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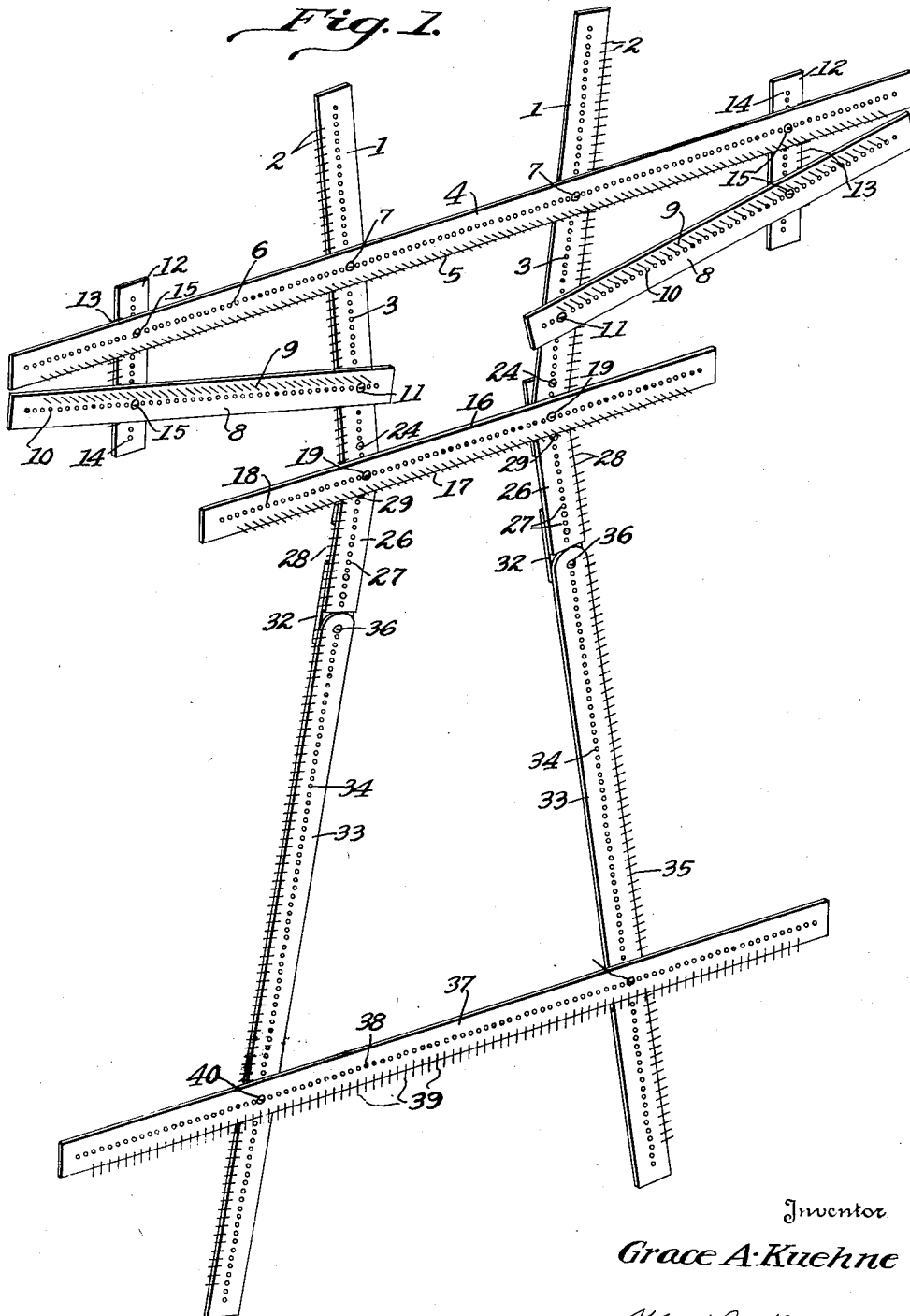
G. A. KUEHNE

