipes may lead from any suitable reservoir

or may be connected to the street main. The apron 17 carries the rug to a pair of wringer rollers 29 and 30, arranged in the frame of the apparatus in a similar manner as the wringer rollers 10 and 11, hereinbefore described. From the wringer rollers 29 and 30 the rug passes to an endless apron 31, traveling over guide rollers 32, 33, 34, 35, 36 and 37, whereby the rug is carried through a tank 31', containing a weak solution of chlorid of lime. The sprinklers 38, arranged between the rollers 32 and 33 on both sides of the apron 31, thoroughly wet the rug, in order that the same be more readily saturated with the chlorid of lime. From the apron 31 the rug passes to the apron 39, guided by the rollers 40 and 41, and travels thus within the reach of the wringer rollers 42 and 43. In traveling upon the apron 39 the rug is again thoroughly rinsed by the sprinkler pipes 44, and then, passing between the rollers 42 and 43, the surplus bleaching liquid and water is squeezed out, after which the rug is delivered to the endless apron 45, carried by the guide rollers 46 and 47. The sprinkler pipes 48 wash and rinse the rug as it is conveyed by the apron 45 to the last pair of wringer rollers 49 and 50. Having passed between these rollers, the rug is carried to a suitable place for drying or to another machine for further operation.

The aprons 17, 31, 39 and 45 are of the same construction and their guide rollers are all journaled in the side frame of the apparatus. Rotation is imparted to the wringer rollers and the guide rollers of the aprons from any suitable source of power by a sprocket chain 51, engaging a sprocket wheel mounted upon the wringer roller 11. The wringer roller 11 imparts rotation to the wringer roller 30 by means of a sprocket chain 52, engaging sprocket wheels on said rollers. The wringer roller 30 is in a similar manner connected by chain 53 to wringer roller 43, which in turn imparts rotation by means of the chain 54 to the wringer roller 50. The roller 11 furthermore is connected by means of the chain 55 with one of the rollers 5 of the apron 8, while roller 30 is connected by chains 56 and 57 with the rollers 20 and 32 of the aprons 17 and 31, respectively. In a similar manner roller 43 imparts rotation through the chains 58 and 59 to the rollers 41 and 46 of the aprons 39 and 45, respectively.

The operation of the device is obvious from the foregoing description.

Special care must be taken, that after the treatment with the chemicals the rug should be thoroughly washed and rinsed, and, therefore, as many sprinkler pipes as possible should be located above and below the aprons, since otherwise the fabric will be injured by the chemicals left in the rug.

It is obvious that many minor changes may be made in the construction and arrangement of the several parts of the machine without departing from the spirit and scope of the invention.

What I claim is:

In an apparatus for finishing rugs, the combination with a tank, of a platform arranged on the side thereof, a plurality of rollers journaled therein, a plurality of rollers arranged above said tank in the plane of said platform, and a single endless apron passing over said rollers and above

said tank in the plane of said platform, whereby the rug fastened to said endless apron may be viewed as it travels outside of said tank substantially throughout the width of the latter toward said platform.

Signed at New York, in the county of New York and State of New York, this 14th day of September, A. D. 1908.

FRIEDRICH SCHEIL.

Witnesses:

SIGMUND HERZOG,
M. FRIEDLANDER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."