SUSPENDERS FOR OVERALL-TYPE GARMENTS

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This invention relates generally to work garments, and is especially concerned with overall-type trousers or pants.

It is an important object of the present invention to provide a work garment of the type described having a unique suspender construction which permits the required looseness of fit and freedom of arm movement while affording complete adjustability both of the front and back of the garment, and wherein the tendency of suspender straps in prior overall garments to slip or slide off the wearer's shoulder has been effectively eliminated.

It is still another object of the present invention to provide a suspender construction for garments having the advantageous characteristics mentioned in the preceding paragraph, wherein an extreme degree of adjustability is quickly and easily achieved by a unique adjustment structure.

It is still a further object of the present invention to provide a work garment of the type described which is extremely simple in construction, comfortably and easily employed, durable and reliable throughout a long useful life, and which can be economically manufactured for sale at a reasonable price.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction, extensions or variants thereof of which the scope will be indicated by the appended claims.

In the drawings:

FIGURE 1 is a front perspective view illustrating a garment of the present invention in its condition of use upon a wearer.

FIGURE 2 is a rear perspective view showing the garment of FIGURE 1, absent the wearer;

FIGURE 3 is a front elevational view showing connection means of the instant invention;

FIGURE 4 is a front elevational view similar to FIGURE 3 illustrating the buckle thereof, partly broken away;

FIGURE 5 is a longitudinal sectional view taken generally along the line 5—5 of FIGURE 3, indicating one condition of suspender-strap adjustment;

FIGURE 6 is a longitudinal sectional view similar to FIGURE 5, but illustrating an early stage in obtaining extreme strap adjustment;

FIGURE 7 is a longitudinal sectional view similar to FIGURE 6 showing a later stage in obtaining extreme strap adjustment; and

FIGURE 8 is a longitudinal sectional view similar to FIGURES 6 and 7, showing a final condition of extreme strap adjustment.

Referring now more particularly to the drawings, and specifically to FIGURES 1 and 2 thereof, an overall-type garment is there generally designated 10, and includes a lower or pants part 11, and an upper part or bib 12 extending upward from the forward or front region of the pants.

The suspender construction or suspension is generally designated 13 and extends over the shoulders of the wearer 14 being detachably connected to front and rear regions of the pants.

The suspension construction 13 is best seen in FIGURE 2 and may include a neck strap 16, fabricated of webbing or other suitable material, having its medial region 17 adapted to extend behind a wearer's neck. From the medial strap region 17, the neck strap extends forwardly on both sides of the neck and downwardly, as at 18, toward the bib 12. Connecting each end of the neck strap 16 to the bib 12 is an adjustable connection means, generally designated 19.

A rear strap 20, also fabricated of webbing or other suitable material, extends generally vertically between the medial neckstrap region 17 and a rear region of the pants 11. The backstrap 20 is provided at its upper end with a closed loop 21, which opens horizontally slidably receiving therein the medial neckstrap region 17. The closed loop 21 may be formed integrally with the backstrap 20, as by folding the upper end portion thereof upon itself and tacking or otherwise affixing the strap terminus to an adjacent strap portion, as at 22.

An adjustable connection means 19 serves to connect the lower end of backstrap to the rear region of pants 11. The adjustable connection means 19 and 21 may all be substantially identical, if desired, so that detailed description of one will suffice.

In FIGURES 3—5 are shown in greater detail one of the adjustable connection means 19. Such connection means includes a buckle 25 which may be suitably formed, say molded of plastic, or otherwise, and normally disposed generally vertically. The buckle 25 has its upper end region 26 formed with a series of generally parallel, laterally extending openings or coextensive slots 27, 28 and 29, being numbered in the direction inward to outward or away from the upper end of the buckle 25. The lower buckle region 30 may taper or converge downwardly to a lower-end button receiver or eye 31, as for snap reception of a pants button 32. The lower-end button receiver or eye 31 opens upward to an enlarged opening 33, as for passing the head of button 32, and the opening 33 opens upward through a constriction 34 into the lower or innermost slot 29. Formed on the upper bounding edge of the lower or innermost slot 29 may be a series of serrations, teeth or piercing points 35 entering into the slot, for a purpose appearing presently.

Directly associated with the buckle 25 is a strap end portion 37, say an end portion of strap 16. The strap end portion 37 may be considered as combining with the buckle 25 to define the adjustable connection means 19.

