



CONTRIBUTIONS TO CLASSIFICATION ZIPPERS USED IN INDUSTRY FOOTWEAR AND LEATHER GOODS

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Abstract: *Now customary accessory companies of all leather garments, zipper began to enjoy popularity only after 80 years of its invention. The first is considered the inventor of the zipper Elias Howe. Essentially involves fashion, change, innovation, originality, creativity and is defined as a succession of trends or fads, short. Create fashionable leather confections from home means accepting a contract with the producer and / or consumer, showing a profit motivating all at the right time. Continuous which require the exercise involves creative skills of fashion design, leading to a wide range of products. Current zipper is composed of: slider, teeth, strips shooter stops. Currently there is possibility to customize shooters to customer requirements, and even to form their own zippers. The present work presents the classification criteria zippers. They are after construction fastener after destination zippers, after the role they fulfill zippers, after the presentation at the procurement zippers, after finishing module of the metallic elements, as visibility zipper in the product, by type of teeth, by nature material strip zipper, after the type of materials they are made pullers, after the nature of the materials they are made of sliders and stops after the oxidation of metal components after finishing module teeth after shaped zipper, after slider type, by mode of ornamentation zippers. Knowing appearance zippers, elements of which it is composed, and their classification criteria allow us to correlate the shape of the product and destination.*

Key words: *classification, zipper, elements, history, criteria.*

1. HISTORY ZIPPER

Now customary accessory companies of all leather garments, zipper began to enjoy popularity only after 80 years of its invention. The first is considered the inventor of the zipper Elias Howe, who also invented, and the sewing machine. In 1851 he invented an "automatic closing mechanism for clothes". Forty-four years later, Whitcomb Judson brought to market a "closure" very similar to Howe invented the zipper. Being first to market, Withcomb remained known as the "inventor of the zipper", but in 1893, when it was officially launched on the market was not yet used the term "zipper". Imbolutul for this invention was from his wife, who always complained of sore toes on sewing a button [1]. Whitcomb within a few years invented and patented the first zipper of which is used for the first time in footwear (fig. 1) [2]. Initially, the product has not enjoyed great success.

In 1913 Swedish engineer Gideon Sundback zipper modernized model, giving life to a new and zipper that we use in our everyday life [3].

A romanian inventor, Lucian Balan, considered that the zipper has many undiscovered qualities and invented the "zipper multifunctional", which incidentally invention and patented it.

"The zipper multifunctional" has provided a kind of contact, which produce noise or light when the zipper is open. This zipper bag is made specifically for cases in which the dark looking for something in your bag or in cases where someone tries to steal purse [1].

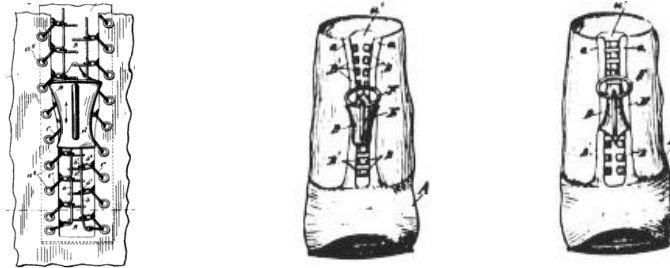


Fig. 1: First appearance zipper used in the footwear industry

2. ELEMENTS ZIPPER

The zipper is a device for the conclusion of clothing, shoes, handbags, briefcases, etc., consisting of two rows of blades (attached to a strand of cloth, leather, etc.) facing each other, which intermesh each other using a small parts made to slide between them [4].

The zipper is made (fig. 2) [5]:

- slider - device slid along the zipper to unite or separating zipper teeth;
- teeth - the elements that make possible closure and zipper opening;
- strips - that part of the zipper teeth are fixed;
- shooter - fixed element cursor to easily raise and lower it;
- stops - do not allow elements which strips out the zipper slider, the zipper stop at the beginning and end.

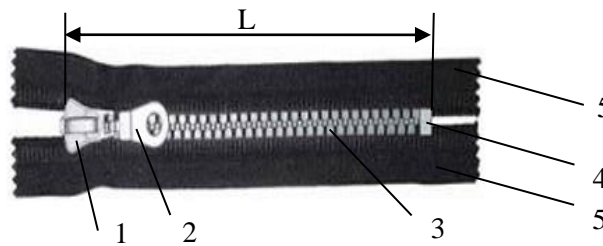


Fig. 2: The components of the zipper: 1 - slider; 2 - shooter; 3 - zipper teeth; 4 - stop at the beginning of the zipper; 5 - fastener strip; L - length zipper.

The most commonly used lengths of zippers designed for footwear and leather goods are presented in table 1 [6].

