March 8, 1927. 1,619,814

E. F. FISHER

FABRIC RENOVATING MACHINE

Filed May 13, 1925

Fig. 1.

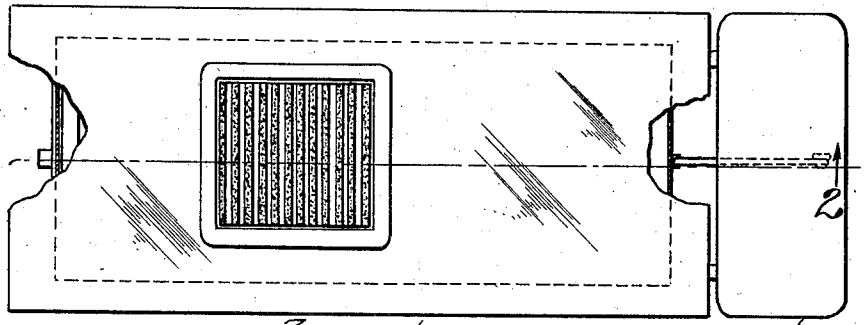


Fig. 2.

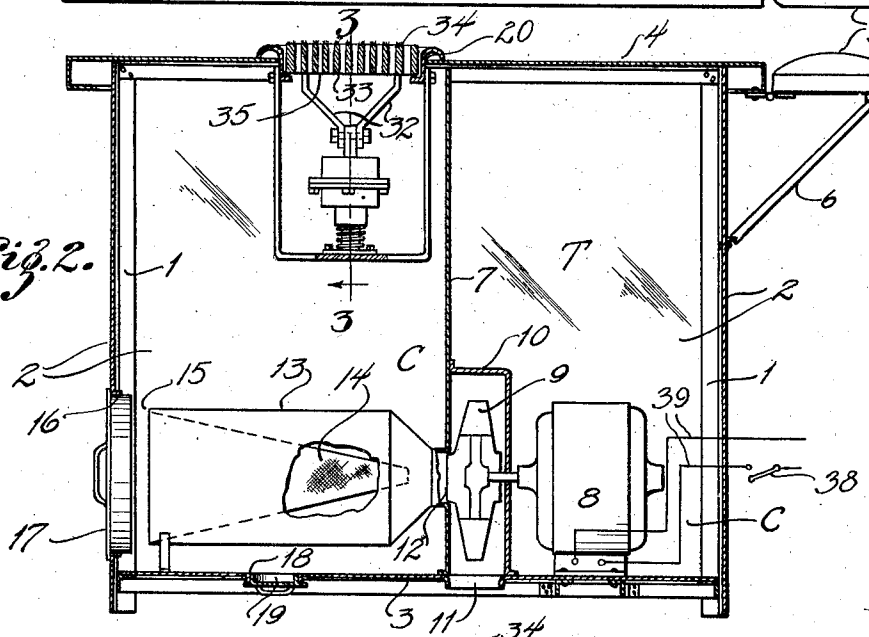
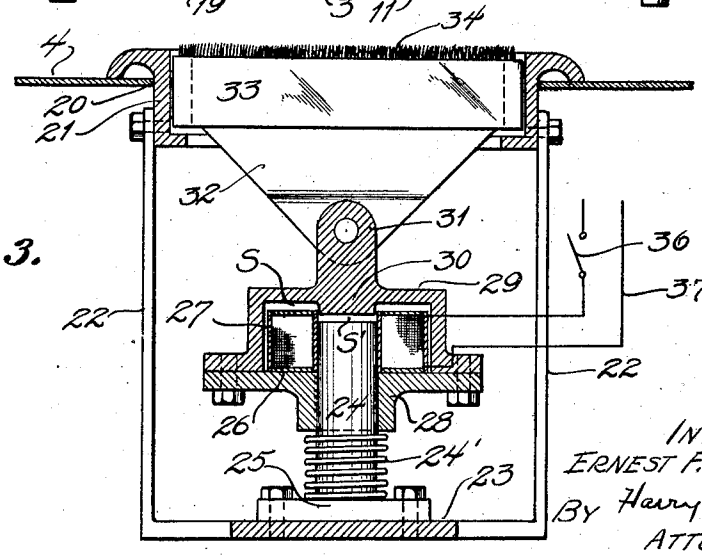


Fig. 3.



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UNITED STATES PATENT OFFICE.

ERNEST F. FISHER, OF ST. LOUIS, MISSOURI.

FABRIC-RENOVATING MACHINE.

Application filed May 13, 1925. Serial No. 30,133.

My invention has relation to improvements in fabric renovating machines, and consists in the novel features of construction more fully set forth in the specification and pointed out in the claims.