As best seen in FIGURE 5, the strap end portion 37 depends from the adjacent strap portion 18 to the buckle 25 and there extends downwardly, as at 38 through the upper or outer slot 27, whence it passes downwardly and inwardly, as at 39 through the adjacent or intermediate slot 28, and thence outwardly through the next inner or innermost slot 29, as at 40. From the innermost or lower slot 29 the strap extends upwardly on the outer side thereof, as at 41, and thence inward at 42 through the upper or outer slot 27 and upward to fixed connection, as by tack 43, or otherwise, to the strap portion 18. Thus, it will be seen that the strap end portion 47 is effectively doubled, by virtue of the fixed securement 43, and that the doubled or overlying sections of strap portion 37 extend together through the upper slot 27, thence diverging downwardly about bar 45 separating slots 28 and 29. To obtain proper adjustment, one upper region of the looped or doubled strap portion 37 is retracted inward for loose folding, as at 46. As illustrated, the loose fold 46 is disposed inward of the buckle 25, but it is apparent that the strap portions 48—42 may be shifted, if desired, to dispose the loose fold outward of the buckle. In either condition the selected position of adjustment is effectively retained by the frictional interaction of the buckle and interlaced strap por-
tions; and further, positive retention of the buckle is insured by the fixed securement or tack 43. When it is desired to achieve an extreme condition of adjustment, say to effectively shorten straps 16 and 20 more than is possible by the condition shown in FIGURE 5, then the condition illustrated in FIGURE 8 is employed. In FIGURE 8 an additional part of strap portion 18 is employed in the connection means 19, and the strap end portion may be folded, say at 50 to define a doubled strap and portion which, in this condition, extends considerably beyond the securement 43. The doubled strap end portion may extend in one direction, as at 51, outward through the upper or outer slot 27, thence together, as at 52 inward through the lower or inner slot, thence together outward, as at 53 through the intermediate slot 28, and thence inward through the outer slot, as at 54, extending thence to the fold 50. This condition is one of firm securement between the strap 16 and buckle 25, as by the interlacing portion of the strap through the buckle, while permitting of extremely wide-range adjustment. Here again, the folded, taken-up strap material, as between fold 50 and strap portions 54, may be located on the outer side of the buckle 25 as well as the inner side, if desired. It will also be observed that the fixed securement 43 of the strap terminus to an intermediate strap location does not restrict the degree of adjustment, and provides assurance against possible detachment of the buckle from the strap.

In order to obtain the extreme adjustment condition of FIGURE 8 from the normal adjustment condition of FIGURE 5, the steps illustrated in FIGURES 6 and 7 may be employed. For example, the strap portion 18 may depend to the buckle 25, thence extending forwardly at 60 through the upper or outer slot 27, and thence inwardly, at 61 through the lower or inner slot 29, say to a fold 62. The strap end loop defined by securement or tack 43 extends about the buckle bar 45 and inward therefrom to the loop 62.

From this condition of FIGURE 6, the strap regions 60 and 61 are passed downward and inward beyond the fold 62 to the desired position of adjustment; and, the inwardly passed strap material is folded, as at 50, being passed upward and downward through the intermediate slot 28, and thence inward and upward through the upper slot 27. This condition is shown in FIGURE 7, from which it will be understood that continued upward withdrawal of the fold 50 results in the extreme adjustment condition of FIGURE 8.

From the foregoing, it is seen that the garment construction of the present invention fully accomplishes its intended objects and is well adapted to meet practical conditions of manufacture and use. Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. Suspenders for a work garment including pants, and a bib extending upward from the front region of the pants, said suspenders comprising a single neck strap adapted to pass behind the neck of a wearer with its ends extending forward toward said bib, connection means connecting the ends of said neck strap to said bib, at least one of said connecting means being adjustable, a generally vertical single backstrap having at its upper end a laterally horizontally opening loop freely slidably receiving a medial region of said neck strap behind the wearer, and additional adjustable connection means at the lower end of said backstrap for connecting the latter to a rear region of said pants, one of said adjustable connection means comprising a buckle having a fastener element at one end for fastening to the pants and having a plurality of transverse slots at the other end, the adjacent end portion of the respective strap being interlaced through said slots, and securing means fixing the terminus of said respective strap end portion to an intermediate location of said respective strap, said slots being at least three in number and extending for connection to the parallelism laterally of said buckle; said strap end portion extending in one direction through the outer slot, thence in the other direction through the adjacent slot, thence in said one direction through the next inner slot and thence in said other direction through said outer slot; the strap portion between said intermediate location and buckle being foldable to adjust said one adjustable connection means.

2. Suspenders according to claim 1, in combination with teeth on said buckle extending into said inner slot for piercing engagement with the strap portion extending through said next inner slot.

3. Suspenders for a work garment including pants, and a bib extending upward from the front region of the pants, said suspenders comprising a single neck strap adapted to pass behind the neck of a wearer with its ends extending forward toward said bib, connection means connecting the ends of said neck strap to said bib, at least one of said connection means being adjustable, a generally vertically single backstrap having at its upper end a laterally horizontally opening loop freely slidably receiving a medial region of said neck strap behind the wearer, and additional adjustable connection means at the lower end of said backstrap for connecting the latter to a rear region of said pants, one of said adjustable connection means comprising a buckle having a fastener element at one end for fastening to the pants and having at least three parallel slots at the other end; the terminus of the adjacent strap being folded upon itself to define a doubled strap end portion; said doubled strap end portion extending in one direction through the outer slot, thence in the other direction through the inner slot, thence in said one direction through the intermediate slot, and thence in said other direction through said outer slot, the terminus of said adjacent strap being fixedly secured to an intermediate point of said doubled strap end portion, to positively secure said strap to said buckle.

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