

May 8, 1951

R. G. LITCHFIELD
GARMENT FORM

2,551,613

Filed Sept. 30, 1948

2 Sheets-Sheet 1

Fig. 1.

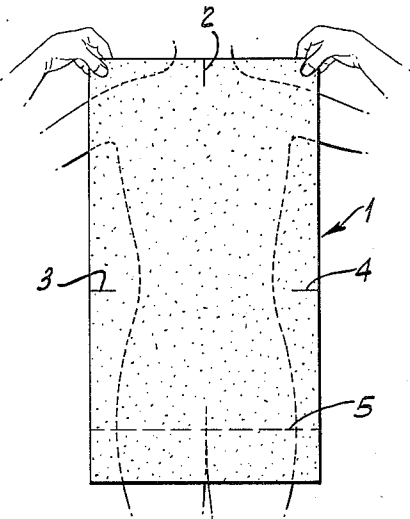
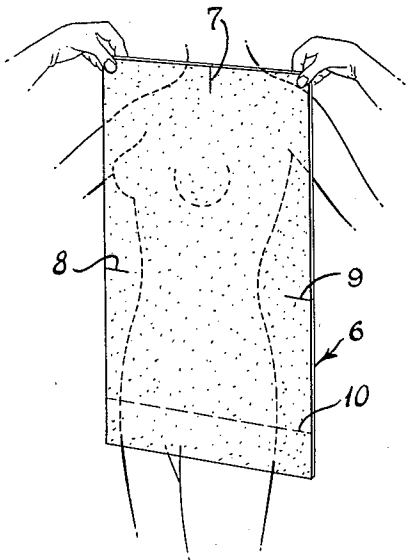


Fig. 2.



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2 Sheets-Sheet 2

Fig. 3.

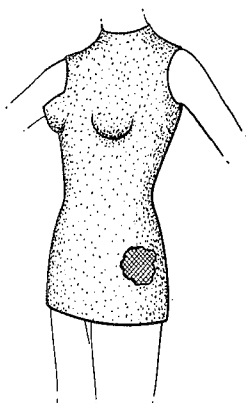


Fig. 4.

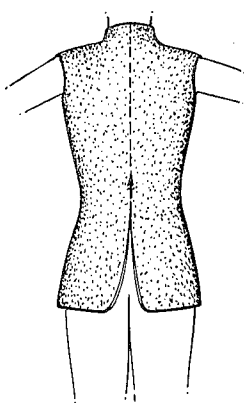


Fig. 5.

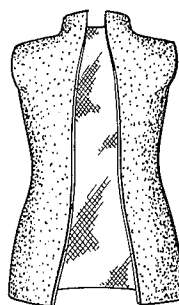


Fig. 6.

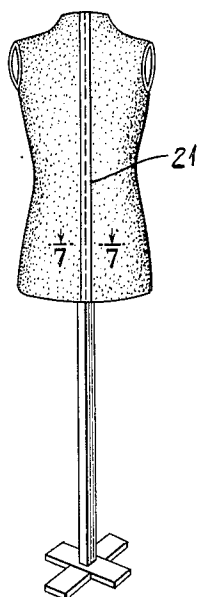
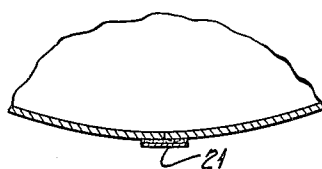


Fig. 7.



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GARMENT FORM

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12 Claims. (Cl. 223—68)

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This invention relates to individual dress-forms, tailor's dummies, and the like and to a novel process for making such forms and dummies from living or other models and includes within its scope a plaster of Paris impregnated fabric base, by the use of which the process may satisfactorily and advantageously be put into practice.

Attempts have been made heretofore to employ powdered plaster of Paris unsupported on a textile base, wet papier-mâché, glued paper tape, thermoplastic sheets or strips, and other materials for this purpose, but none of these materials have been found entirely satisfactory for a variety of reasons including their susceptibility to varying atmospheric conditions in that they become distorted when exposed to humid conditions. Other disadvantages of the materials used by the prior art include excessive fragility which results in a tendency to be easily damaged and when made from living models the imposition of a heavy burden upon the person being fitted.

