

(No Model.)

2 Sheets—Sheet 1.

M. J. ROBERTS.
CORSET.

No. 368,241.

Patented Aug. 16, 1887.

Fig. 1.

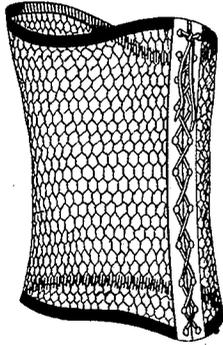


Fig. 2.



Fig. 3.

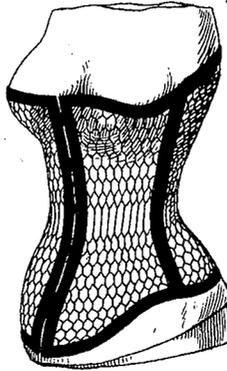


Fig. 4.

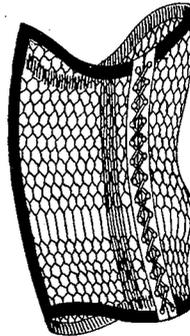


Fig. 7.

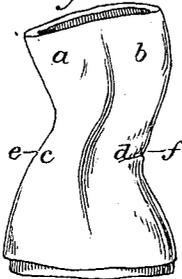


Fig. 8.

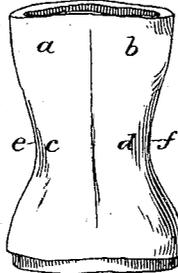


Fig. 6.

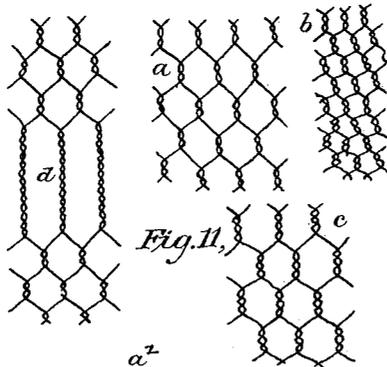
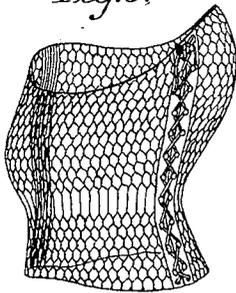


Fig. 10.

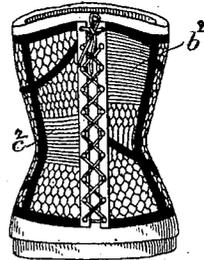
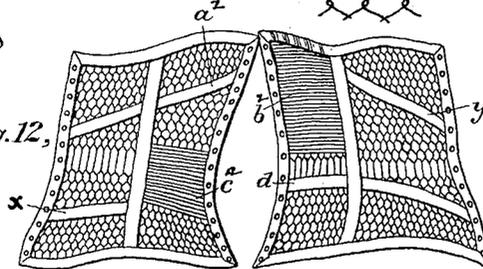


Fig. 12.