2,195,673

BLOCKING FRAME

Original Filed June 10, 1935

2 Sheets-Sheet 1



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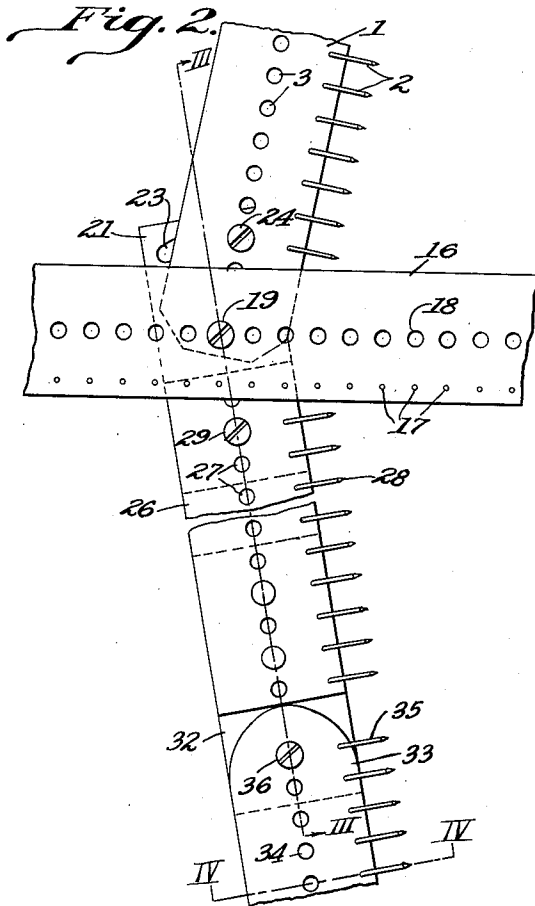
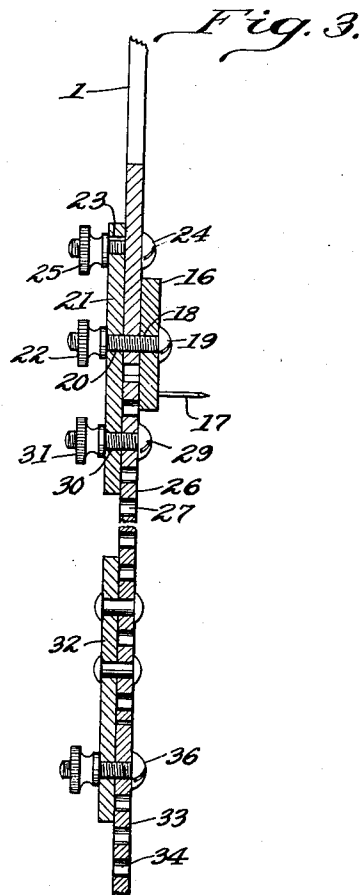
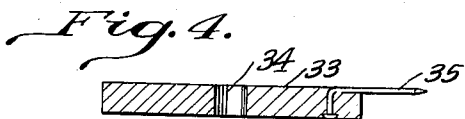
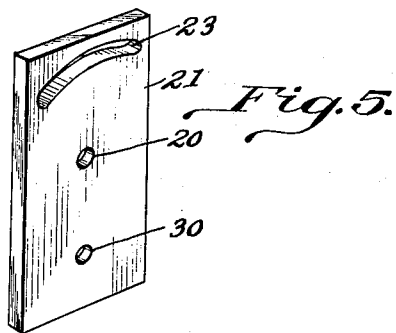
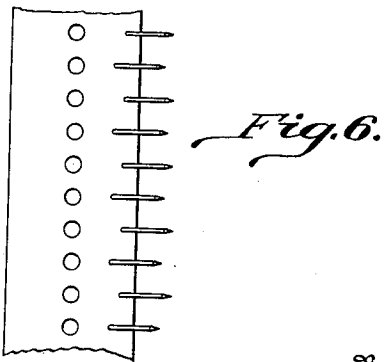
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BLOCKING FRAME

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BLOCKING FRAME

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15 Claims. (Cl. 223-69)

This invention relates to an improved adjustable and collapsible frame for effecting the shaping or blocking of knitted and other similar fabric garments, the object of the invention being to provide a simple, efficient and practical means by which various kinds of knitted or crocheted articles of wearing apparel may be accurately shaped or fashioned to conform to the individual requirements of the different wearers thereof.

