

Sept. 27, 1927.

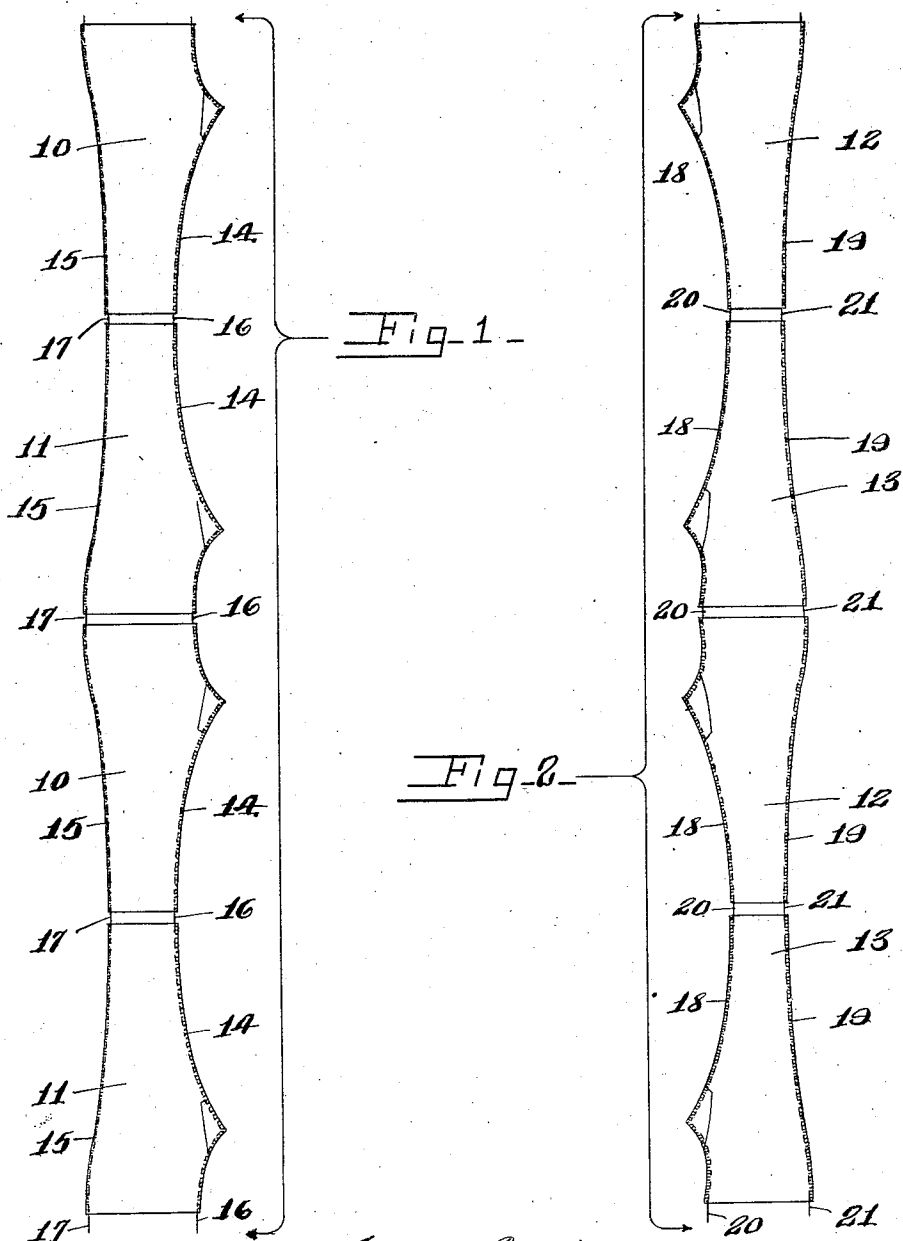
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1,643,707

