A. L. CARRON.

GLOVE AND MITTEN FORM.

APPLICATION FILED SEPT. 23, 1912.

1,102,224. Patented June 30, 1914.

FIG. 1.

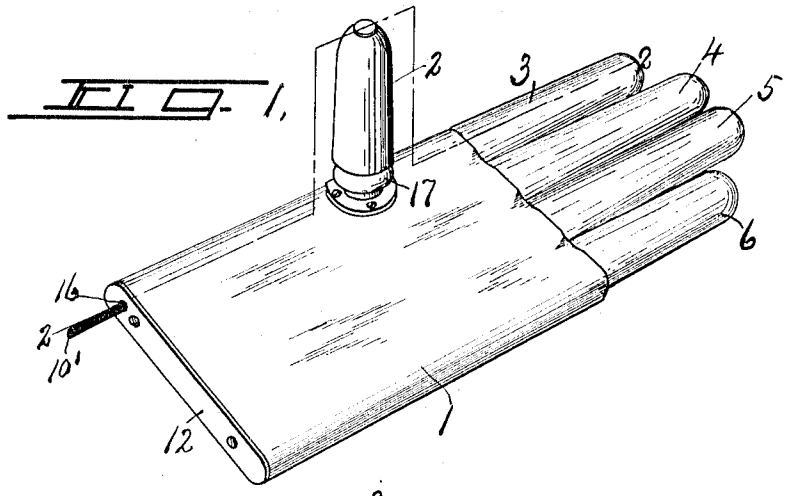


FIG. 2.

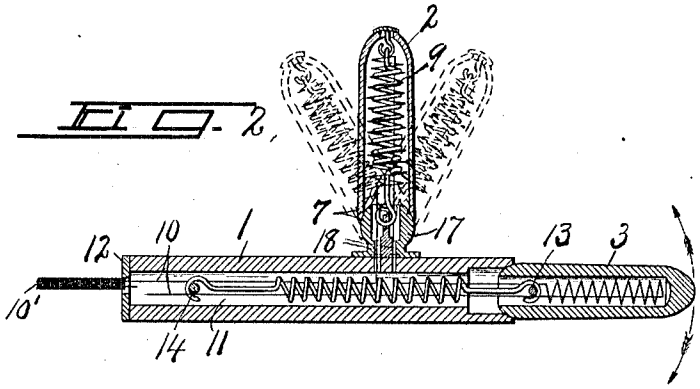


FIG. 3.

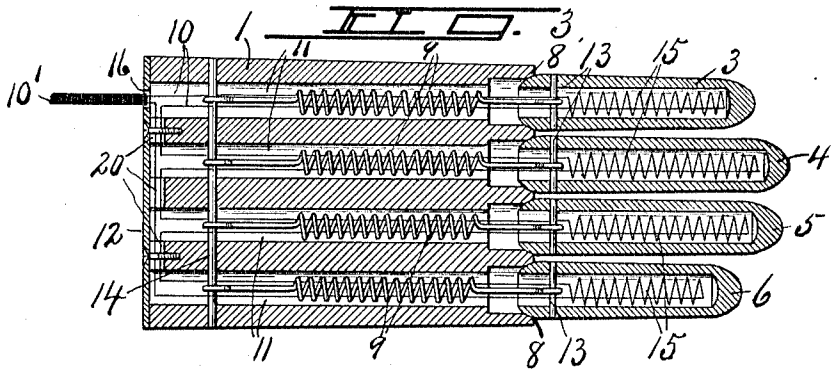
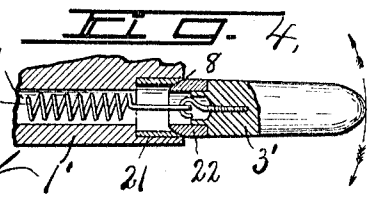


FIG. 4.



Witnesses:

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GLOVE AND MITTEN FORM.

1,102,224. Specification of Letters Patent. Patented June 30, 1914

Application filed September 23, 1912 Serial No. 721,803.

To all whom it may concern:

Be it known that I, ARTHUR L. CARRON, a citizen of the United States, of 141 West One Hundred and Thirty-sixth street, New York city, in the county of New York, in the State of New York, have invented new and useful Improvements in Glove and Mitten Forms, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in glove and mitten forms adapted to be used more particularly in the manufacture of electrically heated gloves and mittens of the class set forth in my Patent No. 1,011,574, issued December 12, 1911, in which an electric conductor, constituting a heater, is incorporated in the fabric of such portions of the glove or mitten as it may be desired to heat, said conductors being provided with terminal contacts exposed at predetermined points in the surface of such glove or mitten for voluntary contact with the terminals of an electric heating circuit in a manner similar to that set forth in the patent referred to. These heating conductors are usually wound in the form of coils around such portions of the fingers, thumb and main body of the glove as may be required to properly heat the hand of the wearer and the helices and other portions thereof stitched or otherwise secured in place so as to allow the glove or mitten with the heating conductor or conductors incorporated therein to be placed upon the hand or removed at will in the usual manner for ordinary gloves and mittens.