The object of the invention is to dislodge dust and grit from the fabric (garment or other fabric) by combined suction and agitation of the fabric in a manner that will not injure the warp and woof thereof. This is done by applying a gentle vibratory action to the fabric and at the same time applying the air suction to remove dislodged particles of dirt. A further object of the invention is to restore the nap of the fabric by distending and raising some of the threads that make up its warp and woof. Further advantages will be better apparent from a detailed description of the invention in connection with the accompanying drawings, in which—

Figure 1 is a top plan of the renovating table showing the vibrating brush mounted therein; Fig. 2 is a middle, vertical, longitudinal section taken on the line 2—2 of Fig. 1, with parts in elevation; Fig. 3 is an enlarged vertical sectional detail of the brush and mechanism for vibrating the same taken on the line 3—3 of Fig 2.

Referring to the drawings, T represents a table made up of a structural steel frame 1 to which sheet metal sides 2, 2 and bottom 3 are secured. A sheet metal top 4 is mounted on the frame 1 and a spotting pad 5 is hinged to one side of the top 4, said pad having a brace 6 extending beneath it to the side 2 of the table to secure it in raised position when in use. A partition 7 divides the table interior into two compartments C and C′, an electric motor 8 being mounted in the former compartment as well as a fan 9 to which the motor is directly connected, the fan being further enclosed by a housing 10 which has an air outlet 11 in the bottom 3 of the table. The fan housing 10 has an inlet opening 12 leading to compartment C′ to which is connected a cylindrical casing 13 having a conical dust bag 14 secured to its outer edge 15 and projecting into the casing 13. In the side 2 of the table opposite the dust bag 14 is a cleanout opening 16 provided with a closure plate 17. There is also a cleanout opening 18 having a closure plate 19, in the bottom 3 beneath the casing 13 to remove such heavy particles of dust or grit as might drop to the bottom as will hereinafter more fully appear. An opening 20 is provided in the top 4, said opening communicating with compartment C′ and having a brush frame 21 set into it, and supported by the frame 21 are a plurality of depending arms 22 connected by a bottom plate 23. An iron core 24, terminating in a base 25 is mounted by means of said base on the plate 23 and an induction coil 26 is fixed on the upper end of said core. An armature 27 comprising a guide plate 28 and a top plate 29 is mounted over the core 24, there being a space s between plate 29 and the coil 26, and a space s' between an inwardly projecting boss 30 and core 24 to permit movement of the armature downwardly when in the position shown, (Fig. 3) in the drawings. A coiled spring 24′ is positioned over core 24 and adapted to exert pressure upwardly on the armature. The plate 29 carries a lug 31 on its upper face to which are secured a pair of brackets 32, 32 which carry on their upper ends a brush B composed of a plurality of bars 33 in spaced relation, each of said bars having a multiplicity of small bristles 34 projecting upwardly from it. Thus each bar 33 with its bristles constitutes an independent brush although all of the bars are suitably secured together to form a more efficient renovating agency together with the air that passes down through the spaces 35 between bars 33. A switch 36 (of any well known design) is inserted in one of the coil leads 37, 37 so that the energy to the coil can be instantly cut off when desired. The switch 36 would preferably be placed somewhere on the table T where handy.

The motor 8 is controlled independently of the armature 27 by a switch 38 (preferably on the side 2 of the table T) in one of the motor leads 39, 39.

The operation of my invention may now be described as follows:

A garment to be renovated is placed on the table T and the motor 8 started by closing switch 38, whereupon air will be sucked downwardly through opening 20 and through the bag 14 by the fan 9. The switch 36 is now closed, which sends an alternating current through coil 26 alternately repelling and attracting armature 29, which, together with spring 24′, causes this armature to vibrate rapidly in a vertical direction. This vibratory motion is, of

course, imparted to brush B, and the garment, being gently passed over the brush, is pierced periodically by the brush bristles and at the same time subjected to the air suction caused by the fan 9. The combined vibratory action of the bristles on the fabric and suction through it dislodges and carries away the dust and grit that was enmeshed in the fabric. The vibration of the brush in a plane perpendicular to the plane of the fabric distends the warp and woof and effectively loosens the dust and grit. The nap is not disturbed, except to be slightly raised (which is an advantage) and the warp and woof is unharmed.

The present application is a continuation in part of my application, Serial No. 669,615 filed October 19, 1923, which I have now abandoned in favor of this application.

Having described my invention, I claim:

1. A fabric renovating machine comprising a table for the support of the fabric, said table being provided with an opening, a movable brush therein, brush actuating mechanism for projecting the brush through the opening in the table and withdrawing the same, said mechanism comprising an armature for the support of the brush, and means for setting up an alternating field for vibrating said armature.

2. A fabric renovating machine comprising a table for the support of the fabric, said table having a dust collecting compartment, an opening in the table communicating with the dust collecting compartment, a vibratory brush in said opening, and mechanism for actuating the brush and causing said brush to be effective on the fabric to penetrate the same, electric actuating means for said brush, a fan in the dust collecting compartment, and means for operating the fan independently of the means for actuating the brush.

In testimony whereof I hereunto affix my signature.

ERNEST F. FISHER.