Garments composed of knitted materials require careful treatment while in a wet or moisture containing state so that during drying, they may be held in fixed positions in order that they will subsequently conform to the physical requirements of the wearers thereof and to possess the desired properties of style, shape and appearance. Heretofore, in blocking knitted garments, it has been an accepted practice to pin such garments while wet on a frame or board so that following the drying thereof, they will possess desired configurations. To a limited extent, knitted garments have been blocked by the use of drying frames which have been inserted into the garments to hold the same in shape during the drying period. Most of these methods and devices have been quite unsatisfactory since they do not enable a knitted garment to be exactly blocked to conform with the arm, shoulder, waist and other measurements of the wearer, and this fact has militated considerably against the wide-spread use of knitted articles of wearing apparel.

Therefore, in accordance with the present invention, a blocking frame is provided consisting of a plurality of adjustably connected frame members having the marginal portions thereof provided with garment attaching pins, and wherein provision is made for relatively adjusting and maintaining the adjustment of said members so that a garment applied to one side thereof may be shaped or blocked and upon drying, it will properly conform to the measurements of the wearer around the shoulders and neck line, the waist line, the sleeves, hips, and to regulate the length of the garment, as well as other essential measures.

For a further understanding of the invention, reference is to be had to the following description and the accompanying drawings, wherein:

Fig. 1 is a perspective view of a full skirt size blocking frame constructed in accordance with the present invention;

Fig. 2 is an enlarged detail front elevation of

the frame construction disclosing the adjustable elements thereof in the waist region;

Fig. 3 is a vertical sectional view on the plane indicated by the line 3-3 of Fig. 2;

Fig. 4 is a transverse sectional view on the line 4-4 of Fig. 2;

Fig. 5 is a detail perspective view of the backing plate for adjustably uniting the elements of the frame at the waist;

Fig. 6 is a detail plan view disclosing the modified pin arrangement.

Referring more particularly to the drawings, the improved blocking frame is composed primarily of a plurality of relatively adjustable members consisting of elongated strips of wood, metal or composition materials that they will possess a fair degree of rigidity and mechanical strength. In this instance, the frame comprises body bars or upper frame members 1-1 which have their outer longitudinal edges each provided with a row of projecting pins 2 which lie substantially in the same plane as the body of the bars or upper frame members. The strips 1-1 may be formed straight, as shown, or may be outwardly angularly formed to conform substantially to the form of the recumbent human female body. Furthermore, each of the strips 1-1 is provided with a centrally disposed row of closely placed openings 3 by which the strips 1-1 are adjustably connected with a transversely extending shoulder bar 4. If desired the bar 4 may be divided into two sections comprising a pair of bar sections each approximately $\frac{1}{2}$ the length of bar 4, and adapted to extend inwardly substantially in the same vertical plane as lower sleeve bars 8-8. The bar 4 has one, preferably its lower longitudinal edge portion, provided with a row of perpendicularly extending pins 5 which extend at right angles to the plane of the bar 4, and the latter is additionally provided with a longitudinal row of adjustment affording openings 6. Headed bolts 7 are adapted to pass through registered openings 3 and 6 formed in the bars or strips 1-1 and the bar or bars 4 respectively, the threaded portions of the bolts 7 being equipped with knurled nuts by which the bolts may be tightened to hold the bars or upper frame members 1-1 and the bar or bars 4 in their various positions of relative adjustment.

Beneath the shoulder bar 4, or beneath the pair of such bars if two are used, the bars or upper frame members 1-1 are adjustably connected with sleeve shaping bars 8. Each of the bars 8 is provided with a row of outwardly and laterally directed pins 9 for garment attaching purposes

and which pins extend perpendicularly to the general planes of the bars 8. Also, each of said last-named bars is formed with a row of longitudinally spaced openings 10 and headed bolts 11 are adapted to pass through registering openings 3 and 10 formed in the bars 1 and 8 respectively so that the latter may be securely united in fixed positions of relative adjustment which may be varied in accordance with the garment to be shaped or blocked.

The outer portions of the bars 4 and 8 are adjustably united by vertically extending sleeve width determining bars 12. Each of these bars is provided along its outer marginal edge with a row of pins 13 which lie in the same plane as the bar 12 by which they are carried. Each of the bars 12 is further formed with a row of vertically spaced openings 14, and headed bolts 15 pass through registering openings 6, 10 and 14 formed, respectively, in the bars 4, 8 and 12, the inner ends of the bolts 15 being equipped with nuts by which the bolts may be tightened in order to hold the bars 4, 8 and 12 in their desired positions of relative adjustment, so that the frame may be adapted to the sleeve measurements of a garment undergoing blocking on the frame. It will be noted that the bars 12 are adjustable longitudinally of the bars 4 and 8 in order to be adapted to the varying length of the garment sleeves, the pins 13 serving to engage the ends of the sleeves to draw and maintain the latter in a taut condition and in this respect to cooperate with the pins 5 and 9 of the bars 4 and 8 respectively.