An object of the present invention is to make available a process whereby the difficulties above-discussed are obviated and the provision of a light, tough, and accurately shaped form or dummy.

Another object of the present invention is to make available a form or dummy which may be produced without discomfort from a living model.

Still another object of the present invention resides in a process for building a dress-form or dummy in such a simple manner that it may be readily prepared in the home by unskilled persons.

Another and further object of this invention is to make available for home use a process for building a dress-form or dummy whereby an individual may prepare the said dress-form which is a replica of a person for use in home dress-making.

From the standpoint of marketing, sets of the articles necessary in the construction of a dress-form or dummy include a knitted textile fabric in tubular form, known as stockinet, and sheets of plaster of Paris impregnated fabric base, with a folder explaining a method or process of construction; all contained in a single unit package for distribution.

I have discovered that the above results may be achieved by employing in the construction of the form or dummy, plaster of Paris impregnated fabric base sheets which are capable of being readily conformed to any desired shape when rendered plastic by the presence of water; the

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said plaster of Paris impregnated fabric sheets having the capacity of hardening and stiffening to retain the desired molded form on the lapse of a short period of time.

Among the essential qualities of the material employed in carrying out the invention are that it is available in sheet form and is capable of being rendered limp or plastic by application of water so that it may be conformed to and intimately contact the body of a living model which is encased in a knitted textile fabric in tubular form without discomfort and that it should partially stiffen in its molded form within a short lapse of time, thoroughly stiffen with the further lapse of time, and that it should be light, tough, and not subject to distortion under ordinary conditions prevailing consequent to its use by individual people in the home when used in home dressmaking.

For the base on which plaster of Paris is impregnated, a fabric, preferably the fabric commonly known as gauze or crinoline, is employed. A preferred method of impregnating such a base is disclosed and described in U. S. Patent No. 1,726,403, issued August 27, 1929, and consists in compounding plaster of Paris in powdered state with an aqueous mixture containing suitable adhesives and a volatile substance calculated to prevent or retard premature crystallization or hardening of the plaster. A creamy paste is thus obtained which is spread on the fabric base in an even layer and then dried naturally or artificially, whereupon the coated fabric is cut into suitable lengths and widths. Suitable adhesives mentioned in the patent include sugars, dex-
trines, gum arabic, starch, and the like, singly or combined. The preferred adhesive is a mixture of dextrine and sucrose. Examples of volatile substances which act to prevent or retard premature crystallization or hardening of the plaster include acetic acid, alcohol, formic acid, ammonia, hydrochloric acid, formaldehyde, aliphatic acids up to and including propionic acid and their halogen derivatives, aliphatic alcohols up to and including butyl alcohols and their halogen derivatives, chloral, acetoacetic acid, acetol, acetone and other aliphatic ketones, acetoxine, aldehyde ammonia, diacetal, halogen aliphatic ketones, aliphatic amines, ethyl hydrazine, furfural alcohol, methylal and hydrazine, and as inorganic retarders other than hydrochloric acid any of the other halogen acids may be used.

The plaster of Paris impregnated fabric prepared as above is characterized by the fact that

the plaster of Paris is present in the form of a dense, smooth, uniform, flexible coating readily and uniformly penetrable by water and will not deteriorate with age or break down in shipment. Although the preferred method of preparing the plaster of Paris impregnated fabric is that disclosed above, an alternate procedure may be used which is disclosed in U. S. Patent No. 2,315,484, issued April 6, 1943, and comprises a fabric base impregnated or coated with plaster of Paris in which a protein bonding agent of the prolamin group which is soluble to some extent in organic solvents and also partially soluble or dispersible in water has been incorporated. An impregnated fabric base prepared according to the methods mentioned above withstands normal shocks and handling incident to shipping and the manual manipulations required in carrying out the preparation of the dress-form without excessive loss of the plaster of Paris from the base.

The set of the various articles necessary in the construction of the dress-form or dummy preferably contains a knitted textile fabric, in one form known as stockinet, which functions to prevent moistened plaster of Paris impregnated base sheets from coming in contact with the skin of the subject serving as a model in the preparation of a dress-form or dummy. It is preferred that the stockinet be elastic in order that it may readily be placed in position around the body of a subject and closely conform to all body contours.

