(No Model.) 2 Sheets—Sheet 1.

R. G. WOLFF.

TAILOR'S MEASURING APPARATUS.

No. 456,184. Patented July 21, 1891.

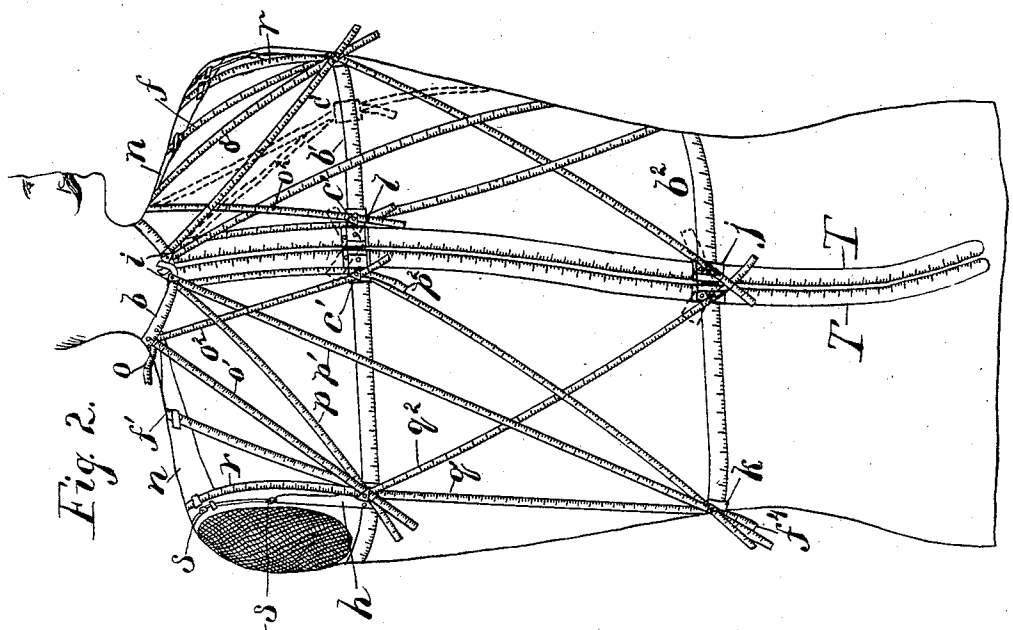


Fig. 2.

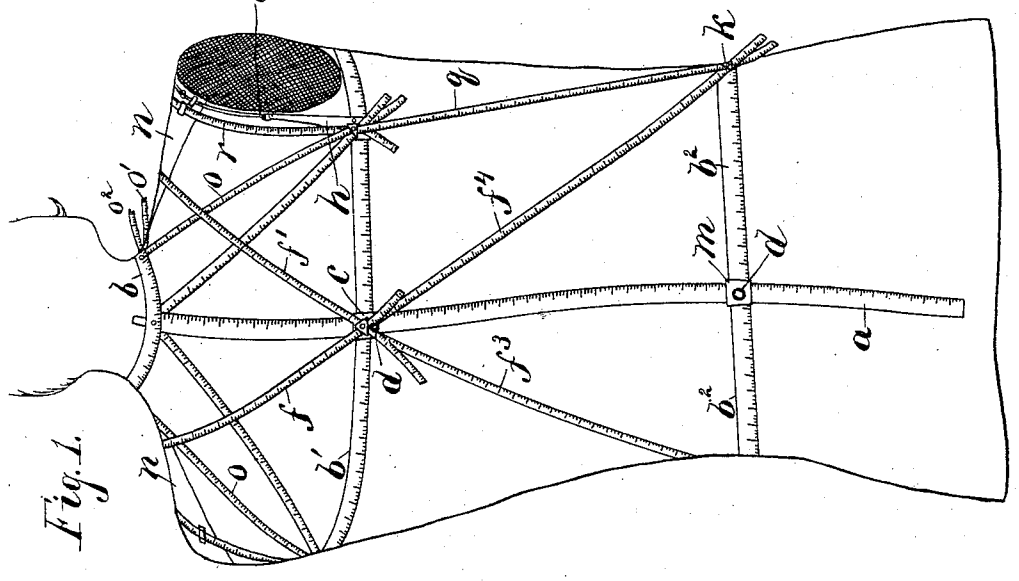


Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

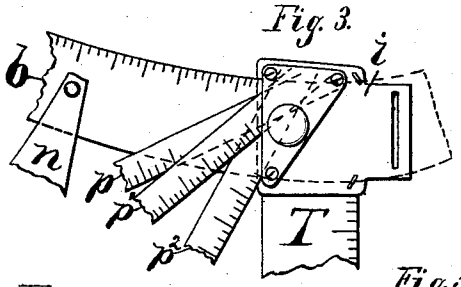


Fig. 4.