To control waist measurements, the frame includes a transversely extending waist bar 16 which corresponds closely in construction to the bars 4 and 8 and comprises an elongated strip having the lower longitudinal edge thereof formed with a row of outwardly and laterally directed pins 17 for garment attachment purposes and, also, a row of longitudinally spaced openings 18. The waist bar is connected with the lower ends of the body bars or strips 1—1 by means of headed bolts 19 which, as shown in Fig. 3, pass through registering openings 3 and 18 formed respectively in the strips 1 and the bars 16 and through openings 20 formed in backing plates 21. The inner threaded ends of the bolts 19 receive knurled nuts 22 which upon being tightened hold the strips 1 and the bars 16 in their various positions of relative adjustment. To provide for swinging adjustment of the strips 1 about axes formed by the bolts 19, each of the plates 21 is provided contiguous to its upper end with an arcuate slot 23 which is adapted for the reception of the shank of a threaded bolt 24 carried by each of the strips 1. The inner end of each of the bolts 24 is equipped with a knurled nut 25 which, upon being tightened, frictionally retains the rocking adjustment of the strips 1.

In my preferred form, adjustably connected with the lower portions of the backing plates 21 for swinging movement are the upper ends of a pair of hip bars 26. Each of these bars comprises a row of openings 27 and a row of outwardly directed pins 28 which lie in the same planes as the bars 26. Headed bolts 29 pass through the openings 27 and through a registering opening 30 formed in each of the plates 21, the inner ends of the bolts 29 being equipped with a knurled nut 31 for frictionally retaining the adjustment of the bars 26 relative to the axes of the bolts 29. This construction enables the frame to be adapted to various waist and hip measurements

which are so essential in the proper shaping of knitted garments.

The lower ends of the bars 26 carry on their rear sides fixed plates 32 which project below the ends of the bars 26 and constitute fulcrums for the pivotal reception of the upper ends of skirt bars or lower side frame members 33. The latter, in preferred form, correspond in construction to the bars 26 and include rows of longitudinally spaced openings 34 and outwardly directed pins 35 which lie in the same planes as the bars 33.

The length of skirt bars or lower side frame members 33 may also be varied and extended so that the upper ends may be directly connected to bolts 19 forming pivots for vertically extending bars 1—1 and 33—33, eliminating the fixed plates 32 and bars 26 particularly shown in Fig. 1, thereby providing a cheaper form of construction. Additionally, the bars or frame members 33 elongated as above set forth, may each be shaped angularly outwardly on its outward edge portion to conform substantially to the form of female human hips.

In preferred form, headed bolts 36 pass through the uppermost openings 34 and through corresponding openings formed in the plates 32, the inner ends of the bolts 36 being provided with knurled nuts which may be tightened to retain the bars 33 in various positions of angular adjustment with respect to the bars 26 and bar 16. Co-operative with the bars 33 is a transversely extending skirt length determining bar 37 provided with a row of longitudinally spaced openings 38 and downwardly directed pins 39. Headed bolts 40 pass through registering openings 34 and 38 formed in the bars 33 and 37 respectively by which said bars may be maintained in desired positions of relative adjustment.

By the provision of this flexible and adjustable frame construction, the various frame members or bars may be relatively adjusted so that a wide variety and many different kinds of knitted garments may be shaped or blocked thereon. It is adaptable and adjustable for knitted, crocheted or other similar garments in any size from that of a child to the largest adult. Perfect measurements are required to properly block a garment at all of the following points: the shoulders and neck line, waist line, hips, length of waist, length of skirt, total length, length of sleeves, width of sleeves at arm opening, width of sleeves at elbow and wrist. The blocking frame comprising the present invention will dry any such garment to the perfect measurements required at each and all of the above points, while at the same time, perfectly shaping the entire garment. Purling at the bottom of blouses, sweaters, jackets and the like can also be similarly handled to fit perfectly. In the use of the frame, the adjustable members thereof are set to conform with the desired measurements a garment shall possess following blocking, and the flexible connections uniting the frame members permit this to be readily done to assure accurate measurements at the places above noted. A knitted garment while wet, is then placed on the adjustable frame and secured by the pins carried by the base or frame members thereof. These pins are preferably formed from non-corrodible metals so that they will not discolor the garments attached thereto. As shown in Fig. 6, the pins may be offset or staggered with respect to each other for the purpose of avoiding splitting the wood bars in which they are inserted and also to facilitate

the operation of forcing a garment over the pointed ends of the pins.