METHOD OF MANUFACTURING GARMENTS

Filed Jan. 24, 1923

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

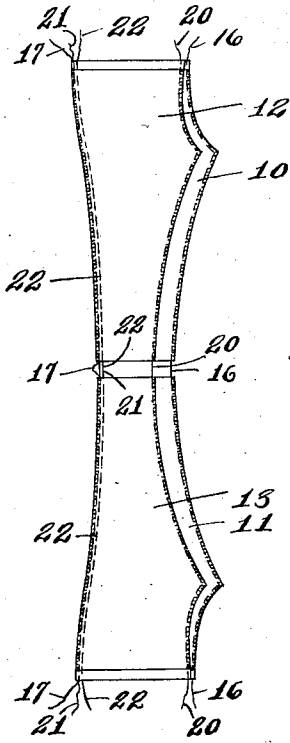


Fig. 3-

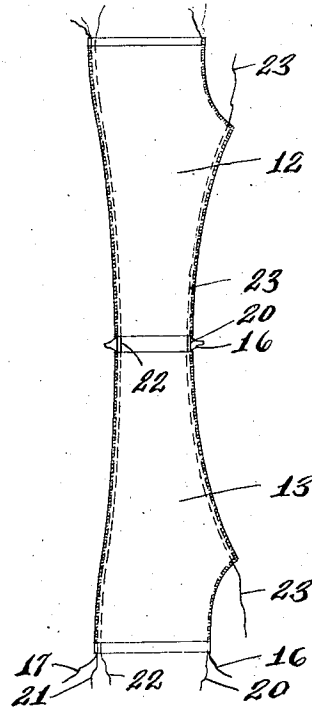


Fig. 4-

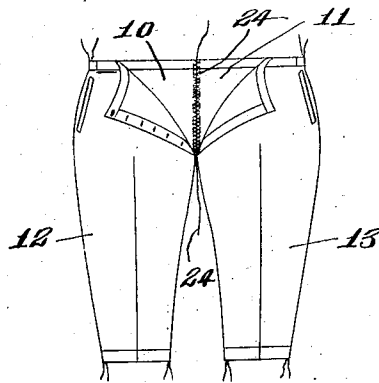


Fig. 5-

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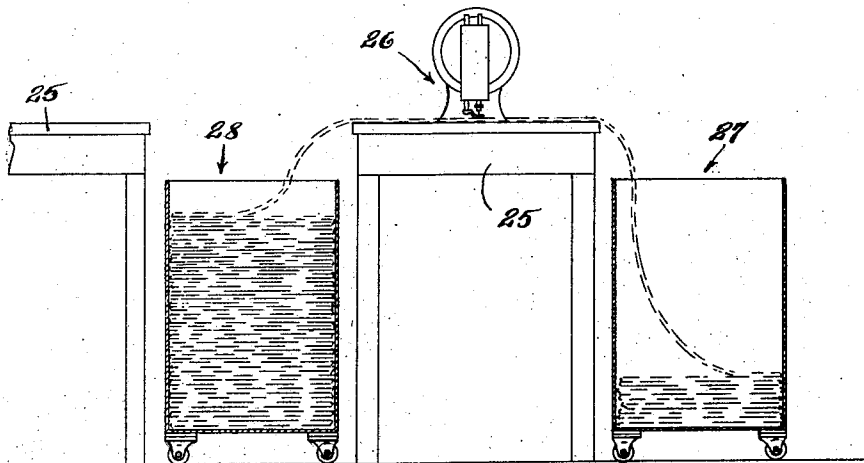


Fig-6-

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UNITED STATES PATENT OFFICE.

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METHOD OF MANUFACTURING GARMENTS.

Application filed January 24, 1923. Serial No. 614,581.

In manufacturing clothing as for instance, trousers after the pieces as for instance, the two back pieces and the front pieces are cut, the sewing operations as overcasting, stitching, etc. on the individual pieces are performed and some of the pieces are first paired and sewed together to make portions as halves of the garments and the other of the pieces paired and sewed to make the other halves and then the halves are brought together and joined. Numerous other sewing operations as sewing or trimming, belt loops, flies and pockets, pocket facings etc. in the neighborhood of fifty being performed in the meantime before the pieces of the garment are finally assembled. It is essential, even when all the trousers of a lot or batch are of the same size and pattern, that the back pieces and the front pieces cut from the same piece of goods be assembled in the finished garment and of course, it is all the more essential when the trousers are of different sizes or of different patterns.

Therefore, after the pieces are cut and separated for the various sewing operations, it is necessary that all pieces go through the sewing operations in the same order, in order that the pieces will pair or mate in the right order.

In other words, assuming that a lot or batch of fifty pairs of trousers is being manufactured, it is essential that the right and left backs of trousers No. 1, the right and left fronts or the front and back pieces of the right half, and the same pieces of the left half, all be brought together for the final operation after being separated for the various sewing operations. Usually, one-half consists of the right front and right back piece and other half consists of the left front and left back piece. Likewise, it is essential that the pieces of trousers Nos. 2, 3 and 4 to 50 be kept in exact sequence during the various sewing operations in order to pair or mate at all stages of manufacture.

Heretofore, the pieces have been brought to the operator in bundles, and have been usually laid over a horse, at one side, say the left, of the operator. The operator turns, picks up the first piece off the pile, runs it through her sewing machine, then again picks it up and lays it on a horse placed on the other, say the right side of the operator. Each operator goes through the

same multiplicity of movements in placing the work on and removing it from the machine.