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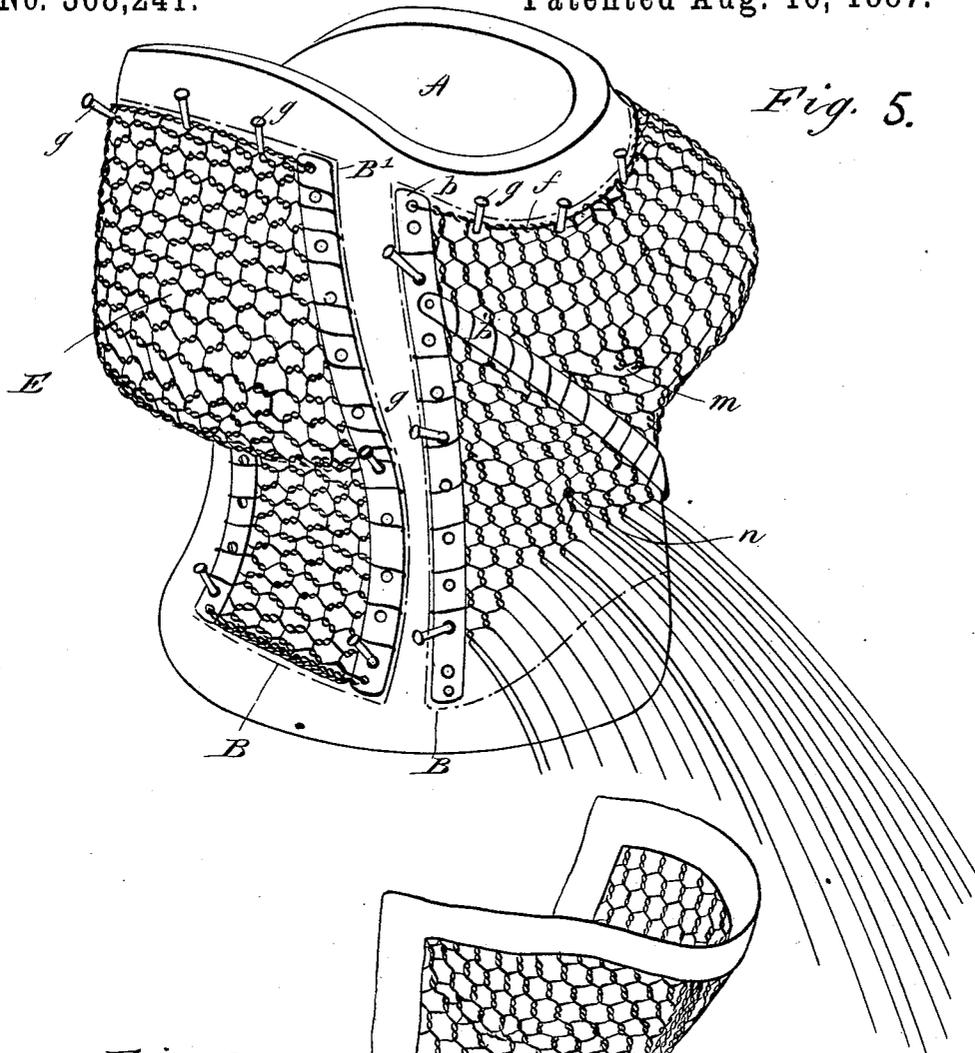
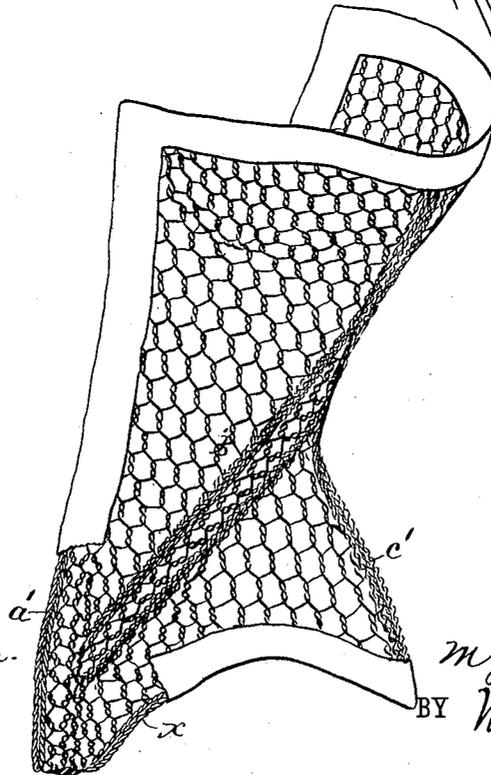


Fig. 5.

Fig. 9.



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UNITED STATES PATENT OFFICE.

MILTON JOSIAH ROBERTS, OF NEW YORK, N. Y.

CORSET.

SPECIFICATION forming part of Letters Patent No. 368,241, dated August 16, 1887.

Application filed September 23, 1884. Renewed January 17, 1887. Serial No. 224,656. (No model.)

To all whom it may concern:

Be it known that I, MILTON JOSIAH ROBERTS, of the city, county, and State of New York, have invented certain new and useful Improvements in Corsets, of which the following is a full, clear, and exact description.

