

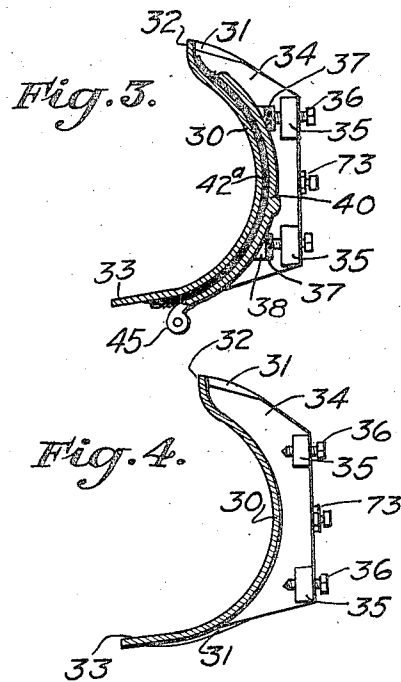
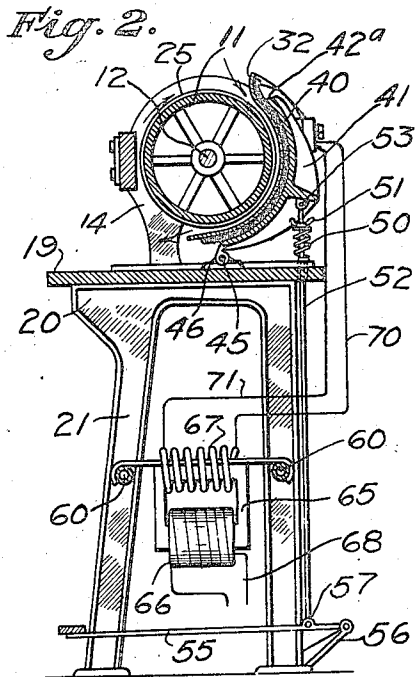
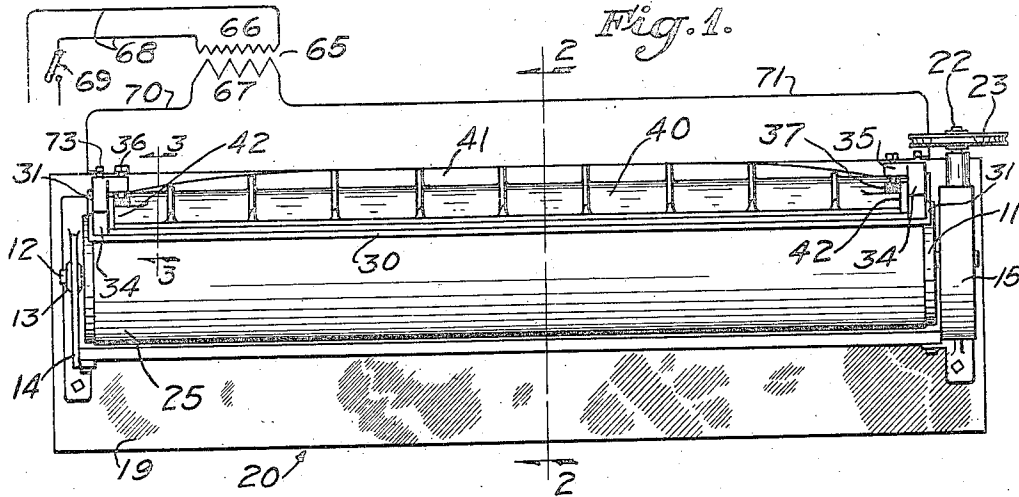
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H. H. FOGWELL ET AL

IRONING MACHINE

Filed March 5, 1921



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UNITED STATES PATENT OFFICE.

HARRISON H. FOGWELL AND CHARLES J. HEISER, OF LOS ANGELES, CALIFORNIA, AS-
SIGNORS OF TWO-THIRDS TO JOHN N. VAN PATTEN, OF LOS ANGELES, CALIFORNIA,
AND ONE-THIRD TO SAID HEISER.

IRONING MACHINE.

Application filed March 5, 1921. Serial No. 449,668.

To all whom it may concern:

Be it known that we, HARRISON H. FOGWELL and CHARLES J. HEISER, both citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Ironing Machines, of which the following is a specification.

This invention relates to machinery used to smooth or iron fabrics by bringing them into pressured contact with heated surfaces, and particularly to that type in which the material to be ironed is carried around a revolving roller and presented in wiping contact to a stationary heated plate.

It is the object of this invention to provide such a machine in which the plate member is electrically heated and which plate member comprises in itself a homogeneous electric heating element, thereby presenting simplified and novel constructional features and their accompanying reduced manufacturing costs.

Further objects will become evident in the following specification and the accompanying drawing which is for illustrative purposes only and presents merely an embodiment of our invention.

Referring to the drawing:

Fig. 1 is a plan view of the construction we employ, the electric connections in which are shown diagrammatically.