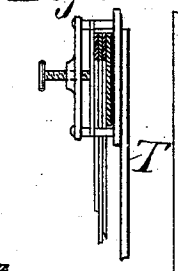


Fig. 11.

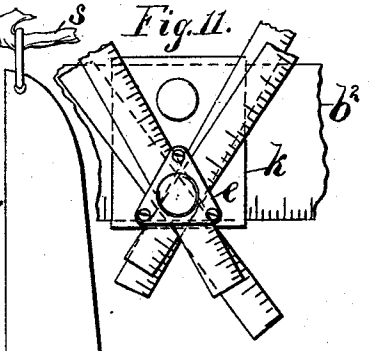


Fig. 5

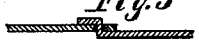


Fig. 6.

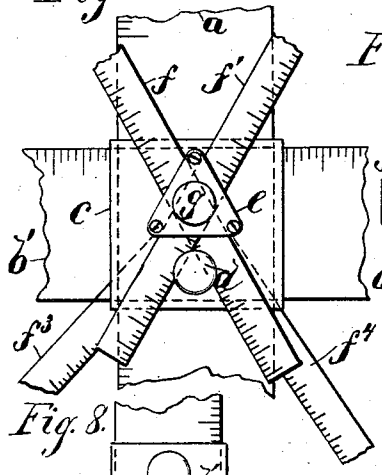


Fig. 7.

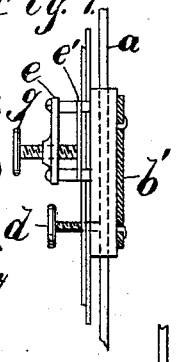


Fig. 12.

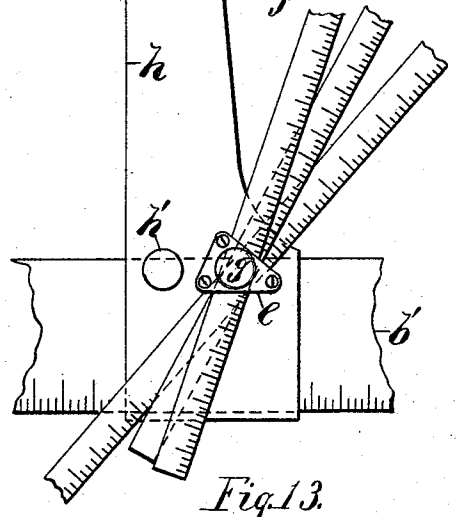


Fig. 8.

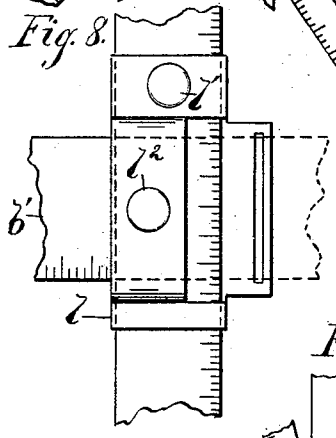


Fig. 9.

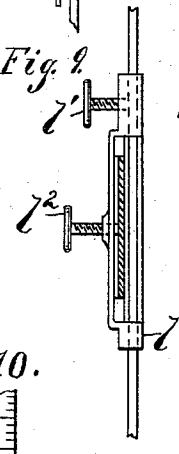


Fig. 13.