My invention relates to corsets or stays for the support of the human body. It is designed especially to support the body and relieve the sufferings of the deformed or crippled. It is also well adapted to the support of the body in all instances where corsets are or may be advantageously worn.

To this end it is made out of wire. The corset is of peculiar construction, and is made in a peculiar manner to adapt the same to the uses for which it is intended. Wire corsets have heretofore been made from wire-gauze in the form of sheets, from which sheets sections have been cut in accordance with certain patterns, which sections in turn have been molded or stamped in such a manner as to approximately fit the contour of the body to which they are to be applied. These pieces of wire-gauze, cut in accordance with a special pattern, are soldered or otherwise fastened together, so as to form a corset. Corsets have also been made out of a woven fabric in the form of a sheet, in which the threads running in one direction were of wire and those running at right angles were of other material. From such sheets sections are cut and swaged up or otherwise brought into the form of a corset.

In my invention I do not use an already-woven fabric, nor stamp or otherwise work into form sections from the same.

The distinctive feature of my corset is that it is woven over a form into curvilinear contour out of wire strands.

One way in which my corset may be constructed is as follows: First of all a model is required. If the individual for whom the corset is intended be deformed, a mold of the body is taken in plaster or other substance, and from this mold a cast is made. Over this cast or form the corset is woven. By referring to Fig. 5, which illustrates one of my corsets partially constructed, a good general idea will be obtained of the mode of its construction.

Prior to commencing to weave the corset

over the cast or form A, Fig. 5, said cast or form is marked or laid off as required, according to the desired depth or height of the corset and the number of segments into which it is to be divided. The next step is to place upright and oblique stays *b b*, Fig. 5, upon the cast or form in such positions and of such strength and width as desired. These are secured in position by binding or otherwise attaching them to the cast or form.

B, Fig. 5, is the mark on the cast indicating the limit of the lower margin of the corset.

Instead of using stays cut from sheet metal, linear segments of closely-woven wire-mesh (see Fig. 9) *a' b' c'* may be constructed during the process of weaving along lines where it is desirable to stiffen the corset. In this manner the introduction of separate stays is entirely avoided, the devices substituted forming an integral part of the corset.

In weaving the corset the wires are inter-twisted, as shown in Figs 5 and 11, commencing at the marginal wire *f* as a point of attachment, which is held to the pattern by tacks.

In all instances the contour of the corset corresponds to that of the cast or model A, over which it is woven, and the meshes lie in the planes of adaptation to the body. When only two twists are given, as at *a*, Fig. 11, the meshes of the corset as thus woven may be crowded together to less transverse dimensions in the same plane, as shown at *b*, Fig. 11. This is a distinctive feature of my corsets. Corsets struck up into form out of wire fabric do not possess this characteristic. When a greater number of twists are made—three, for instance, as at *c*, Fig. 11—the meshes are more permanent, it being difficult or impossible to crowd them into less transverse dimensions.

Sometimes it is desirable to make ten or more twists of the strands of wire corresponding to a zone encircling the smallest part of the waist, as shown at *d*, Fig. 11, and in Figs. 2, 3, 4, 6, 10, and 12. When the corset is thus constructed, a belt of ribbon or other fabric provided with a buckle may be interlaced between these elongated meshes, so as to form a girdle about the waist, which can be tightened in accordance with the pleasure of the wearer.

In the process of weaving the corset, in pass-

ing from the upper or expanded part of the corset to the waist or smallest circumferential measurement of the corset, and again to the lower or bulging part corresponding to the hips, if the same number of strands of wire were used throughout the meshes would necessarily be very coarse in the expanded portions and very small in the waist portion of the garment. To avoid this, and to secure uniformity in the size of the meshes in passing from the enlarged upper portion of the corset to the smaller waist portion, a certain number of wires are cut out and the cut ends twisted about the remaining wires, as shown in Fig. 5 at *m*. In proceeding from the waist part of the garment down over the pelvic portion new strands of wire are added, as may be required to maintain the uniformity in the size of the mesh, as shown at *n*, Fig. 5.