Fig. 2 is a cross-section taken upon the line 2—2 of Fig. 1.

Fig. 3 is a cross-section on a plane represented by the line 3—3 of Fig. 1 showing the heating element and its reinforcing plate and illustrates the manner in which same are maintained in working relationship.

Fig. 4 is a section similar to Fig. 3, but with the reinforcing plate removed.

A roller 11 is rigidly mounted upon a shaft 12 having bearing 13 in the supporting bracket 14 and also in the drive housing 15 which rest upon the top 19 of the table 20 and is supported at a suitable height by the legs 21. The drive mechanism is preferably of the worm and gear type and is driven through the shaft 22 on which is mounted a sheave 23 which may be revolved by connection with any suitable source of power.

In this type of apparatus, it is generally desirable to cover the feed roller 11 with some heavy fabric 25 to better engage the

materials to be ironed, and the same may be also suitably padded to provide a certain amount of resiliency in the surface to care for the difference in thickness of the materials being ironed.

In the provision of an ironing plate which will in itself comprise the heating element, it is desirable to employ an alloy which is slow oxidizing, such as Monel metal. This ironing plate 30 is formed concentric with the feed roller 11 and is turned back at the ends as indicated at 31, and lips 32 and 33 are provided to facilitate the passage of the materials between the feed roller and the heating element.

At the two extremities of the ironing plate 30 and adjacent to the turned ends 31 are placed the copper lugs 34 having inwardly extending portions 35 in which are located the screws 36. The supporting plate 40 is suitably reinforced by the web structure 41, and is contoured to allow the application of a layer of sheet asbestos, or any suitable heat and electric insulation 42^a such as sheet asbestos between the plate 40 and the ironing plate 30. The plate 40 is of such length as to give sufficient clearance between its ends 42 and the lugs 34 to insulate the extremely low potential used.

The lower extremity of the plate 40 is hinged at 45 to a bracket 46 mounted on the table top 19 and the heating element is maintained in close relationship to the feed roller 11 by the spring 50 which acts upwardly against a flanged wing nut 51 in screw-threaded contact with and mounted upon a rod 52 which is pivotally connected at 53 with the supporting plate 40. The degree of pressure maintained between the feed roller 11 and the heating element 30 is easily adjusted by screwing the wing nut 51 either upwardly or downwardly as the condition may require.

When starting the pieces to be ironed, it is generally desirable to withdraw the heating element slightly from the feed roller so that the edges of the material to be ironed may be easily inserted. This is accomplished by the use of the foot-pedal 55 hinged to brackets 56 and to the lower extremity of the rod 52 as at 57. By depressing the foot-pedal 55, the rod 52 is lowered against the action of the spring 50 and the plate 40 caused to act around the point of hinge 45

thereby bringing the heating element into a position away from the feed roller and leaving a space into which the edges of the materials may be easily fed.

5 Mounted on the cross-bars 60 we employ a transformer 65 having a primary winding 66 and a secondary winding 67. Current is supplied at any convenient voltage through the line 68 in which is located a switch 69, 10 and is transformed to low voltage in the secondary coil 67 from whence it is carried through the ironing plate 30 by the leads 70 and 71 which connect to the terminals 73 of the lugs 34.

15 Screws 36 bear upon insulation pads 37 mounted upon lugs 38 formed on the supporting plate 40 and hold the different parts of the structure together.

Our invention comprises broadly the idea 20 of providing an ironing plate in an ironing machine which is pressed directly against the material to be ironed and which is heated by passing a low potential current directly therethrough. It further comprises the 25 idea of mounting this plate against a heat insulating backing so that a large part of the heat generated in the ironing plate is applied directly to the goods to be ironed. It further comprises the idea of using as an 30 ironing plate a sheet of material which is slow oxidizing.

We claim as our invention:

1. In an ironing machine, the combina-

tion of: a roller; an ironing plate cooperating with said roller; a transformer having a 35 primary and a secondary winding; means for passing an electric current from said secondary winding through said ironing plate; and means for connecting said primary to an external circuit. 40

2. In an ironing machine, the combination of: a roller; an ironing plate cooperating with said roller; a backing plate supporting said ironing plate; and means for 45 passing an electric current, of sufficient strength to heat said plate, through said ironing plate.

3. In an ironing machine, the combination of: a roller; an ironing plate cooperating with said roller; a backing plate supporting 50 said ironing plate; a transformer having a primary and a secondary winding; means for passing an electric current from said secondary winding through said ironing plate, and means for connecting said primary to 55 an external circuit.

4. An electric heating element comprising a plate having a cylindrical surface formed on one side thereof; and means for passing electric current directly through said plate 60 for the purpose of heating the same.

In testimony whereof, we have hereunto set our hands at Los Angeles, California, this 25th day of February 1921.

HARRISON H. FOGWELL.
CHARLES J. HEISER.