

DESCRIPTION

The present invention relates to a new woven ribbon, notably for a belt, thong, strap, handbag handle or watch wristlet, at least one extremity of which is designed to be secured at an adjustable distance to a buckle with a tang.

At the present time when one makes an object or an article, such as those which have just been mentioned, using a woven ribbon, one does not content oneself with making holes in this ribbon to permit passage of the tang.

Indeed, in order to enable the tang to be easily introduced into the holes at all times without risk of missing them, and to enable the fabric to stand up effectively to the pulling of the tang, it is necessary for the material to be composed of very stiff and very close-woven threads.

It is correct to say that it is always desirable or necessary for the object or article in question to be sufficiently stiff widthways, but not lengthways.

As a result, a fabric is chosen which makes it possible to fulfil this dual requirement of rigidity in width and pliancy in length, subsequently adopting one of the two following possibilities:

The first is to actually pierce holes in the woven ribbon and to surround these with eyelets.

The second is to fix to the end of the ribbon a band in a more resistant material than said ribbon, for example in

natural or synthetic leather, and to pierce holes therein.

These two solutions have two disadvantages in common: they notably increase the cost price of the object or the article and they do not permit a fine adjustment of the length thereof due to the relatively long gaps which must, nevertheless, be provided between the holes.

In addition, the first solution has another disadvantage. Namely, by interrupting the continuity of the position of the warp and weft threads, the holes weaken the mechanical resistance of the ribbon.

Having said this, if one reads the French patent No 1 512 865 which was filed on February 28, 1967, one notes that a long time ago somebody thought of producing a ribbon having weft threads arranged substantially equidistantly along the width and warp threads along the length thereof and or providing a straight longitudinal zone totally devoid of warp threads for the passage of a tang and this specifically in order to eliminate the disadvantages of the first solution mentioned above.

However the prior proposal suffers from the disadvantage that it does not give any details regarding the nature of the threads and the special mode or modes of weaving which must be employed in order to make the ribbon in question meet all the stated requirements.

This earlier ribbon may, according to the inventor thereof, have any structure, but it is quite clear that this is not true. If this were so, ribbons of this type or

articles made using them would doubtless have been on the market for a long time.

It is an object of the present invention to provide a solution which makes it possible to pass from the underlying concept of French patent No 1 512 865 to an effective realization thereof.

It is also an object of the present invention to provide a ribbon which may be manufactured in very large numbers and at a very low cost price.

These objects are achieved thanks to the fact that in the ribbon according to the invention, which also comprises weft threads and warp threads disposed respectively along the width and along the length thereof, and which also presents in a narrow part of its width a zone adapted to be secured to the buckle with a tang in which the weaving is less close-woven than elsewhere, but without the warp threads necessarily being absent from this zone, the weft threads are threads which are at least partially composed of synthetic material and to the fact that it is woven in such a way that the weft threads are joined in pairs of adjacent threads by the warp threads.

The weft threads thus confer to the ribbon the desired stiffness in width and the warp threads its pliancy in length.

Moreover, there are two advantages in joining the weft threads in pairs:

Firstly, these pairs are more resistant to the pulling

of the tang than if they were regularly distributed along the direction of the length of the ribbon, as is the case in the above mentioned French patent.

Secondly, in this manner one creates small spaces between the pairs into which the tang can easily penetrate, whilst continuing to provide the possibility of virtually continuous regulation along the length of the ribbon.

As regards the weft threads, it is often preferable to use solid threads entirely of synthetic material, but one can also in certain cases resort to composite threads composed of a core of natural fibre and a sheath of synthetic material.

As regards the warp threads the choice is very great. One may for example use threads composed of very fine fibres in clusters and/or slightly twisted, these fibres being natural or artificial.

In addition, to obtain a less close-woven weave in the narrow part one can for example arrange that the warp threads in that portion are less close to one another than in the other parts or that the weft threads pass in this area on the same side as the warp threads.

If one opts for the solution which consists in not providing warp threads in the narrow part one can weave on both sides thereof a warp thread that is solid, thin and stiff or a pair of adjacent threads of this type which pass alternately from one side to the other of consecutive pairs of weft threads. In so doing, one accentuates the stiffness

of the weft threads in the central region of the ribbon and one prevents the other warp threads, which are much more pliant, from spreading into the narrow part.

Finally, it is obvious that one can very greatly vary the appearance of the ribbon by using threads of different colours and different modes of weaving.

Other features and advantages of the ribbon according to the invention will appear from a study of the following description of four possible embodiments which are chosen simply for purposes of example and which are particularly well adapted for use in a watch wristlet. This description refers to the enclosed drawings in which Figures 1 to 4 are plan views of part of the ribbon in these four embodiments.

The weft of the ribbon shown in Fig. 1 is composed of a single thread 1, continuous, thin, solid and of a resilient synthetic material. The thread 1 is folded back on itself successively on each of the edges of the ribbon in turn as is apparent in particular in 2 and 3, on the edge of the underside of the ribbon. In so doing it forms pairs of adjacent weft threads 4, 5, all regularly spaced, only every two pairs of which are visible on the drawing, the intermediate pairs appearing on the reverse of the part of the ribbon shown in the drawing.