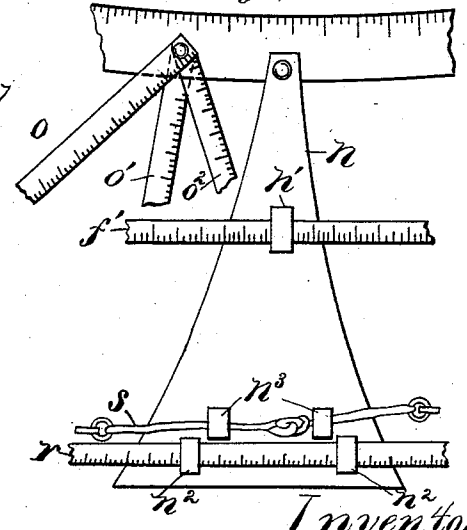
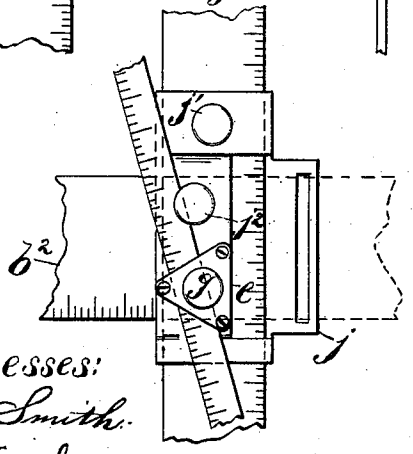


Fig. 10.



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UNITED STATES PATENT OFFICE.

RUDOLF G. WOLFF, OF CHICAGO, ILLINOIS.

TAILOR'S MEASURING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 456,184, dated July 21, 1891.

Application filed October 23, 1888. Serial No. 288,944. (No model.)

To all whom it may concern:

Be it known that I, RUDOLF G. WOLFF, a citizen of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tailors' Measuring Apparatus, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 shows a dummy human figure with my improved tailors' measuring device applied as seen on the back and partly on the side or in perspective. Fig. 2 shows the same as seen in front view. Fig. 3 shows in front view a part of the front end of the neckband and one member of the clasp or clamp on it, together with a part of each strap connected or fastened to said clasp. Fig. 4 shows the same in side or edge view of said parts. Fig. 5 shows in transverse section the manner of constructing the coupling part of each pair of clasps. Fig. 6 shows an adjustable sliding clamp in side elevation with strap or tape clamp as placed on the two lower belts, with parts of belt, back strap, and tapes. Fig. 7 shows an edge view of Fig. 6. Fig. 8 shows one member of the clasp on the central belt with fragments of straps fastened to it. Fig. 9 is an edge view of Fig. 8. Fig. 10 shows in side elevation one member of the clasp in the lower belt and the measuring-tape carried by it held in a tape-clamp. Fig. 11 shows an adjustable sliding clamp constructed like the one shown in Fig. 6 as applied to the lower belt and the ends of four measuring-tapes held by it. Fig. 12 shows in side view an adjustable arm on the central belt, together with the ends or parts of three diagonal measuring-tapes held by a clamp on it. Fig. 13 shows a part of the neckband or upper belt to which a shoulder-piece is pivoted. It also shows fragments of two measuring-tapes carried in slides or loops on it; also, the tape or cord secured in the ends or rings of the said adjustable arm, Fig. 12.

Like letters refer to like parts.

The object of my invention is to produce a measuring device for tailors to cut and fit clothing for male or female apparel, and to attain said end I construct my improved device substantially as follows, namely:

To a measuring-strap *a*, which we will here call a "back strap," applied to the spine from the neck down, I attach three circumferential belts *b b' b²*, the first *b*, called a "neck-band," at the upper end of the measuring-strap *a*, to measure around the neck, the second *b'*, a "breast or bust band" to measure around the body under the arms and the third *b²*, a "waist band" or "belt," to measure around the body at the waist. The said belts are only single pieces; but, as they number from the spine in both directions, they are practically like two parts the ends of which meet or overlap in the front over the center of the bust in a vertical plane over each other.

The neckband is pivoted to the back strap; but the lower belts are both adjustable vertically on said strap *a* by means of slides *c* and *m*, to which said belts are permanently attached, but through which said back strap slides freely, and to which it may be clamped at any point by means of a set-screw *d*. Said clamp *c* has a strap-holding device *e*, called a "tape-clamp," mounted on it on its upper half, which consists of three posts and an upper plate on said posts and a screw through its center, at the end of which is another plate or gib held between said posts and which lies on the measuring-tapes, (*f f'* in this case,) which pass through under it and by means of which, with said screw *g*, the said measuring-tapes may be securely clamped at any desired point. Like tape-clamps are mounted on each of the four arms *h*, also on both neck-clasps *i*, on the front clasps *j* of the lower belts, and on the adjustable clamp placed between the arms *h* and front clasp *j* of the middle belt, and on a like device on the lower belt between the front slide *j* and clamp *m* at the intersection of the lower belt and back strap *a*. Through each of said tape-clamps *e* one or more measuring-straps slide and are attached either in or under other tape-clamps or at other fixed or adjustable parts of my device, as shown.

