July 28, 1959 D. LEVINE 2,896,755

LUGGAGE HARDWARE

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Fig. 1.

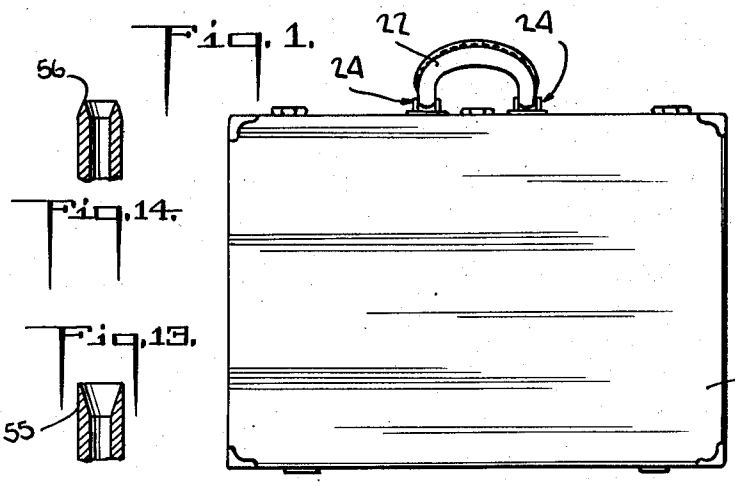


Fig. 14.

Fig. 13.

Fig. 12.

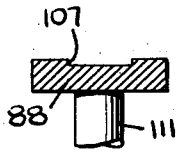


Fig. 2.

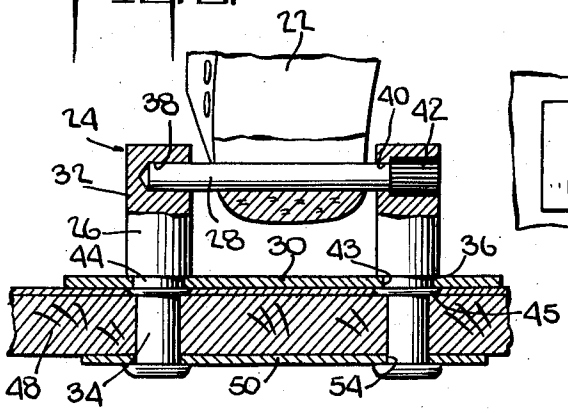


Fig. 3.

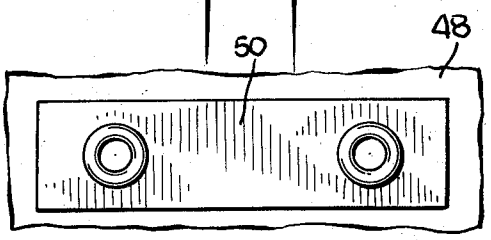


Fig. 8.

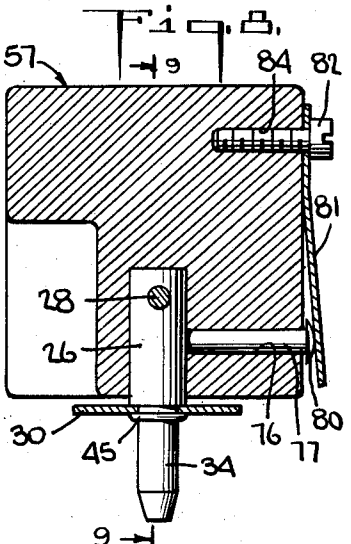
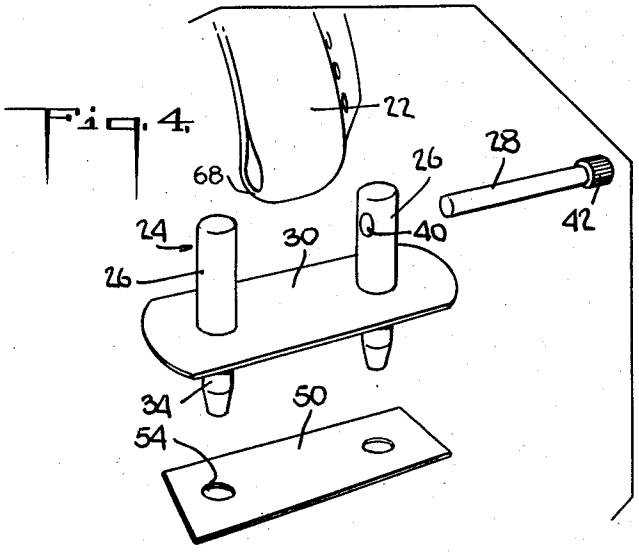


Fig. 4.