Also in order to reduce liability of mistakes in destroying the sequence of the pieces, bundles containing a small number as fifteen to twenty pieces are used. In manufacturing say 1,000 pairs of trousers with twenty in a bundle, there would be two hundred bundles to handle. The bundles often topple over and spread out and the sequence of the pieces is destroyed. By my method all this multiplicity of movements by the operator is eliminated and there is no limit to the number that can be placed in a bundle, the number being limited from a practical standpoint only by its bulk and by the number of operators the work is to be distributed among. Therefore, in manufacturing a lot of one thousand pairs of trousers say with but fifty pieces in a bundle, there would be at the start but eighty bundles to handle. There are many other resulting advantages as in laying out and distributing the work, as will be understood by those skilled in the art.

My invention has for its object a method of manufacture by which the order of like pieces of different garments of a lot are automatically kept, during the manufacturing process, in their exact sequence or order corresponding to the sequence or order of the other pieces of the same garments.

In describing this invention, reference is had to the accompanying drawing in which like numerals designate corresponding parts in all the views.

Figure 1 is an elevation of the right back pieces and the left back pieces of a pair of trousers, the same being connected by threads.

Figure 2 is a similar view including the right front pieces and the left front pieces of the same pair of trousers, these pieces being also connected by threads.

Figures 3 and 4 are opposite and inverted side elevations of the pieces of the garment, the back pieces being shown as paired with the front pieces.

Figure 5 is an elevation of a pair of trousers after the various right and left and front and back pieces have been brought and sewed together.

Figure 6 is an elevation of the apparatus showing the arrangement of the machines

and the bundles by which the units of the bundles pass consecutively through the machines.

The pieces of each garment are numbered with the same garment numeral as for instance, each back piece of the first pair of trousers of the lot and each front piece are numbered 1 and all the pieces of the second garment are numbered 2 and the pieces of each of the remaining garments similarly numbered. My method of manufacturing garments consists in the following steps:

I. Continuously performing sewing operations as overcasting on the right and left back pieces of the garments so that said pieces are connected in a string or series with the right and left back pieces alternately and inversely arranged, whereby the right and left back pieces of garments Nos. 1, 2, 3 etc., are sewed together in a string or series; likewise performing the same sewing operations on the right and left front pieces whereby these right and left front pieces are sewed together in a string or series in consecutive order, all whereby one string or series consists of back pieces Nos. 1 to 50 and the other of front pieces Nos. 1 to 50, these pieces so connected together in series, come from this first operation in a pile with the No. 1 on the bottom and the No. 50 on the top.

II. This method further consists in sewing the back pieces of one string and the front pieces of the other in regular order, the pieces passing from 50 to 1. This sewing is along the inside and outside edges to form the inside and outside seams along the legs so that there is now one string consisting of the right and left halves of the trousers, the left half of each pair of trousers following the right half and in the new pile of halves. The halves are numbered from 1 to 50 with No. 1 on top.

III. This method further consists in joining the halves together along the back seam of the trousers and cutting the connecting threads.

Various other sewing operations are performed while the pieces are connected in strings or series such as pocket facings, sewing trimmings, linings, belt loops, pockets etc. during which operations the operator passes from one piece to the next piece without breaking the threads connecting the pieces; thus without any attention on the part of the operator all the pieces numbered 1 will finally come together in a finished garment and likewise all pieces numbered 2, 3 and so on through the entire lot.

When carrying out my method the operator takes the first piece as the right hand back piece of garment No. 1, runs it through the machine, sewing stitches as overcasting along one side edge of the piece, and the piece passes on off the back of the table of the machine into a pile or bundle on a truck,

and then performs the same operation on the left back piece of garment No. 1, and then the same operation alternately on the right back and left back pieces Nos. 2, 3, 4 etc. down through the lot without breaking the thread so that all the pieces of the batch are connected together in series so that the last pieces in the batch, say #50 will be on the top of the pile.

Preferably, the left back piece is oppositely arranged or inverted with respect to the right back piece.

The string of back pieces is then run through the sewing machine to sew the overcasting stitches along the other side edge of the back pieces, the operator passing from one piece to the other without breaking the thread, the pieces passing through the machine from #50 to #1 so that #1 is at the top of the pile.

While this is being done, other operators are likewise performing the same operations on the right front and left pieces sewing them in a string or series in regular order corresponding to that of the string of right and left back pieces.