With the above and minor objects in view, the invention consists in certain peculiarities of construction and combination of parts, as will be hereinafter set forth, reference being had to the accompanying drawings.

In the drawings:

Fig. 1 represents a rear view showing the position of plaster of Paris impregnated base sheets with respect to a human torso;

Fig. 2 represents a front-face view showing the position of plaster of Paris impregnated base sheets with respect to a human torso;

Fig. 3 represents a front view of a human torso encased in a plaster of Paris impregnated base with parts broken away to more clearly illustrate the structural details;

Fig. 4 is a rear view of a human torso encased in a plaster of Paris impregnated base showing the said plaster of Paris impregnated base partly incised at the bottom;

Fig. 5 is a rear view of a dress-form or dummy which has been completely incised and partly sprung open after its removal from a human subject;

Fig. 6 is a rear view of a completed dress-form or dummy; and

Fig. 7 is an enlarged fragmentary vertical, rear view taken at the line 7 on Fig. 6 of a completed dress-form or dummy.

A human subject for whom a dress-form is to be made ordinarily wears foundation garments during the preparation, and the first step in the process of the present invention involves positioning a protective shirt consisting of the knitted textile fabric in tubular form, known as stockinet, so that it extends from the neck down over the hips with the arms projecting through arm-hole slits at each side approximately two or three inches from the top edge. A piece of tubular stockinet material 36 inches long and 11 inches wide is satisfactory for most human figures and may be trimmed if it is found to be too long. After the stockinet is in place, a plu-

rality of plaster of Paris impregnated base sheets 1, four being the most satisfactory number, are picked up together by grasping the said four sheets by their upper left and right-hand corners. The four sheets are then placed against the back of the person for whom the dress-form is to be made, as illustrated by Fig. 1, with the upper edges of the four sheets parallel with the neck-line of the person. While holding the four sheets in this position, the outer sheet is marked with a pencil or crayon at a point approximately 9 inches below the waistline of the subject, and this mark 5 delineates the bottom of the finished form. The four sheets are then cut simultaneously horizontally across their full width at the pencil mark, and the bottom marginal pieces are set aside for later use. The four sheets from which the bottoms have been cut are immersed in cold water in order to saturate the plaster of Paris impregnated on the base fabric and then immediately spread on paper sheets and squeezed lightly to expel any excess water.

The four saturated sheets are then again picked up by grasping at their upper left and right-hand corners and applied to the subject's back over the stockinet with the top edges of the four sheets parallel with the subject's neck-line. While being maintained in this position, the sheets are pressed and carefully molded against the subject's body. A light manual rubbing of the sheets from the middle of the back laterally toward the front is desirable in order to smooth out wrinkles, eliminate entrapped air between the sheet layers, and to fuse together the plaster in all four sheets in a solid homogeneous mass. Protruding upper corners of the sheets extending laterally off each shoulder are preferably trimmed off immediately to form accurate arm-hole openings.

Another set of four plaster of Paris impregnated base sheets 6 is cut simultaneously horizontally across their full width at a point 10 such that bottom marginal pieces are removed which are approximately of the same size as those removed from the four sheets applied to the subject's back. These four sheets are then moistened and squeezed to remove excess water and are grasped at their upper left and right-hand corners and applied to the front of the subject's body with the top edges of the four sheets parallel with the subject's neck-line, as illustrated by Fig. 2. These four sheets are then pressed and molded carefully against the front of the subject's body and manually rubbed from the center laterally toward the rear. The four sheets applied to the front of the subject will overlap the sheets applied to the back at the sides, and the extent of the overlap will depend upon the circumference of the subject. The overlapping margins are rubbed in firmly and thus are tightly fused with the underlying margins of the sheets applied to the back. The subject is thereby encased in a completely solid sleeveless plaster jacket extending from the neck-line to a point approximately 9 inches below the waist, as illustrated by Fig. 3. As in the case of the sheets applied to the back, the protruding upper corners of the sheets applied to the front are likewise trimmed off at once to complete the formation of arm-hole openings.

In order to prevent wrinkling at the waistline and at the neck, it is preferred to make cuts 2, 3, 4, 7, 8, and 9 in the sheets applied to the front and back at the waistline and at the neck as illustrated in Figs. 1 and 2; these cuts facilitate

the molding of the sheets to more perfectly conform to the contours of the subject.

