

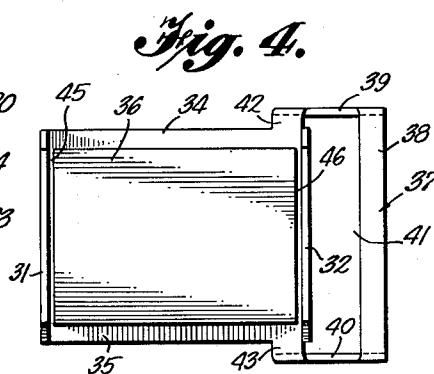
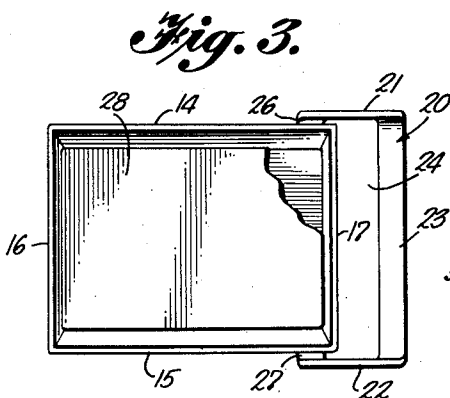
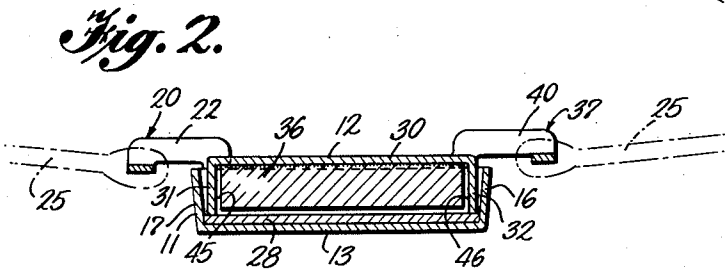
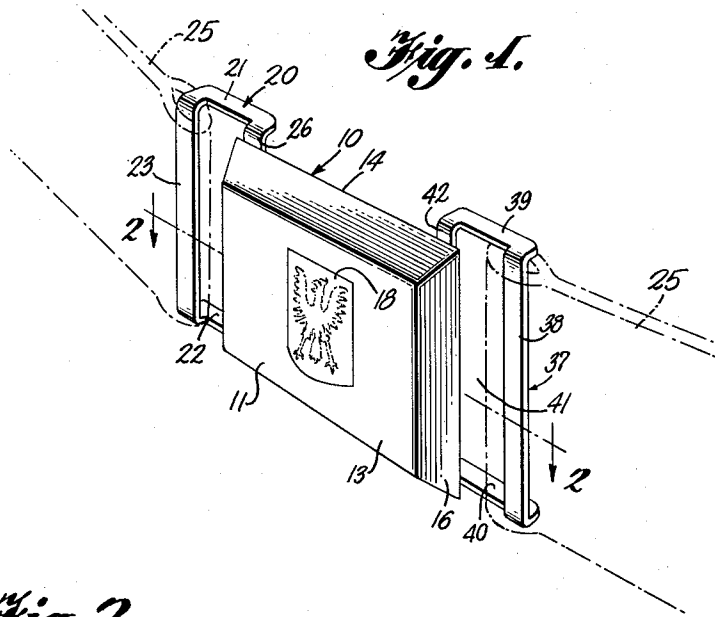
Nov. 13, 1962

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3,063,118

MAGNETIC BELT BUCKLE

Filed June 23, 1961



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3,063,118

## MAGNETIC BELT BUCKLE

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Filed June 23, 1961, Ser. No. 119,071

3 Claims. (Cl. 24—201)

The present invention relates to apparel and more particularly to a magnetic belt buckle and the like, used with wearing apparel.

It is an object of the present invention to provide a novel magnetic belt buckle that may be readily attached to the web of a belt so the belt may be worn by a person and the belt may be closed or opened without having to observe the operation as is necessary where a middle tongue must be inserted through a small aperture in a conventional belt.