After the overcasting and the connecting of the pieces in strings or series is completed, the trucks on which the piles are formed are then moved to the operator for performing the next operation (II) that is, joining the right back and right fronts together and the left back and left fronts together along one of the side seams say the outside leg seam, the pieces passing from 1 to 50 and then the pieces pass in the order from 50 to 1 through the machine to form the other or inside leg seam so that there is now one string consisting of halves, each left half pair of trousers following its companion right half.

This single string or series consisting of halves is now passed through the sewing machine to join the halves together along the back seam of the trousers, the operator taking the first half on the top of the bundle and the second half which in the order we have assumed is the left half of garment #50 and the right half of garment #50 and cuts the string connecting it with the first or left half of garment #49 and after the back seaming of garment #50 is sewed, takes the two halves of garment #49 and sews them together along the back seam severing the threads connecting the second or right half thereof with garment #48 and so on down through the string. Thus, during the various operations on the pieces of the garments the corresponding consecutive order is automatically maintained so that the pieces intended to be brought together in one garment when being cut are assembled in such garment without any attention on the part of the operator in maintaining the order and the pieces are not cut.

10 are the right back pieces and 11 the

left back pieces. 12 and 13 are respectively the right front and left front pieces.

In Fig. 1, 14 and 15 designate the overcasting stitches along the inner and outer edges of the right and left back pieces, and 16, 17 the pieces of the threads connecting the stitching 14 and 15 between the back pieces. 18, 19, Fig. 2, designate the overcasting stitching along the inner and outer edges of the front pieces 12, 13, and 20, 21 are the connecting threads.

In Figs. 3 and 4, which are opposite and inverted side elevations, the strings or series of back pieces are shown as paired with the series of front pieces for performing the sewing operation along the outside leg seam at 22, Fig. 3 and the inside leg seam at 23, Fig. 4. The threads of the seams 22, 23 may continue without breaking from one assembled leg or half to the next in the string or may be broken or cut. The only reason for continuing them in one piece to the next in the string would be to save the time required to break or cut them.

After the side seam stitching operation, the pieces are in a single string or series consisting of alternately arranged right and left halves of the trousers, that is, the first unit in the string consists of a right back and a right front of garment No. 1, these being connected by threads 16, 17, 20 and 21 to the unit consisting of the left back and left front pieces of garment No. 1, this second unit is connected by threads 16, 17, 20 and 21 to a unit consisting of the right back and right front of garment No. 2 which parts are connected by threads 16, 17, 20 and 21 to a unit consisting of the left back and left front of garment No. 2 and so on through the string.

This single string is then brought to operatives for the joining of the right and left halves together. The operator then cuts the threads 16, 17, 20, 21 as the garments come to him in the string performing the operation of joining the right and left halves, that is performing the back seaming operation at 24.

If desired, the string composed of right and left halves arranged alternately may be cut up into two or more strings at any point by cutting the connecting threads 16, 17, 20, 21 between any two units of different garments. That is, if there are fifty garments in the string, the pieces of which are numbered from 1 to 50, the string may be cut

to form two strings or series between the pieces numbered of the garments at the middle of the string or at any other point between differently numbered pieces.

In Fig. 6, 25 represents a table having a sewing machine 26 thereon.

27 and 28 are respectively, trucks from and to which the operative feeds the pieces of the string or series.

Obviously, by my method the only movements required by the operator is feeding the work to her machine and guiding it through the machine.

All other movements such as lifting the pieces of the garment from the bundle on one horse and placing it on another before and after each sewing operation are eliminated.

What I claim is:

The method of manufacturing trousers consisting in forming the overcasting operations along the side edges of the right back and left back pieces of the lot or batch of trousers to be made and passing from one piece to the next without breaking the thread whereby the back pieces are arranged in consecutive order and the left back piece of one garment follows the right back of the same garment and likewise performing a similar overcasting operation on the right front and left front pieces of the trousers so that the back pieces are connected in one string or series and the front pieces in a parallel string or series corresponding to the string or series of backs, joining the parallel strings of backs and fronts together by sewing the pieces thereof in consecutive order along the inside and outside leg seams whereby the pieces are arranged in a single string or series consisting of right and left halves of trousers alternately arranged, the left half of each pair of trousers following the right half, and sewing the first and second halves together along the back seam of the trousers and severing the threads connecting the second and third halves, and likewise joining the third and fourth halves along the back seam of the trousers and severing from the fifth halves and so on through the string or series.

In testimony whereof, I have hereunto signed my name at Syracuse, in the county of Onondaga, and State of New York, this 5th day of January, 1923.

SAMUEL ELMAN.