In the ordinary course of the preparation of a dressform according to my process, the plaster of Paris will have partially set and become sufficiently rigid to retain its form by the time the sheets applied to the front of the subject have been rubbed, molded, and marginally fused to the sheets applied to the back of the subject. The form must be removed from the subject as soon as the front sheets have been properly conformed to the subject and fused to the sheets applied to the back of the subject. The removal of the form is accomplished by making a cut in the back of the form beginning at the bottom, as illustrated in Fig. 4, and progressing toward the top. Only one cut is made, and this is accomplished with heavy scissors or a sharp knife and is preferably begun exactly in line with the base of the spine. All layers of the form, including the stockinet body covering, are cut. In order to facilitate the cutting operation, the blade of an ordinary kitchen spatula or a flat, blunt-ended instrument is inserted under the form between the stockinet and the subject's skin or foundation garment immediately under the point of cut. When the form has been cut from the bottom to the top, it is then carefully and partially sprung open to enable it to be removed over the subject's forward extended arms. By performing the removal operation slowly and gently, the completed form may be successfully removed without ruptures or cracking. The form is fairly flexible at this stage and can be removed intact without damage if reasonable care is exercised. Such a freshly removed form is illustrated by Fig. 5. After removal from the subject, the form is placed upright on a floor or table and the cut edges are placed in touching relation. Measurements should then be taken of the subject at the bust, hips, and waistline and these measurements compared with those of the form. If the completed form is found to be larger in circumference, the excess is cut equally off each side of the opening at the back from the bottom of the form through the top and the cut edges are then placed in contact. In order to finally seal the form at the cut edges, the dry strips of plaster of Paris impregnated base which were cut initially from the bottom of the original full length sheets are used to seal together the cut edges at the back of the form. These strips may be used singly, one over the other successively, or two or more strips may be applied together as a multilayer base. The moistened strips 21 are placed flat and in longitudinal relation to the contacting edges at the back of the form, as illustrated by Figs. 6 and 7, and are pressed and rubbed firmly with the fingers until they adhere to the original layers of the form.

All edges of the form may at this point be trimmed smoothly with scissors. The finished form is stored in a dry place and dries to a firm, hard, rigid consistency having a clean white color within a period of 24 to 36 hours. The trimmed edges of the form may be covered with adhesive plaster or tape after the form dries.

While the invention has been described in detail according to the preferred manner of carrying out the process, it will be obvious to those skilled in the art after understanding the invention that changes and modifications may be made therein without departing from the spirit or scope of the invention, and it is intended in the appended claims to cover all such changes and modifications.

What is claimed is:

1. A process for preparing a dress-form which comprises: molding and conforming a moistened plaster of Paris impregnated fabric base sheet to a human torso, molding and conforming to the same torso a second moistened plaster of Paris impregnated fabric base sheet of such a size that it overlaps the first sheet, at the edges thereof, fusing both sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form, springing the form partially open, removing the form from the torso, placing the cut edges of the form in touching relation, and sealing the form at the cut edges.

2. A process for preparing a dress-form which comprises: molding and conforming a plurality of moistened plaster of Paris impregnated fabric base sheets in superimposed relation to a human torso, molding and conforming to the same torso a plurality of moistened plaster of Paris impregnated fabric base sheets in superimposed relation and of such a size that they overlap the first-applied sheets at the edges thereof, fusing the sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form, springing the form partially open, removing the form from the torso, placing the cut edges of the form in touching relation, and sealing the form at the cut edges.

3. A process for preparing a dress-form which comprises: molding and conforming a moistened plaster of Paris impregnated fabric base sheet to the back of a human torso, molding and conforming to the front of the same torso a moistened plaster of Paris impregnated fabric base sheet of such a size that it overlaps the first-applied base sheet at the edges thereof, fusing both sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form along the spine of the torso, springing the form partially open, removing the form from the torso, placing the cut edges of the form in touching relation, and sealing the form at the cut edges.

