(No Model.)

J. H. RENSEN.

TAILOR'S MEASURING APPARATUS.

No. 480,036. Patented Aug. 2, 1892.

Fig. 1.

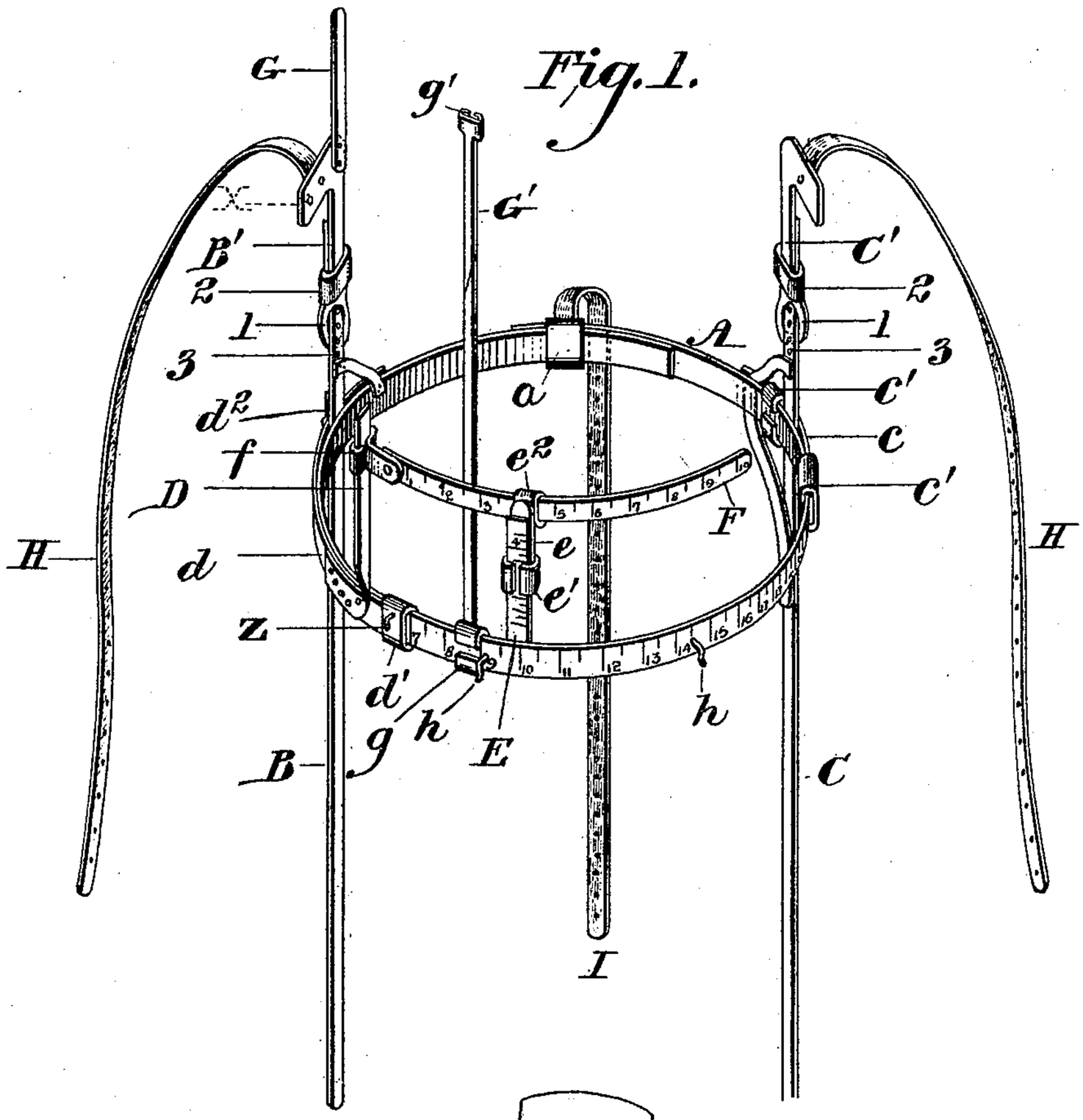

Fig. 2.

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TAILOR'S MEASURING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 480,036, dated August 2, 1892.

Application filed December 16, 1891. Serial No. 415,236. (No model.) Patented in England, January 8, 1892, No. 437.