The main object, therefore, of my present invention is to provide a suitable form for receiving the glove or mitten and permitting the heating conductor to be conveniently and expeditiously applied thereto or incorporated therein wherever necessary without in any way deforming or materially interfering with the flexibility and pliability of the glove thereby permitting such glove or mitten to be drawn upon or removed from the hand and manipulated with the same degree of freedom as though the heating conductor was not present therein. In other words, the special purpose of the form upon which the glove or mitten is placed for the reception of the resistance wire or heating conductor is to permit such wire to be wound or coiled around the fingers, thumb and other portions of the main body of the glove at such points or lines as will permit a maximum degree of flexibility of such glove without liability of breaking or loosening the wire or any of its points of attachment to the glove or mitten by ordinary manipulation.

One of the specific objects is to provide the main body of the form with one or more digital members attached thereto by means of a universal joint or equivalent flexing connection whereby any one of the digits may be adjusted angularly in any direction independent of the others and frictionally held in such position so as to afford ample space for the manipulation of the heating conductor by the operator in winding the same upon the fingers or main body of the glove.

A still further object is to utilize the same device as a "laying off" form to give the proper size and shape to the glove or mitten and for this purpose such form is provided with suitable heating means, preferably concealed therein, to leave the exposed surface substantially smooth for the reception and withdrawal of a glove or mitten.

Other objects and uses will be brought out in the following description.

In the drawings Figure 1 is a perspective view of a "laying off form" for gloves embodying the various features of my invention. Fig. 2 is a longitudinal sectional view through the same form taken on line 2—2, Fig. 1. Fig. 3 is a flatwise sectional view through the main body and finger digitals of the same form. Fig. 4 is a detail sectional view of a portion of the body and one of the digitals of a slightly modified form of my invention as used without the heating appliances.

As shown in Figs. 1, 2 and 3, the form comprises a main body or hand portion —1— and a plurality of, in this instance five, digitals, —2—, —3—, —4—, —5—, and —6—, which are attached to the main body —1— by flexible connections, as universal joints, —7— and —8—, so as to permit such digitals to be adjusted angularly in any direction independently of the others and relatively to the main body. These flexible connections between the digitals and main body preferably consist of ball and socket joints which are held in frictional contact by means of coiled tension springs —9— as

shown more clearly in Figs. 2 and 3. The main body or hand portion —1— may be of any desired form, size or material, but is made to conform approximately to the size and form of the corresponding portion of the glove or mitten which it is adapted to receive and is preferably made wholly or partly of metal and more or less hollow for the reception of the springs —9— and also to receive suitable conductors —10— of an electric heating circuit presently described by which the entire shell including the digitals may be heated electrically.

As shown more clearly in Fig. 3, the main body or hand portion —1— is provided with a series of, in this instance four, lengthwise bores or channels —11— running parallel with each other and spaced some distance apart and in which the springs —9— and portions of the conductors —10— are located, the open ends of the base of the main body —1— being closed by a plate or cap —12— to give the device a suitable finish and also to exclude foreign matter from the channels or openings —11—. The opposite open ends of the channels or grooves —11— are preferably enlarged and terminate in spherical seats against which the adjacent ball shaped ends of the corresponding digitals —3—, —4—, —5— and —6— are frictionally seated and held by means of the springs —9—. These digitals are made to conform as nearly as possible to the size and shape of the fingers of the glove or mitten which they are adapted to receive and preferably consist of metal tubes having their outer ends closed and their inner ends open to communicate with the corresponding channels or bores —11— and also for the reception of the adjacent ends of the springs —9— which are individually attached to suitable anchoring pins —13— in the bases of their respective digitals. The opposite ends of the springs are attached to a pin or rod —14— running transversely through the base of the main body or hand portion —1— as shown more clearly in Fig. 3. The openings in the base of the digitals 3, 4, 5, and —6— are considerably larger than the adjacent ends of their springs —9— so as to allow said digitals to be adjusted angularly in any direction independently of each other or in combinations of two or more if desired. Another object in making the digitals hollow is to enable them to receive suitable electric heating coils —15— which are preferably connected in series to a conductor —10— having suitable leads —10′— extending through an opening —16— in the base-plate —12— and adapted to be connected to a source of electric energy not shown. As previously intimated, the outer ends of the digitals or finger members —3—, —4—, —5— and —6— are closed and are preferably tapered and provided with smooth exteriors to permit the corresponding portions of the glove or mitten to be easily drawn over upon the same and in like manner the end of the main body or hand portion —1— to which the digitals are attached is made to conform as nearly as possible to the shape of the adjacent ends of the digitals so as to allow the corresponding portion of the glove to slide easily thereupon and therefrom. The digital or thumb piece —2— is provided with a hollow fixed metal base —17— communicating with the interior of the angularly adjustable portions —2— which is also hollow and preferably made of metal for receiving the spring —9— and a suitable heater coil —15— similar to those in the digitals —3—, —4—, —5— and —6—. The base portion —17— is also provided with openings —18— therein communicating with one of the lengthwise bores or channels —11— of the main body —1— to allow the coil —15— to be electrically connected in series with those of the other digitals —3—, —4—, —5— and —6— or, if the entire device is to be heated by steam or other means, these openings afford channels of communication with the adjacent compartment or opening —11—, which opening is in communication with all of the other openings through a medium of branch passages —20—, the latter passages also serving to receive portions of a conductor —10—.