4. A process for preparing a dress-form which comprises: molding and conforming a plurality of moistened plaster of Paris impregnated fabric base sheets in superimposed relation to the back of a human torso, molding and conforming to the front of the same torso a plurality of moistened plaster of Paris impregnated fabric base sheets in superimposed relation and of such a size that they overlap the first-applied base sheets at the edges thereof, fusing the sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form along the spine, springing the form partially open, removing the form from the torso, placing the cut edges of the form in touching relation, and sealing the form at the cut edges.

5. A process for preparing a dress-form which comprises: molding and conforming a moistened plaster of Paris impregnated fabric base sheet to the back of a human torso, molding and conforming to the front of the same torso a moistened plaster of Paris impregnated fabric base sheet of such a size that it overlaps the first-applied base sheet at the edges thereof, fusing both sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form along the spine of the torso, springing the form partially open, removing the form from the torso, placing the cut edges of the form in touching relation, and sealing the form at the cut edges with strips of moistened

plaster of Paris impregnated fabric base sheets.

6. A process for preparing a dress-form which comprises: molding and conforming a sheet of moistened plaster of Paris impregnated gauze to a human torso, molding and conforming to the same torso a second sheet of moistened plaster of Paris impregnated gauze of such a size that it overlaps the first sheet at the edges thereof, fusing both sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form, springing the form partially open, removing the form from the torso, placing the cut edges of the form in touching relation, and sealing the form at the cut edges.

7. A process for preparing a dress-form which comprises: molding and conforming a plurality of sheets of moistened plaster of Paris impregnated gauze in superimposed relation to a human torso, molding and conforming to the same torso a plurality of sheets of moistened plaster of Paris impregnated gauze in superimposed relation and of such a size that they overlap the first-applied sheets at the edges thereof, fusing the sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form, springing the form partially open, removing the form from the torso, placing the cut edges of the form in touching relation, and sealing the form at the cut edges.

8. A process for preparing a dress-form which comprises: molding and conforming a sheet of moistened plaster of Paris impregnated gauze to the back of a human torso, molding and conforming to the front of the same torso a sheet of moistened plaster of Paris impregnated gauze of such a size that it overlaps the first-applied sheet at the edges thereof, fusing both sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form along the spine of the torso, springing the form partially open, removing the form from the torso, placing the cut edges of the form in touching relation, and sealing the form at the cut edges.

9. A process for preparing a dress-form which comprises: molding and conforming a plurality of sheets of moistened plaster of Paris impregnated gauze in superimposed relation to the back of a human torso, molding and conforming to the front of the same torso a plurality of sheets of moistened plaster of Paris impregnated gauze in superimposed relation and of such a size that they overlap the first-applied sheets at the edges thereof, fusing the sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form along the spine, springing the form partially open, removing the form from the torso, placing the cut

edges of the form in touching relation, and sealing the form at the cut edges.

10. A process for preparing a dress-form which comprises: molding and conforming a sheet of moistened plaster of Paris impregnated gauze to the back of a human torso, molding and conforming to the front of the same torso a sheet of moistened plaster of Paris impregnated gauze of such a size that it overlaps the first-applied sheet at the edges thereof, fusing both sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form along the spine of the torso, springing the form partially open, removing the form from the torso, placing the cut edges of the form in touching relation, and sealing the form at the cut edges with strips of moistened plaster of Paris impregnated gauze.

11. A dress-form prepared by a process which comprises: molding and conforming a moistened plaster of Paris impregnated fabric base sheet to a human torso, molding and conforming to the same torso a second moistened plaster of Paris impregnated fabric base sheet of such a size that it overlaps the first sheet at the edges thereof, fusing both sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form, springing the form partially open, removing the form from the torso, placing the cut edges of the form in touching relation, and sealing the form at the cut edges.

12. A dress-form prepared by a process which comprises: molding and conforming a plurality of moistened plaster of Paris impregnated fabric base sheets in superimposed relation to the back of a human torso, molding and conforming to the front of the same torso a plurality of moistened plaster of Paris impregnated fabric base sheets in superimposed relation and of such a size that they overlap the first-applied base sheets at the edges thereof, fusing the sheets together at the overlap whereby the torso is completely encased in a form, longitudinally cutting the form along the spine, springing the form partially open, removing the form from the torso, placing the cut edges of the form in touching relation, and sealing the form at the cut edges.

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