To all whom it may concern:

Be it known that I, JOHN HENRY RENSEN, a subject of the Queen of The Netherlands, residing at the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Tailors' Measuring Apparatus, (for which British Letters Patent No. 437 were granted as of date January 8, 1892;) and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to an apparatus of novel construction whereby the measurements requisite to the proper cutting and fitting of a garment may be taken with facility and accuracy.

The construction and operation of the device will be best understood from the following description, with reference to the annexed drawings, in which—

Figure 1 is a perspective view of the device, and Fig. 2 a view of the same as in actual use.

A represents a horizontal flexible band, preferably of thin brass, one side of which is graduated to a scale of inches or other standard system of measurement.

B C are two vertical arms mounted upon the band A at suitable points in the length of the latter. The arm B is fixed firmly to the band A by riveting or otherwise; but the other arm C is so applied to the band as to be horizontally adjustable thereon—that is to say, the arm C is fastened to a small plate *c*, which is provided with edge lips *c'*, that engage the edges of the horizontal band. The arms B C project slightly above the upper edge of the band A, and these up-projecting portions are provided with longitudinally-extensible angular sections B' C', respectively. In the present instance these sections are each adjustably connected with the vertical arm by providing the vertical member of the section with an eye 1, through which the end of the arm extends, and with guide lips or flanges 2, that take against the sides of the arm. The parts are so fitted together that the friction maintains the sections in any position to which they may be set. The upper portion of each arm is provided with a series of studs or hooks 3, that are adapted to engage the edge of the section-eye 1, and thereby prevent upward movement of the section when the apparatus is in service, as hereinafter explained. The outer faces of those portions of the arms B C that depend below the band A are graduated similarly to the latter, as shown in Fig. 2.

D represents a short vertical arm that is adjustably mounted on the horizontal band A just in rear of the fixed arm B, so that it (the arm D) may be readily moved toward or away from the arm B. This adjustable arm D in the present case is fixed to a plate or strip *d*, one end of which is provided with a guide-piece *d'*, that engages the edges of the band A, the other or free end of said plate or strip extending freely through a guide-plate d^2, Fig. 2, affixed to the arm B. Thus the arm D may be adjusted within the range of movement of its supporting-strip *d*. Rising from the band A at a suitable point in rear of the justable arm D is a fixed short arm E, which is provided with an extensible section *e*, that is maintained in place by the engaging guide-lips *e'*. The outer face of the arm E has thereon a scale of inches, whereby the extent of vertical adjustment of the section may be readily determined. Supported in a suitable guide-piece e^2 on the upper end of this section is a horizontal band F, one end of which is secured to a vertical slide-piece *f*, fitted to the adjustable arm D. Hence the band F may be raised and lowered in respect to the main band A. The outer face of band F is provided with a scale of inches measuring from the arm D, as illustrated in Fig. 1.

G represents a thin vertical strip that is fastened to the adjustable section of the arm B, and G' a similar strip that is secured to a slide-piece *g*, mounted on the band A in relation to said arm. The upper ends of these arms are flexible, so that they may be brought toward each other, one of them being provided with a suitable device, as *g'*, whereby their meeting ends may be detachably connected. The top sections of the vertical arms B C are provided with straps H, and the band A is provided at suitable points with hooks *h* or equivalent devices, with which these straps are adapted to be engaged, as hereinafter

stated. One of the ends of the band A is equipped with a flanged plate *a*, with which the other end may be engaged when the apparatus is in service.

The foregoing is a general description of the preferred construction of my invention. Its operation is as follows:

The band A is placed around the body of the person to be measured, its ends being brought in front of the person and fastened together. The position of the band should be such that it will lie directly under the armpits and the upper portion of the fixed vertical member B take against the arm of the individual. The adjustable member C is then moved against his other arm. The angular sections B′ C′ are next set vertically to bear upon the shoulders. This done, the straps H are thrown over his shoulders and fastened to the hooks *h* on the back of band A, thereby preventing displacement of the device. The small hooks 3, before referred to, prevent vertical displacement of the angular sections when the straps H are drawn upon in the adjustment. It will be noticed that one end of the band A is provided with a strap I and the other end with a hook *i*. These are used to connect the ends of the band when the dimensions of the body of the person being measured exceed the length of the band A. The latter ordinarily will be about forty-five inches long. Continuing the operation, the adjustable member D is moved against the back of that arm with which the member C is in contact. Now as the scale on the band A is started from the member C it will be obvious that by observing the position of the member D in respect to said scale the required width of the armhole in the garment may be accurately determined. The strips G G′ are then moved toward each other, so as to meet on the the top of the shoulder, whereupon they are fastened together. This being done, the horizontal member F is adjusted vertically. For a person of ordinary build this member F is adjusted about three or three and one-half inches above the band A, varying either way, however, under different conditions. The parts having thus been adjusted the operator measures, by means of a tape-measure, the distance from the highest point the garment is to be cut in the middle of the back to a predetermined point *x* on the upper section of the member B′. He then measures the distance from this point *x* over the shoulder to the point where the horizontal member F is connected with the adjustable member D. He then measures from a fixed point *y*, adjacent to the point *x*, to the member F, the tape crossing the thickest part of the shoulder-blade. On a well-formed person the tape in this measurement will meet the member F at a point about four or five inches from the member D. This latter measurement on the member F must be noted down with the other or shoulder measurement. The operator next measures from the highest point in the middle of the back straight down to the horizontal member F, then from the same point to the band A, then from the same point to the tail of the coat or just above the hips, and then from the same point to the bottom of the garment. He then marks down, as it appears on the scale of the member F, the distance from the member D to the middle of the back. Continuing, he observes the backward distance between the vertical members B C as indicated by the scale on the band A, and by dividing this measurement in half he has the accurate distance between the front of the armhole and the middle of the back. He then notes the point on the scale of the member F where the strip G′ intersects the latter and proceeds to measure the distance from a fixed point (marked *z*) on the plate *d* up to the neck or highest part of the garment, but about three or four inches inside or to the left of the highest central point above referred to. The operator then takes the measurement between the members B C around the back at a point just above the hips, proceeding likewise across the seat, and as many other portions of the body as he may deem advisable. Care must be taken, however, to mark down the distance from the armholes to the lines where these last-described measurements are taken, the graduated vertical members B C permitting this to be done with ease and dispatch. The operator then measures from the point at which the horizontal member F is connected with the vertical member D down to the desired length of the sleeve. This completes the measuring on the back part of the person. Then by aid of a point *x* *x*, located on the fixed vertical member B where the same crosses the band A, as shown in Fig. 2, together with the vertical members B C and their scales, the operator may readily take all the measurements proper and necessary to the delineation of a pattern for the front of the garment.

It will be obvious that by means of my improved apparatus all the measurements above enumerated may be taken by a person of average intelligence, and that with these measurements he may, by keeping in view the relative positions of the several parts of the device, plan with facility and accuracy a pattern or patterns for the desired garment.

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

1. The combination of the horizontal body-encircling band, a main vertical arm rigidly affixed thereto so as to cross the same, a similar arm adjustably connected with said band, and a short vertical arm adjustably mounted upon the band in rear of one of said main vertical arms, the said main vertical arms being adapted to bear forwardly against the arms of the person to whose body the band is applied and the said short vertical arm being adapted to be adjusted rearwardly toward one arm of the person, substantially as described.

2. The combination of the main horizontal

body-encircling band, a main vertical arm affixed thereto so as to cross the same and adapted to bear forwardly against the arm of the person to whose body the band is applied, an angular section extensible on the upper portion of said main vertical arm, and a short vertical arm adjustably mounted in rear of the said main vertical arm and adapted to be adjusted rearwardly toward the arm of the person, substantially as described.

3. The combination of the main horizontal band, a main vertical arm thereon, a horizontally-adjustable arm in the rear of said vertical arm, and a vertically-movable horizontal band having a sliding connection with said adjustable arm, substantially as described.

4. The combination of the main horizontal band, the vertical arm, its extensible angular section, the flexible member G, the horizontally-adjustable arm D, the vertically-adjustable band F, and the sliding member G′, substantially as described.

5. The combination of the main horizontal band provided with means whereby its ends may be connected, the two main vertical arms, the shoulder-straps connected therewith, and the fastening devices on the horizontal band, with which said straps may be engaged, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN HENRY RENSEN.

Witnesses:
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