It is another object of the present invention to provide a magnetic belt buckle having a base member and a cover member in which the cover member is readily telescoped over the base member and covers the magnet so that only the finely polished portion of the belt buckle can be seen.

It is another object of the present invention to provide a magnetic belt buckle having a base member containing a magnet and a detachable cover member with a novel design thereon in which the cover member may be readily detached from the web of a belt so that different cover members having different designs thereon may be utilized with the same base member.

It is another object of the present invention to provide mating members forming a magnetic belt buckle for use with wearing apparel in which the cover member is provided with plate means of ferro magnetic material and the remaining portion of the cover member may be made of a more precious material so the mating members may be readily held together by magnetic attraction.

Various other objects and advantages of the present invention will be readily apparent from the following detailed description when considered in connection with the accompanying drawing forming a part thereof, and in which:

FIG. 1 is a perspective view of the assembly of the belt buckle embodying the present invention;

FIG. 2 is a plan view partly in section of the belt buckle embodying the present invention;

FIG. 3 is a rear view of the cover or cap member of the belt buckle; and

FIG. 4 is a front view of the base member of the belt buckle.

Referring to the drawing, the reference numeral 10 generally designates a magnetic belt buckle having a cap or cover member 11 and a base member 12. The cover member comprises a front rectangular wall 13 having a continuous depending skirt around the perimeter thereof to form top and bottom walls 14 and 15 respectively, and end walls 16 and 17, all defining a shell.

The depending skirt extending around the perimeter of the front wall 13 is flared or inclined outwardly so that the perimeter formed by the outer edges of the top and bottom walls and the end walls is greater than the perimeter of the front 13. The cap member is preferably made of a material more precious than ferro magnetic material, such as brass, sterling silver and the like. An insignia 18 is disposed in the front 13 and may contain a coat of arms or any other symbolic talisman. Formed integral with the cover member and made of the same material is a slotted member 20 having identical flat horizontal legs 21 and 22 with a vertical leg 23 extending between the outer ends thereof, and spaced from the end wall 17 of the member so as to provide an elongated slot

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24 therebetween for passing the web 25 of a belt there-through. The legs 21 and 22 are disposed slightly above and below top wall 14 and bottom wall 15 respectively, of the cover member as clearly seen in FIGS. 1 and 3 by short vertical struts 26 and 27 respectively, formed on the top and bottom walls of the cover member. A thin rectangular plate 28 of ferro magnetic material is secured to the inner surface of cover at the inner end of the converging continuous skirt. The plate 28 is secured to the front wall 13 by an adhesive cement, soldering, or in any other well known manner.

The base member of the belt buckle consists of a vertical back plate 30 with forwardly extending end walls 31 and 32, coextensive with the height of the back plate. The top and bottom of the back plate are open, with the top and bottom edges of the back plate being crimped inwardly as at 34 and 35, respectively. A permanent rectangular magnet 36 is disposed in the base member in abutting relationship with the back plate 12 and spaced between the end walls 31 and 32, and between the crimped portions 34 and 35. The magnet may be secured to the base member by cementing it or clamping it thereto, or in any other desirable manner. The base member is of a ferro magnetic material plated with a precious material that has a polished or shiny surface. The magnet is spaced from the end walls 31 and 32 by air gaps 45 and 46 respectively. The front face of the magnet constitutes the north pole and the rear face the south pole. By making the base member of ferro magnetic material and making the length of magnet shorter than the distance between end walls 31 and 32 so air gaps exist, permits the base member to act as a flow path to conduct the magnetic flux therethrough to magnetically attract the cover member. The result is a very strong magnet since the effect is to concentrate the magnetic flux of the south pole against the cover member as well as the north pole flux, as if flat magnet 36 were a horse shoe magnet with both poles of the magnet disposed adjacent the object to be magnetized. The base member is also provided with a slotted member 37 on one end thereof, substantially identical to the slotted member 20 on the cover member with a vertical leg 38 and a horizontal upper leg 39 and lower leg 40 providing an elongated slot 41 for passing the web 25 of a belt therethrough. The inner ends of legs 39 and 40 are joined to the back plate by short vertical struts 42 and 43 respectively.