In the process of weaving, when the lower margin of the corset is reached each alternate strand may be cut off. Those that remain may be woven or twisted together, so as to form a margin corresponding to the lower border of the corset, as indicated by the markings on the cast or form over which it is being woven, (see *x*, Fig. 9, which shows the lower margin of the corset as it appears at a point from which the binding of the corset is represented as cut away.)

It should be stated that it is desirable in weaving one of my corsets to make use of wire which has been thoroughly annealed or softened. By so doing strands of wire are readily formed into a mesh, which accurately fits the model, and which retains its form when removed from the model. The wire is more or less tempered by the process of weaving.

Sections of the corset may be made so as not to yield to transverse pressure, not only by increasing the number of twists of the strands of wire, as already described, but also by varying the pattern of the mesh, as, for instance, by using that pattern of mesh shown at *E*, Fig. 5.

Woven into form as described, the corset or curvilinear body-brace will not only retain its shape, but the resiliency in different parts of the garment may be increased or diminished, as required.

A distinctive feature of my corset, which has already been alluded to—namely, the weaving of its meshes *a*, Fig. 11, so that they may be crowded together, as shown at *b*, Fig. 11—is especially serviceable when using the corset for the correction of certain bodily deformities, as, for instance, in the treatment of rotary lateral curvature of the spine. To understand how this is done it will be necessary to refer to Figs. 7 and 8, which represent plaster casts. Fig. 7 is a back view of the cast of the body of a patient with rotary lateral curvature of the spine. An undue prominence exists at *b*, in the region of the right shoulder, and at *c*, in the left lumbar region. An abnormal sinking in of the body exists at *a* and *d*. The part above the left hip, *e*, is too

prominent, while that above the right hip, *f*, sinks in too much.

Fig. 8 shows a back view of the same cast after these abnormalities have been corrected, as follows: The abnormal prominence of the right shoulder, *b*, has been cut down, and the corresponding depression under the left shoulder, *a*, has been filled up. Likewise, the undue prominence in the left lumbar region, at *c*, has been cut away, while the corresponding depression in the right lumbar region, at *d*, has been filled up. Furthermore, the projection above the left hip, *e*, has been cut away, while the depression above the right hip, *f*, has been filled up. The cast is thus materially improved in form and symmetry in those parts of the body above the hips. Now, over this corrected cast a corset is woven, as already described.

When the corset, which is woven over the corrected cast, is applied to the person of the deformed individual, as represented in the deformed cast, Fig. 7, it will be seen that a corrective pressure must be exerted upon the abnormally prominent parts, while those parts which are depressed will not be pressed upon unduly or at all, in consequence of the concavities in the cast at these points having been filled up prior to the weaving of the corset. If, in addition to this, the pattern of the mesh which is used is such as will permit of the meshes being crowded together, as at *b*, Fig. 11, a still further corrective action upon the abnormally prominent parts may be exerted in the following manner. The corset having thus been completed and removed from the cast or model, it will be found that by making transverse pressure the meshes between any two perpendicular stays can be crowded together in any part of the garment into less transverse dimensions, as already described. Now, by sewing or otherwise attaching a strip of elastic fabric or webbing, *c'* and *b'*, Fig. 10, and *c''* and *b''*, Fig. 12, to the corset between any two upright stays, the said webbing will crowd together the meshes of the corset, and which, when applied to the body, will exert a corrective action, as already described. Now, in order to prevent the possibility of crowding the meshes together over the abnormally depressed parts of the body, as at *a* and *d*, Fig. 7, and thus interfering with their development, I may, when the corset is thus woven, make use of cross or obliquely-transverse stays, as at *y* and *a'*, Fig. 12. These stays may overlie and be secured to the meshes of the corset by a wire or other device, as shown at *b'*, Fig. 5, and extend from one upright stay to another, to which they are riveted, or may be woven in the corset, as at *b'*, Fig. 9, as hereinbefore mentioned. Sometimes, owing to the weakness and extreme emaciation of the patient, it is not desirable to exert any pressure upon abnormally prominent parts further than that which is essential to the support of the body. In other words, the aim of the use of the corset in such instances is not

to exert a corrective action on the abnormal prominence, but simply to afford support sufficient to make the patient comfortable. To this end an exact cast of the body, as shown in Fig. 7, is made. Over this, without any alterations whatever, a corset is woven of such a pattern of mesh as will not permit of the meshes being crowded together—as for instance, the mesh shown in Fig. 5 at E.