It should be obvious from the foregoing detailed description that the lower side bars may be removed entirely or reversed in such a manner that a waist or skirt alone may be placed on the frame, or, when the lower side bars are placed to face opposite to the waist portion a skirt may be placed on the frame on one side thereof and a waist may be placed on the oppositely faced side.

It should also be obvious from the specification that the frame described herein is collapsible and may be stored away in a relatively small space.

While I have described the preferred form of the present invention, nevertheless, it will be understood that the same is subject to certain variation and modification in structural details without departing from the scope of the invention as the latter has been defined in the following claims, and various changes may be made in the embodiment of the invention herein specifically described without departing from or sacrificing any of the advantages of the invention or any features thereof, and nothing herein shall be construed as limitations upon the invention, its concept or structural embodiment as to the whole or any part thereof except as defined in the appended claims.

I claim:

1. A frame for blocking knitted articles of wearing apparel comprising a waist bar, a pair of body bars, adjustable pivotal connections uniting the adjoining portions of said waist and side bars at selected positions throughout the length of said waist bar, each of said bars being provided with a row of longitudinally extending, relatively spaced openings, and including a row of pins projecting laterally from one of the longitudinal sides of said bars.

2. A collapsible frame for blocking knitted articles comprising a waist bar, an upper set of body bars, a removable set of lower skirt bars, adjustable pivotal connections uniting the adjoining portions of said waist and said body and skirt bars at selected positions throughout the length of said waist bar, each of said bars being provided with a row of longitudinally extending, relatively spaced openings, and including a row of pins projecting laterally from one of the longitudinal sides of said bars.

3. A frame for blocking knitted articles of wearing apparel comprising a waist bar, upper and lower sets of side bars, adjustable pivotal connections uniting the adjoining portions of said waist and side bars at selected positions throughout the length of said waist bar, each of said bars including a row of pins projecting laterally from one of the longitudinal sides of said bars.

4. A frame for blocking knitted articles of wearing apparel comprising: a waist bar, upper and lower sets of side bars, adjustable pivotal connections uniting the adjoining portions of said side and waist bars, a shoulder bar, adjustable means for securing said shoulder bar to the upper set of said side bars, and garment securing pins carried by each of said bars.

5. A frame for blocking knitted garments comprising a waist bar, body bars and hip bars pivotally connected with said waist bar, and skirt bars having their upper ends pivotally connected with said hip bars, each of said bars being provided with a longitudinally extending row of

spaced openings and laterally projecting garment securing pins.

6. A frame for blocking knitted articles of wearing apparel comprising: a pair of side body bars, each of said bars being provided with a row of longitudinally aligned openings, a row of transversely extending garment securing pins on each body bar, a shoulder bar provided with a row of longitudinally disposed openings, said shoulder bar adapted to over-extend said body bars, garment securing pins on said shoulder bar, and securing means disposed in registering openings provided in the body and shoulder bars for maintaining said bars in various positions of relative adjustment.

7. A frame for blocking knitted articles of wearing apparel comprising upper and lower sets of side bars, a waist forming bar, adjustable pivotal connections uniting the adjoining portions of the side and waist bars, each of said bars being formed to include a row of longitudinally extending openings and laterally projecting garment securing pins, a skirt length determining bar including a row of longitudinally extending spaced openings and laterally projecting pins and adjustable connecting means uniting said skirt length determining bar with the lower set of side bars.

8. A frame for blocking knitted articles of wearing apparel comprising a pair of body bars, each of said bars being formed with a row of longitudinally extending, relatively spaced openings, and a row of laterally projecting pins, a transversely extending shoulder bar formed with a row of longitudinally extending relatively spaced openings and a row of garment securing pins, threaded securing means arranged to pass through registering openings formed in the shoulder and body bars for securing said bars in fixed positions of relative adjustment, sleeve forming bars, each including a row of longitudinally extending openings and a row of garment securing pins, and threaded securing means passing through registering openings formed in the sleeve forming bars and in said body bars.