The manner in which the uniting parts of the clasps are constructed is shown in Figs. 3, 5, 8, and 10, which in itself is not new and for which any other practical device may be substituted. The ends of said belts do not overlap each other, but project forward ver-

tically from the body over the front; but they are here shown as either terminating at said points or crossing beyond the central point, where they are shown in broken lines merely to show that ends do project. From the back or under side of said clamp *c* and fixed to it project two straps f^3 f^4 down to and through the sliding pieces *k*, where they are adjustably held in tape-clamps *e*, and from said clamp *c* the straps *f f'* pass over the shoulders and shoulder-pieces *n*, where they are held in place in loops or slides *n'* and pass down to the front arm-piece *h*, where their zero ends are permanently fastened under their tape-clamps *e*.

Each half of the breast-band carries two arms *h*, which slide on it and are clamped in place by the binding-screw *h'*. One of said arms is placed in front and one behind each shoulder, with its vertical edge touching the shoulder, and which serves to locate the front and back joint of the sleeve and shoulder with the body at that point in its position both from the same and chest, and is indicated on the said breast-band in numerals, counting from the back strap. Each of said arms *h* has a binding-screw *h'* to hold it on the breast-band, and on each of said arms is a tape-clamp *e*, each located, as shown in Fig. 12, relatively to the other parts of said arm.

Through the tape-clamp on the arm *h*, in front of the shoulder, passes the central one *o'* of the group of measuring-tapes *o o'* o^2, which are permanently attached to the neck-band at a point back of that to which the shoulder strap is attached, and the zero or measuring-point in all of said group begins at that point. The first one *o* of said tapes passes back and down through the tape-clamp of the arm *h*, located back of the shoulder, and the central one *o'* passes through the tape-clamp on the arm *h* in front of the shoulder, the third tape o^2 passing to the front sliding clamp *c'* on the breast-strap *b'*, moving on said strap between the front arm *h* and clasp *l* of said strap.

From each member of the clasp of the neck-band passes a group of three measuring-tapes *p p'* p^2, which are permanently secured at their zero ends in the tape-clamps of said clasps. The first of said tapes *p* passes through the tape-clamp on the arm *h* in front of the shoulder, and *p'* passes down in a diagonal direction over the breast through the tape-clamp of the sliding clamp *k* on the belt b^2, the proper location of said sliding clamp being vertically under the armpit, while the strap p^2 passes through the tape-clamp on the sliding clamp *c'*, constructed and used in every way like the clamp *c*, and it is located on the breast-strap next to the clamp *l* and slides between it and the arm *h*.

To the arm *h*, back of the shoulder, a tape *q*, with its zero end attached to it, runs down through the tape-clamp on the sliding clamp *k*, and from the arm *h*, in front of the shoulder, two measuring-tapes, with their zero ends attached to it, run down, one through the tape-clamp *k* and the other through the clasp *j*, belonging to the same half of the instrument to which the said arm *h* belongs. There is also a measuring-tape *r* attached at its zero end to the tape-clamp at the arm *h* in front of the shoulder, which passes over the shoulder and through the loops n^2, near the outer end of the shoulder-piece *n*, and through the tape-clamp on the arm *h*, situated behind the shoulder. At the upper ends of said arms *h* is a hole or a ring, through which passes a tape *s*, so as to have its ends meet on the shoulder, where they are either tied together or united by means of a buckle or similar device, whereby the ends of said arms *h* are drawn up and held in their proper places.

To the under side of each half of the clasps *i* is permanently attached the zero end of a measuring-strap T, which from thence passes down through the clasp *l*, which is held in any position on said strap by means of its binding or clamping screws *l'* and on the breast-strap by means of another binding or clamping screw l^2. Said strap T passes on through the clasp *j*, provided with a screw *j'* to hold it on said strap and a screw j^2 to bind it on the belt b^2.

It will be observed that from the back strap each wing or half to the right and left of it is a duplicate of the other in all its parts.

The double measuring-straps T answer the double purpose of measuring and of holding the front parts of the belts, &c., in their proper places; but only one of them really need be provided with a measuring-scale.