In making use of my invention I may use round, flat, or any other shaped strands, of any kind of metal or any equivalent for metal. Said strands of wire, or substitutes therefor, may be plain, or may be covered with thread or other material, or may be plated with another metal or coated with a protective coating. The corset may be of different shapes of patterns, according to the requirements of the case. Fig. 5 shows one of my corsets partially constructed with pendent strands of wire not yet woven into a mesh to fit the contour of the body.

Fig. 1 shows a form constructed of one piece as a body-brace for growing children. Figs. 2 and 3 show a form of corset for a young or adult female, designed as a guide to the cultivation of a perfect form. Fig. 4 shows a form of corset made in three sections adapted to the wants of a hump-backed patient, or one affected with "Pott's disease of the spine." In corsets of this pattern constructed for a patient affected with Pott's disease it is sometimes desirable to weave the posterior segment of a pattern of mesh (shown at E, Fig. 5) which cannot be crowded into less transverse dimensions than that occupied at the time of weaving. In this way pressure on the projecting lump is avoided, no matter how tightly the corset may be drawn about the body. Fig. 6 is a corset woven in two segments to be worn by a patient with an exaggerated deformity in the region of the right shoulder, resulting from rotary lateral curvature of the spine; but it is designed only to render a sufficient amount of support to relieve the discomfort of the patient, and does not aim at exerting a corrective pressure on abnormally prominent parts, having been woven over a cast which exactly corresponded to the contour of the body. Fig. 7 shows a back view of a plaster cast of a deformed body. Fig. 8 shows a back view of the same plaster cast after the abnormalities have been corrected, as already described. Fig. 9 illustrates a modified form of stay. Fig. 10 is a back view of a corset applied to a corrected cast, over which it has been woven, and provided with transverse stays and broad pieces of elastic webbing, designed to exert a corrective action when applied to the body. Fig. 11, *a b c d* illustrate different patterns of meshes; and Fig. 12 illustrates a corset similarly con-

structed to that shown in Fig. 10, but opened out so as to show more perfectly the extent and direction of the cross-stays *a*, *d*, *x*, and *y*.

In all of the modifications shown it will be perceived that the body of the corset is constructed of strands of wire interlaced or woven into the form of the corset, the resulting fabric being of any desired contour, permanency of form, and resiliency. It will be observed that, having been woven over a model, when removed it retains the shape of this model as a normal standard, and yet the corset possesses a degree of flexibility or resiliency which is not only novel in character, but can be varied in extent, as already described, to suit the requirements of different cases.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A corset or body-brace of curvilinear contour, composed of intertwisted strands forming meshes which lie in the planes of adaptation to the contour of the body, substantially as described.

2. A corset or curvilinear body-brace composed of intertwisted strands forming meshes, which lie in the planes of adaptation to the contour of the body, the said meshes having a greater number of twists in some parts of the corset than in others to modify the resiliency of different parts of the same, substantially as shown and described.

3. A corset or curvilinear body-brace composed of intertwisted strands forming meshes, which lie in the planes of adaptation to the contour of the body, the said corset having in different parts meshes of a different pattern for modifying the strength, permanence of contour, and resiliency of different parts of the same, substantially as shown and described.

4. A corset or curvilinear body-brace composed of intertwisted strands forming meshes, which lie in the planes of adaptation to the contour of the body, combined with means for exerting an independent tension upon certain parts of said corset, whereby the meshes are crowded together, substantially as and for the purpose described.

5. A corset or curvilinear body-brace composed of intertwisted strands forming meshes, which lie in the planes of adaptation to the contour of the body, in combination with stays to secure permanency of contour and prevent the crowding together of the meshes overlying certain parts of the body, substantially as set forth.

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Witnesses:

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