Table 1: Parameters zipper

| Name of material for teeth | Length zipper, L, mm / Range, mm | | | |
|----------------------------|----------------------------------|------------|-------------|------------|
| | Metal | 70-160/10 | 160-300/20 | 300-500/25 |
| Plastic | - | 100-300/20 | 300-1000/50 | >1000/100 |

3. CONTRIBUTIONS TO CLASSIFICATION ZIPPERS

With the modernization and development of the company have developed many different types of zippers, they were classified as follows:

- After making the fastener [7]: undetachably; removable; 2 removable sliders; 2 sliders type a non-detachable; non-detachable type X; removable loop and detachable quick opening.
- After zippers known destination for footwear, leather goods and clothing.
- After fulfilling the role zippers [8-9]: functional products used to open and close; decorative and functional - decorative.
- After the presentation at the procurement zippers: zippers, zippers film and precast (finite).
- After finishing module of metal elements [8-9]: covered with a protective layer; covered with a protective layer.
- After the zipper visibility in the product [7]: visible and invisible.
- By type of teeth, distinguish [7]: teeth spiral; metal; injected. Injected zips teeth and tooth spiral is characterized by attractive design, high quality and versatile, being lighter than metal.
- After fastener strip material nature [7]: polyester; polyamide; cotton.
- By nature of the materials they are made pullers: metal; plastics; natural skin; artificial leather etc.
- By nature of the materials they are made of sliders and stoppers: metal; plastic.
- After the oxidation of metallic elements [10]: easily oxidized; oxidised environment; hard oxidized.
- After finishing module teeth [7]: standard finish (colored belts); metallic finish; transparent or transparent-color finish.
- After the zipper form: straight; curve.
- After slider type [7]: non-lock slider; double pull; automatic slider; semi-automatic slider; pin lock slider; integrated slider; reversible slider; plastic slider.
- By way of ornamentation zippers [7; 11]: zipper decoration applied (eg., rock crystal); without ornaments.

Classification criteria identified can be grouped as follows: feature zippers, destination zipper, zipper role, technological character (fig. 3) [12].

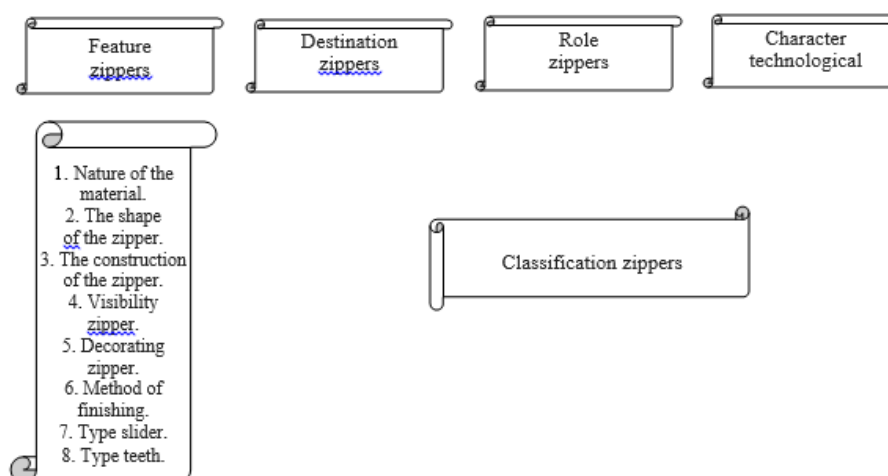


Fig. 3: Classification zippers



4. CONCLUSION

Essentially involves fashion, change, innovation, originality, creativity and is defined as a succession of trends or fads, short. Create fashionable leather confections from home means accepting a contract with the producer and / or consumer, showing a profit motivating all at the right time. Continuous which require the exercise involves creative skills of fashion design, leading to a wide range of products. But provided that the general criteria have been fulfilled: functional, aesthetic, socio-economic and technological [12].

Currently there is possibility to customize shooters to customer requirements, and even to form their own zippers. Manufacturers of zippers presents numerous variations and combinations possible: elastic band, narrow, transparent, abrasion resistant, recycled materials, Satin, antistatic various combinations of colors and textures, etc. All this helps to ornamental leather products. Often ornaments are those that give charm and beautify the product.

The bibliographic study and certified worldwide developments have allowed the identification of 15 criteria for the classification of zippers.

Knowing appearance zippers, elements of which it is composed, and their classification criteria allow us to correlate the shape of the product and destination. Because of a misunderstanding of the role they have zippers on products they will adversely affect their appearance. So as required, balance, sensitivity, talent and creative imagination in their use.

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