The warp of this ribbon is formed of two superimposed layers of threads, 6, 7, 8, 9, each formed of very fine fibres that are in clusters and/or slightly twisted. Only those in the upper layer are visible in the drawing. Thus,

the warp thread 6 of the upper layer passes alternately above three consecutive pairs of adjacent weft threads, then under the next pair of weft threads. Every second pair of warp threads of this upper layer passes over and under the same pairs of adjacent weft threads as the thread 6. As for the thread 7, just as both the other warp threads of the upper layer, this passes alternately under the pair of adjacent weft threads which is located in the middle of those over which the thread 6 passes, then over the three following consecutive pairs of adjacent weft threads.

As regards the warp threads of the lower layer, each of these passes alternately over the pair of adjacent warp threads located in the middle of those over which there passes a warp thread of the upper layer, then under the three following pairs of adjacent weft threads. The parts of the warp threads of the lower layer which pass over a pair of adjacent weft threads are covered by the warp threads of the upper layer which pass over this same pair of weft threads, as well as over the two neighbouring pairs. Similarly, the warp threads of the lower layer which pass under three successive pairs of adjacent weft threads hide the parts of the warp threads of the upper layer which pass under a single pair of the adjacent weft threads.

The warp threads are closely packed together except for the two threads 8 and 9 which are located in the middle of the width of the ribbon, the space which they occupy being almost as wide as that occupied by three other adjacent warp threads.

The tang (not shown) to which one of the ends of the described ribbon is designed to be secured and which is located in the middle of the width of the ribbon may thus create a path between the two warp threads 8, 9 and between the two consecutive pairs of adjacent weft threads without damaging any of these threads. Since the pairs of consecutive weft threads are relatively close to one another, the described ribbon facilitates fine regulation along its active length.

The ribbon of Fig. 2 is mainly distinguished from that of Fig. 1 by the fact that it presents, in the middle of its width, a narrow part 10 which is solely occupied by weft threads 11. The tang to which one extremity of the ribbon is designed to be secured, naturally engages itself in the free spaces between these threads 11. Although these threads 11 are made up of segments, folded back in zig zag form all along the ribbon, of a single and same thread, identical to that of Fig. 1, they are grouped here in triplets 12 of consecutive pairs of adjacent threads. The pairs of a triplet 12 are closer to each other than are the triplets amongst themselves.

The nature and the weave of the warp threads 13 are identical to those of Fig. 1. Nevertheless, two means are provided to prevent the warp threads 13 from spreading into the part 10 of the ribbon and to confer to the weft threads of this part 10 a stiffness enabling them to suitably resist the pulling forces exerted thereon by the tang, to

which one extremity of the ribbon is designed to be secured.

The first of these means consists of a pair of adjacent warp threads that are solid, thin and stiff, in synthetic material, which extends the length of each of the edges of part 10. Each of these pairs of threads 14 passes alternately from one to the other side of the consecutive pairs of adjacent weft threads.

The second means consists of the special weaving of the two warp threads 15, 16 alongside threads 14, on each side of the part 10. The thread 15 passes successively from one to the other side of the consecutive triplets 12 and the thread 16 passes in turn from one to the other side of each consecutive pair of adjacent weft threads. The threads 15, 16 are of the same nature as the threads 13.

The embodiment shown in Fig. 3 is mainly distinguished from that of Fig. 2 by the fact that the two layers of warp threads, of different colours, pass simultaneously and from place to place from one side to the other of the weft. The ribbon therefore presents segments 17, 18 of alternating colours.

In this case, the two adjacent solid, thin and stiff warp threads 14 which extend along one edge and the other edge of the narrow median part 19 of the ribbon, pass the one on one side and the other on the other side of successive pairs 20 of adjacent weft threads 21, 22 which, in this embodiment, are regularly spaced amongst each other.

In the embodiment shown in Fig. 4 the weaving is identical to that in Fig. 2. On both sides of the narrow central part 23 of the ribbon there is, however, only one single, solid, thin and stiff warp thread 24 which passes successively from one side to the other of the consecutive pairs of adjacent weft threads. Moreover, some warp threads from the central zone 25 of the ribbon have visibly the same colour as the weft threads, so as to camouflage these latter which occupy the narrow part 23, whereas the outer warp threads, zones 26 and 27, have a different colour.

The ribbon of this last embodiment illustrates another very simple way of varying the appearance.

In the four embodiments shown in the drawing, the central part of the ribbon which is less close-woven naturally extends the full length of the ribbon. It is, nevertheless, possible to limit this special weave to that zone of the ribbon which is specifically designed to be secured to the tang in question. For this purpose it is sufficient to pass the weft threads of this zone on the same side of the two, three or four warp threads located in the middle of the width of the ribbon or between the same warp threads of the two superimposed layers. The tang could then pass through this zone of the ribbon, engaging between the weft threads and the free warp threads in the weft without risk of damaging any of these threads.

The invention is clearly not limited to the type of threads described composing the ribbon. Instead of being

made in synthetic material, some or all of these threads can consist of natural fibres, that are naked or covered in synthetic material.