In Fig. 4, I have shown a portion of the main body —1′— of wood or other comparatively inexpensive material as provided with lengthwise bores —11—, having their ends adjacent the digitals enlarged for receiving metal nipples or sleeves —21— which are tightly fitted in their respective bores and are provided at their outer ends with spherical seats forming bearings for the adjacent ends of said digitals. In this latter modification, I have shown a digital —3′— of wood or other suitable material as provided with a metal annulus or base portion —22— having a spherical inner end seated against the spherical seat of the nipple —21— and held in place by the coil spring —9—.

Operation: It is now clear that a glove or mitten made of knit or woven fabric or of any other suitable material, to which the electric conductor is adapted to be applied, may be drawn over and upon the main body —1— and digitals —2—, —3—, —4—, —5— and —6— or the thumb portion or fingers of the glove or mitten may be drawn over and upon their respective digitals separately or collectively and the electric conductors suitably secured by stitching or otherwise in the form of coils or windings around and upon the mitten and may be applied either to the inside or outside of such apparel in the manner described as may be desired. When the glove or mitten is placed upon the form preparatory to applying the electric heating

conductor thereto in the manner described in my patent referred to or in any other suitable manner, each digital may be adjusted angularly away from the others to afford ample space or clearance for the manipulation of the wires and their attachments to the glove or mitten thereby facilitating and expediting the work of applying the conductors to the thumb or each finger and also to the main body of the glove or mitten and by providing the form with a series of adjustable digitals including the thumb, it is evident that the form is applicable for mittens or for gloves having one or more fingers.

What I claim is:

1. A form for gloves or mittens having a plurality of digital members independently supported and adjustable angularly in all directions.

2. A form for gloves or mittens having a plurality of digital members adjustable angularly and a separate flexible support for each digital.

3. A laying-out form for gloves and mittens comprising a main body having a flexibly retained digital adjustable angularly in all directions and heating means therefor.

4. A laying-out form for gloves and mittens comprising a main body having a hollow digital connected thereto by a universal joint and heating means therefor.

5. A laying-out form for gloves and mittens comprising a main body having a plurality of concave seats, digitals having convex bearings engaging said seats and adjustable angularly relatively to the main body and to each other and separate springs for frictionally holding the digitals to their seats.

6. A form for gloves or mittens comprising a main body, a base member in connection therewith, a digital provided with a socket for receiving said base member, and means for flexibly retaining the digital in operative position upon said base member.

7. A form for gloves or mittens comprising a main body and a digital connected thereto and adjustable angularly about an axis wholly outside the main body, so that it is automatically retained in any of its adjusted positions.

8. A form for gloves or mittens comprising a main body having a plurality of sockets formed in one end, digitals having hollow ends seated in said sockets, a flexible connection between the main body and each digital so that the digitals may be adjusted angularly in any direction without changing the axis of the flexible connection.

9. A form for gloves or mittens comprising a main body having a conduit therethrough, said conduit terminating in a concave seat at one end, a digital member having a hollow portion and a convex bearing engaged with said concave seat, an anchor secured in the hollow portion of said digital, a pin disposed across said conduit and engaged with the walls thereof, and a flexible member having an engagement with said pin and said anchor.

10. A form for gloves or mittens comprising a main body and a digital connected thereto and adjustable angularly about an axis wholly within the body of the digital so that the said digital is automatically retained in its adjusted positions.

In witness whereof I have hereunto set my hand this 17th day of September, 1912.

ARTHUR L. CARRON.

Witnesses:
AMY FUENTES,
RANSOM E. WILCOX.

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