April 24, 1962 J. A. WILHELM 3,030,680

MAGNETIC BELT BUCKLE

Filed Nov. 12, 1959

FIG_1

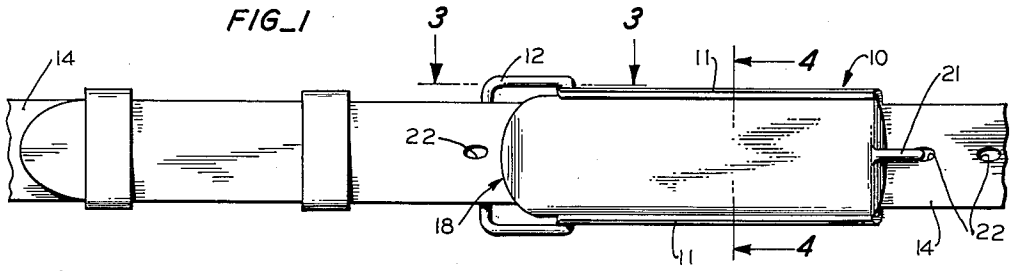


FIG_2

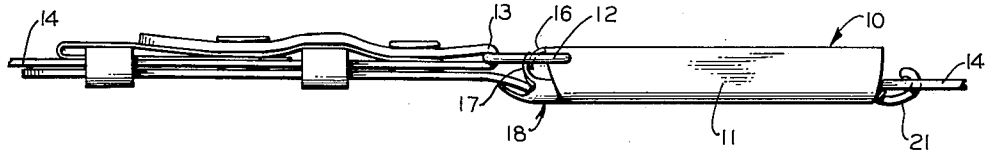


FIG_3

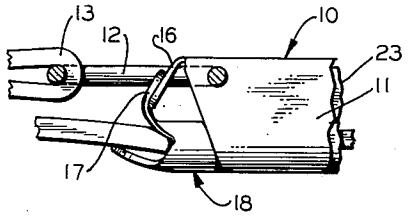


FIG_4

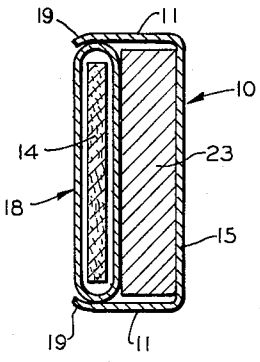
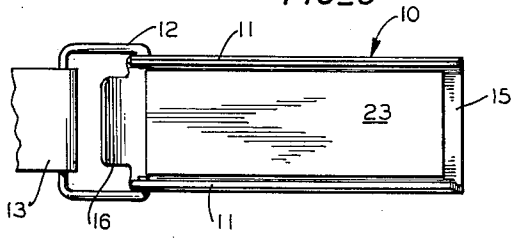


FIG_5



INVENTOR.
JOHN A. WILHELM
BY
Allen & Chaney.
ATTORNEYS

United States Patent Office 3,030,680 Patented Apr. 24, 1962

3,030,680

MAGNETIC BELT BUCKLE

John A. Wilhelm, 2190 Elliott, San Jose, Calif.

Filed Nov. 12, 1959, Ser. No. 852,414
2 Claims. (Cl. 24—77)

The present invention relates to a magnetic belt buckle and is concerned more particularly with a magnetic buckle structure where the force of the magnetism holds the parts in locking engagement with each other, but is not required to take the force of holding the ends of the belt together when worn by a person.

It is a general object of the invention to provide an improved magnetic buckle structure.

Another object of the invention is to provide a belt structure in which the length of the belt can be adjusted while the buckle parts are fastened.

Another object of the invention is to provide a magnetic buckle structure in which one of the parts has mechanical means for yieldably holding the two buckle parts in assembled relation, and magnetic means is also provided for holding them in a similar relation.

Other objects and advantages of the invention will be apparent from the following description of a preferred embodiment thereof, taken in conjunction with the attached drawings, in which:

FIGURE 1 is a front elevational view of the buckle structure in assembled or connected relation with respect to the two ends of the belt which are shown in fragmentary fashion.

FIGURE 2 is a top plan view of the buckle structure.

FIGURE 3 is an enlarged sectional plan view taken as indicated by the line 3—3 in FIGURE 1.