When it is desired to fasten the belt buckle of the present invention to a belt, one end of the web of the belt is inserted through the slot 24 in the cap member, while the other end of the web of the belt is inserted through the slot 41 in the base member, after which the loose ends of the web are generally secured to one another by sewing, fastener means, or the like which do not form part of the invention. When it is desired to close the belt using the belt buckle of the present invention, it is merely necessary to grasp the base member in one hand and the cap member in the other hand and thereafter to insert the cap member over the base member so that the end walls 31 and 32 of the base member are enclosed by end wall 17 and end wall 16 respectively, of the cap member with the top and bottom walls of the cap member enclosing or extending across the open top and bottom of the back plate. The length and width of the back plate are slightly shorter than the length and width of the front wall 13 of the cap member so that the converging walls of the continuous skirt formed integrally with the cap member readily telescopes over or receives the magnet 36 and end walls 31 and 32 therein. This permits the mating pieces to be readily manufactured without requiring precise tolerances in the machining thereof.

It is also apparent that the present invention provides a

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novel belt buckle provided with a thin ferro magnetic plate to cooperate with the magnet to hold the pieces together, while permitting the major portion of the cap member to be made of precious material.

Another feature of the present invention is the provision of a belt buckle having a cap member in which the base portion that contains the permanent magnet may be readily used with a number of cap members having different insignia or talisman embodied therein so that it will not be necessary to manufacture a base member for each cover member, thereby providing an economical ornamental belt buckle device.

It is also apparent that the magnetic belt buckle of the present invention utilizes a flat magnet to hold the cover member thereto, so the assembly will be relatively thin and not project outwardly unduly to nullify its use on a belt, while at the same time providing a compact structure with a ferro magnetic base member that conducts or concentrates the flux against the cover member to in effect simulate the results of a strong horse shoe magnet.

Inasmuch as various changes may be made in the form, location and relative arrangement of the several parts without departing from the essential characteristics of the invention, it will be understood that the invention is not to be limited except by the scope of the appended claims.

We claim:

1. A magnetic belt buckle comprising a base member and a cover member, the base member comprising a generally U-shaped member of magnetic material and a magnet, the U-shaped member comprising a substantially flat rectangular plate and a pair of generally parallel plates integrally secured to the ends of the flat rectangular plate and projecting forwardly therefrom, the magnet being thin, flat, imperforate, rectangular and secured to said flat rectangular plate between said parallel plates and slightly spaced therefrom so as to provide an air gap between the ends of said magnet and said parallel plates, the parallel plates comprising legs having free ends, said

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legs projecting forwardly from said flat rectangular plate a greater distance than said magnet, said cover member comprising a flat, rectangular armature composed of magnetic material and being of substantially the same size and shape as said flat rectangular plate, the ends of said armature extending over the free ends of said legs and the inner surface of said armature spaced from said rectangular magnet, a hollow cover of non-magnetic material comprising a generally flat front wall secured to circumferentially continuous side walls, said armature secured to the rear surface of said front wall within said hollow cover, the side walls overlapping and enclosing said legs, first belt attachment means secured to one end of the cover member, second belt attachment means secured to one end of said base member, both said belt attachment means located on opposite ends of said buckle and being substantially coplanar with said flat rectangular plate of magnetic material.

2. A magnetic belt buckle as defined in claim 1, wherein said first and second belt attachment means comprise a pair of parallel bars spaced from the side walls of said hollow cover, a first pair of legs connected between one bar and said hollow cover, a second pair of parallel legs connected between the other bar and said base member on the other side of said buckle.

3. A magnetic belt buckle as defined in claim 1, wherein the side walls of said hollow cover diverge in a direction toward said flat rectangular plate.

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