It will be observed that the neck band or belt is the primary point from which all other points are measured. This is therefore the primary adjustment to make in using this apparatus, as its own weight and that of the apparatus, by adjusting its length, set it to its proper place. After this is done comes the adjustment of the belts *b' b²* to their proper heights, and next that of their clasps for the circumferential measurements, the back strap and front straps T T giving the vertical dimensions from the neckband. Next comes the adjustment of the arms or horns *h* to the shoulders, after which the tape *s* is drawn up and fastened. After the said parts are fastened to their proper places the sliding clamps *c'* and *k* are moved to their proper places, all in about the positions as shown on Figs. 1 and 2, (the clamp *c'* is also shown in dotted outline with its measuring-tape, a position to which it is moved on female figures,) and then the free ends of all the measuring-tapes are drawn up to their proper places and clamped in the tape-clamps, which completes all the measuring to and from all the points to fit a garment. The numerals on the measuring-tapes, straps, and belts may then be read off without error and will with absolute certainty be correct measurement for any figure however ill-shaped or disproportioned

it be; or the apparatus may be taken from the person and the measurements recorded subsequently, if desired, as all the parts are permanently held in their places by their respective clamps and binding-screws.

From the preceding description it will be observed that the primarily-essential parts are the back strap, with its neckband permanently attached to it, and the two vertically-adjustable belts b' b^2, all the said parts b b' b^2 having measuring-scales on each half or limb from the back strap and the front strap T, with the zero of their measuring-scale attached to the front clasps of the neckband, and the fixed and adjustable points on said parts from which the measuring-tapes may be applied, and lastly and for greater convenience the fixed measuring-tapes from both said fixed and movable points to other fixed and movable points, as shown and described.

It will be observed that the arrangement of the straps, belts, arms, or horns, &c., is such that the entire figure is divided into triangles connected with one another in all the varying positions of their several sides.

What I claim is—

1. A tailor's measuring apparatus consisting of a neckband provided with measuring-scale of which the zero-point is in the center of it, at which point it is permanently attached to the upper end of a back strap, in combination with a vertically-adjustable breast and waist belt, each provided with a measuring-scale having its starting-point at the centers of said belts, where it is secured to the back strap, interlocking clasps to the free ends of each of the belts b b' b^2, and vertical measuring-straps secured to the clasps of the neckband and adjustably connected to the clasps below, substantially as specified.

2. A tailor's measuring apparatus consisting of a neckband centrally attached to the upper end of a back strap, the intersection of said parts forming the zero-point for a measuring-scale on the back strap and for one or both limbs of the neckband, in combination with vertically-adjustable breast and waist belts centrally attached to clamps on the back strap, from which, on each, the zero-point of a measuring-scale begins, said belts being connected in front by adjustable clasps suspended from the clasps on the neckband by straps permanently attached thereto and adjustably attached to the clasps below said upper ones, and measuring-tapes leading from the top of the back strap and from the intersection of the back strap to the respective belts below them, substantially as specified.

3. In a tailor's measuring apparatus, the combination, with the back strap a and belts b b' b^2, of the measuring-tapes f f' f^3 f^4 o r o' o^2 p p' p^2 q' q^2, attached at their zero ends to said belts, the clasps to said belts, and the vertical measuring-straps connecting said clasps, substantially as specified.

4. In a tailor's measuring apparatus, the combination, with the back strap a and belts b b' b^2, of the adjustable arms h on the belt b', and measuring tapes and tape-clamps attached to said belts, whereby distances may be measured from fixed points on either one of said belts to fixed points on the other belts, substantially as specified.

5. In a tailor's measuring apparatus, the combination, with the neckband, back strap, and adjustable belts b' b^2, of the adjustable arms h on the belt b', provided with tape-clamps, and measuring-tapes attached to said arms, whereby distances on and between said belts at fixed points may be measured with said belts and measuring-tapes, substantially as specified.

6. In a tailor's measuring apparatus, the combination, with the back strap and belts b b' b^2, provided with measuring-scales, and the belt b', with four arms h, of the tape s and shoulder-pieces u, substantially as specified.

7. In a tailor's measuring apparatus, the combination, with a fixed neckband attached to a back strap, and said back strap provided with two adjustable belts, of the adjustable clasps to said belts adjustably attached to vertical measuring-straps between said clasps, substantially as specified.

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