FIGURE 4 is a transverse sectional view of the buckle structure taken in a plane indicated by the line 4—4 in FIGURE 1.

FIGURE 5 is an elevational view of the buckle member or part carrying the magnetic element.

The improved buckle structure of my invention comprises generally a first buckle part or member **10** which is formed generally in the shape of a channel and includes opposite side flanges **11**. Adjacent one end the flanges **11** are apertured to receive the ends of a connecting link **12** which extends through the doubled end **13** of the belt **14**. Also at this same end of the buckle member **10** its central web **15** is provided with a central latching tongue or locking element **16** which extends inwardly from the plane of the web **15**, so as to be placed in inclined overlapping relation with a bent latching member or locking element **17** of the second buckle part or member **18**.

The buckle member **18** is formed as a flattened tube to fit between the opposed flanges **11** and frictionally engage and be retained between the resilient latching edges **19** thereof which are bent inwardly as illustrated in FIGURE 4. At its opposite end the tubular member **18** is provided with a bent hook **21** to engage a selected one of a plurality of apertures **22** in the belt **14**, the end of the belt **14** passing through the tubular member and being engaged with the opposite end of the belt in the usual fashion.

The buckle part or member **10** carries an elongated permanent magnet **23** (FIGURES 4 and 5) which may be secured therein to the web **15** by means of brazing, gluing, riveting or the like to place one of its larger surfaces outermost and between the flanges **11** so that the buckle member **18** may have one surface in flush engagement therewith. Because the buckle member **18** is formed of suitable magnetic material such as iron, a magnetic

clamping relation occurs between the two buckle membres, so as to hold the latch elements **16** and **17** in overlapping relation with each other as shown in FIGURE 3.

In this way, the stress and strain of holding the belt at its adjusted length is taken by the mechanical locking connection between the overlapped elements or members **16** and **17**, and the magnetic force of the permanent magnet **23** is utilized to maintain this overlapped or engaged relation. By grasping the free end of the belt, and pulling slightly to the left as seen in the drawings, the latching members **16** and **17** can be disengaged and thereafter the magnetic element or member **18** can be separated from the magnet **23**.

While I have shown and described a preferred embodiment of the invention, it is apparent that the invention is capable of variation and modification from the form shown so that the scope thereof should be limited only by the proper scope and interpretation of the claims appended hereto.

I claim:

1. In a magnetic belt buckle construction, a channel shaped buckle member for attachment to one end of the belt, and a flattened tubular buckle member having an inside width sufficient to receive therein the other end of the belt, said flattened tubular member also having a hook to engage a hole in the belt, said channel shaped member having an inside width corresponding to the width of said flattened tubular member for frictionally receiving said flattened tubular member, respective locking elements on the respective buckle members for overlapping engagement with each other when the buckle members are in abutting contacting relation to prevent endwise separating movement of said members in one direction, one of said members carrying a permanent magnet, and the other of said buckle members being formed at least in part of magnetic material such that when it is in contact with said magnet, relative movement between said members is reduced.

2. In a magnetic belt buckle for use on trouser belts, a channel-shaped buckle member for attachment to one end of the belt, said channel-shaped member having a generally rectangular shape and having the smooth back side thereof facing the wearer's trousers, a flattened tubular buckle member having an inside width sufficient to receive therein the other end of the belt, said flattened tubular member also having a hook at one end to engage a hole in the belt, said flattened tubular member also having a catch at the other end for engaging a corresponding catch formed on said channel-shaped member, said catches being adapted to abut to prevent endwise separating movement of said members in one direction, said channel-shaped member having an inside width corresponding to the width of said flattened tubular member such that when said flattened tubular member is positioned in said channel-shaped member said buckle presents a finished appearance, one of said members having a permanent magnet attached thereto, and the other of said buckle members being formed, at least in part, of magnetic material such that when it is in contact with said magnet, relative movement between said members is reduced.

References Cited in the file of this patent

UNITED STATES PATENTS

844,707	Barker	Feb. 19, 1907
1,473,991	Humphrey	Nov. 13, 1923
2,840,875	Chambers	July 16, 1958
2,867,023	Putnam	Jan. 6, 1959