9. A frame for blocking knitted articles of wearing apparel comprising a pair of body bars, each of said bars being formed with a row of longitudinally extending, relatively spaced openings, and a row of laterally projecting pins, a transversely extending shoulder bar formed with a row of longitudinally extending relatively spaced openings and a row of garment securing pins, threaded securing means arranged to pass through registering openings formed in the shoulder and body bars for securing said bars in fixed positions of relative adjustment, sleeve forming bars, each including a row of longitudinally extending openings and a row of garment securing pins, threaded securing means passing through registering openings formed in the sleeve forming bars and in said body bars, and adjustable connecting bars uniting the outer portions of the shoulder and sleeve forming bars, said last-named adjustable bars being each provided with a row of longitudinally extending openings and laterally projecting pins.

10. In a device of the described class the combination of a pair of upper side bars, an upper sleeve bar extending transversely of and adjustably mounted on said upper side bars, a pair of lower sleeve bars extending laterally and adjustably from said upper side bars, a waist bar extending transversely of said upper side bars

and adjustably mounted thereon, a pair of lower side bars pivotally mounted adjacent the lower end of said upper side bars, a skirt length determining bar, mounted transversely and adjustably on said lower side bars, a row of outwardly extending garment securing pins on each of said bars aforementioned and each of said bars being provided with a plurality of longitudinally disposed apertures and bolts disposable therein permitting relative adjustment of said bars with respect to one another to substantially conform to any desired shape of the human body.

11. In a device of the described class a pair of upper side bars, an upper sleeve bar extending laterally from the upper side bars, a pair of lower sleeve bars, one of each extending laterally from each upper side bar beneath each of said upper sleeve bars, a pair of end bars each connecting an upper and lower sleeve bar near the outer extremity thereof, a transversely extending waist bar at the lower terminal of said upper side bars and at the upper terminal of a pair of lower side bars, a pair of lower side bars, a skirt length determining bar extending transversely of said lower side bars, each of said bars aforementioned being provided with a plurality of longitudinally disposed holes, and a plurality of bolts extending therethrough at the junction of any transversely extending bar to permit adjustment of the relative positions thereof and a plurality of outwardly protruding garment securing pins arranged in rows on each of said bars to retain a garment thereon, said device being adapted to be dis-assembled and folded into a compact package.

12. In a device of the described class the combination of a pair of lower side frame members, said frame members being oppositely mounted in the same general plane, a skirt length determining bar extending transversely of and connecting said lower frame members, a waist bar extending transversely of said frame members near the upper extremity thereof, a pair of upper side frame members, a pair of lower sleeve bars each extending laterally outwardly from an upper side frame member, an upper sleeve bar extending laterally outwardly from the upper side frame

members, a pair of end bars extending transversely from and adjustably interconnecting the upper and lower sleeve bars, each of said bars aforementioned having a row of outwardly extending garment securing pins thereon adapted to secure a garment thereon and each bar and frame member being provided with a plurality of longitudinally disposed bolt holes and bolts passing therethrough at the juncture of any bar or frame member with another to permit wide relative adjustment thereof to conform to a predetermined peripheral conformity to the normal outlines of a conventional woman's dress.

13. In a frame for blocking knitted articles of wearing apparel, the combination of a pair of body bars, shoulder forming bar means adjustably mounted near one end thereof, sleeve forming bar means adjustably mounted on said body bars below said shoulder forming bar means, and a waist bar adjustably mounted on said body bars near those ends thereof opposite said shoulder forming bar means, each of said bars being provided with a plurality of holes therethrough and bolt means therein for adjustment in relation to each other bar aforementioned and each having garment securing pins along one side thereof, for the purposes described.

14. A frame as set forth in claim 13 and additionally comprising a pair of connecting bars one of each of said bars being adjustably mounted between substantially the ends of the shoulder forming bar means and said sleeve forming bars, and each of said connecting bars being provided with a plurality of holes therethrough and garment securing pins on each connecting bar.

15. In a frame for blocking a skirt the combination of a pair of relatively long side bars, a pair of hip bars pivotally end mounted to said side bars, a waist determining bar mounted at the end of said hip bars, and a skirt length determining bar mounted on and extending transversely of said side bars, each bar being provided with a plurality of holes therethrough and each having garment securing pins thereon, and connection means for adjustably connecting each bar to the other, substantially as set forth.

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