The fixing of a buckle with tang to one extremity of the ribbon according to the invention presents no difficulty. It suffices to engage this extremity of the ribbon in the buckle or a part thereof, to fold it over the rest of the ribbon and to fix it to the latter, for example by means of one or several rivets. It can also be fixed thereto by fusing, sewing or glueing. If all the threads of the ribbon and the buckle are of a synthetic material, the extremity of the ribbon may even be fused directly onto the buckle.

When the invention is used specifically in the manufacture of watch wristlets, it is not essential to limit the weave to each individual strand of the wristlet. One could, on the contrary, weave a long band, the width of which would be a multiple of that of the strands of the wristlet to be manufactured. From place to place across this band would be woven in a less close-woven manner, as described above, narrow parts the distance between which would correspond to the width of the wristlets, and then would cut these latter into the said band of the desired length.

If at least the weft thread is of synthetic material, the widthwise cutting of the strands of the wristlets may advantageously be effected under heat, for example,

ultrasonically. This procedure would at the same time effect the fusing together of the extremities of the weft threads along the edges of the wristlet.

If, on the other hand, the weft thread is of natural origin, the cutting in question would have to be effected mechanically. Then it would be necessary to oversee the edges of the wristlet strands to prevent fraying. This naturally also applies to the extremities of these strands.

Finally, if the threads composing the ribbon are mixed, that is if they are composed of a natural fibre core, for example cotton, sheathed in synthetic material, for example PVC, the cutting could be effected by high frequency, which would at the same time ensure the fusing together of the ends of these threads.

The fixing of the strands of the wristlet to the lugs of the watch casing can be effected in analogous manner to those described above, to a buckle. The strand of the wristlet extending from the watch casing to the buckle with tang does not of course need to present a straight central part that is less close-woven except in order to preserve the continuity in the appearance of the wristlet.

CLAIMS

1. A woven ribbon, especially for a belt, thong, strap, handbag handle or watch wristlet, one extremity of which is designed to be secured at an adjustable distance from a buckle with a tang, said ribbon comprising weft threads (4, 5; 11; 21, 22) and warp threads (6-9; 13; 25) disposed along the width and length thereof respectively and presenting in a narrow part (8, 9; 10; 19; 23) of its width at least one zone adapted to be secured to the buckle in which the weave is less closely woven than elsewhere, characterized by the fact that the weft threads are threads which are at least partially composed of synthetic material and by the fact that it is woven in such a way that the weft threads are joined in pairs of adjacent weft threads by the warp threads.

2. A ribbon according to claim 1, characterized by the fact that the weft threads (4, 5; 11; 21; 22) are solid threads, entirely of synthetic material.

3. A ribbon according to claim 1 or 2, characterized by the fact that the warp threads (6-9; 13; 25) are composed of very fine fibre clusters and / or are slightly twisted.

4. A ribbon according to any one of claims 1 to 3, characterized by the fact that in said narrow part of the ribbon the warp threads (8, 9) are less close to one another than in the other parts of the ribbon.



5. A ribbon according to any one of claims 1 to 3, characterized by the fact that said narrow part (10; 19; 23) of the ribbon is only composed of weft threads.

6. A ribbon according to claim 5, characterized in that on both sides of said narrow part (10; 19; 23) of the ribbon there is woven a warp thread (24) or a pair (14) of adjacent warp threads, said warp threads (14; 24) being solid, thin and stiff and passing alternately from one side to the other of the consecutive pairs (20) of weft threads (21, 22).

7. A ribbon according to claim 6, characterized in that the weft threads form triplets (12) of close pairs of adjacent threads, the space between the triplets being larger than that between the pairs of adjacent threads of a triplet and in that the warp threads (13) are woven in two surimposed layers, each partly visible on one face of the ribbon, the parts of the warp threads of one of these layers, which are visible on one side of the ribbon, passing on the same side of three successive pairs of adjacent weft threads and covering the parts of the warp threads of the other layer which pass on this same side as that of the pairs of weft threads which are located between the two others, both two warp threads of one or other of the two layers passing on the same side of three same pairs of weft threads, the single or the two parts of the warp threads next to that of the same layer, which pass on the same side of three successive pairs of weft threads, pass on the other side of the median pair of weft threads.



8. A ribbon according to claim 6 or 7, characterized in that the two warp threads (15, 16) next to the solid and thin warp threads (14) pass alternately, the one (16) from one to the other side of each consecutive pair of weft threads, and the other (15) from one to the other side of each consecutive triplet (12) of weft threads.

9. A ribbon according to claim 7 or 8, characterized in that the two layers of warp threads have different colours, the warp threads of one layer passing, from place to place (17, 18), from one side to the other of the weft.

10. A ribbon according to claim 5 or 6, characterized in that only a few warp threads (25), situated on both sides of said narrow part (23) of the ribbon, have the same colour as the weft threads.

11. A ribbon according to claim 1, characterized in that in the zone of the ribbon to be secured to a buckle with a tang, the weft threads pass on the same side of the warp threads situated in said narrow part of the ribbon, in the middle of its width.