INVENTOR.
DAVID LEVINE

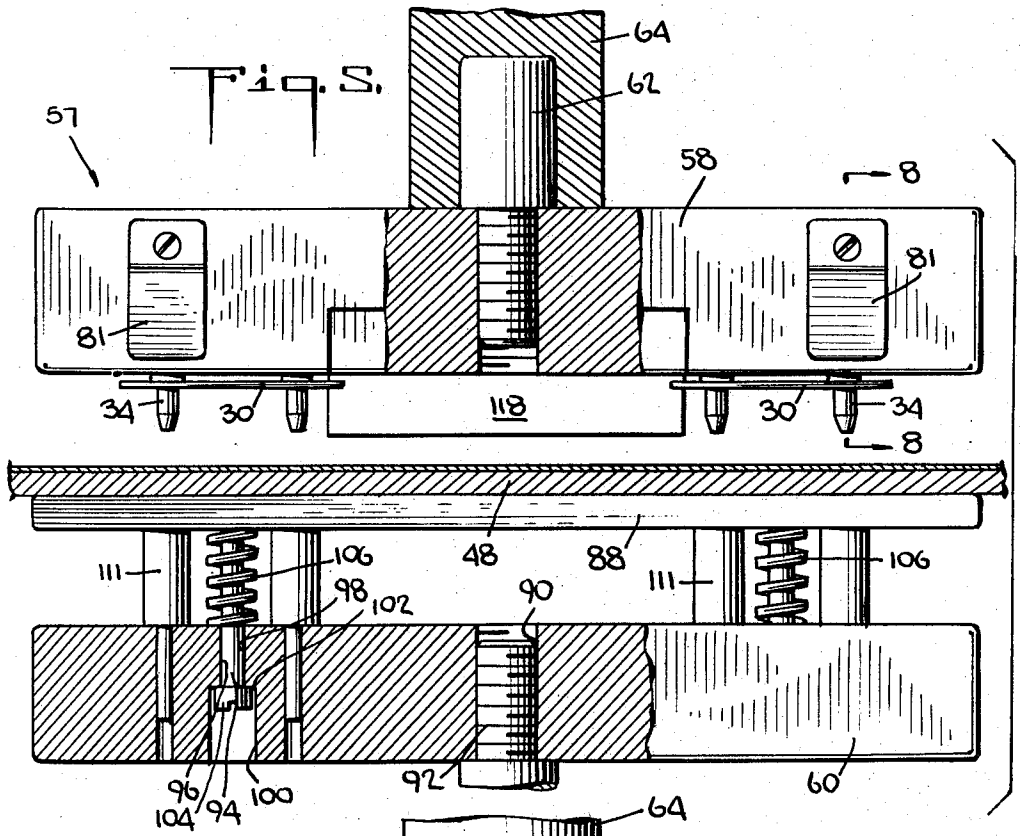
BY
Kirschstein, Kirschstein and Ottinger
ATTORNEYS

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LUGGAGE HARDWARE

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Fig. 9.



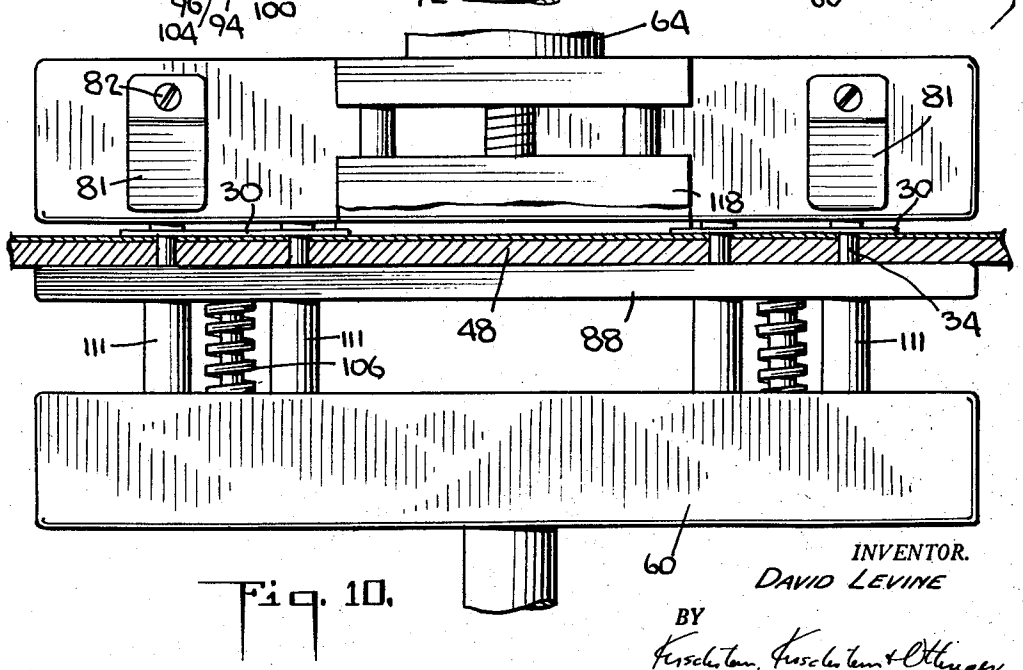


Fig. 10.

INVENTOR.
DAVID LEVINE

BY
Kirschstein, Kirschstein & Ottinger
ATTORNEYS

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Fig. 6.

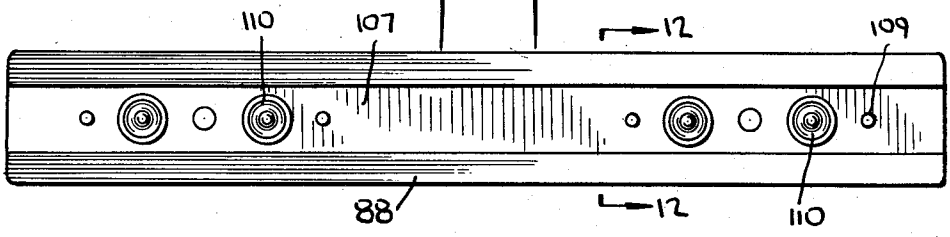


Fig. 7.

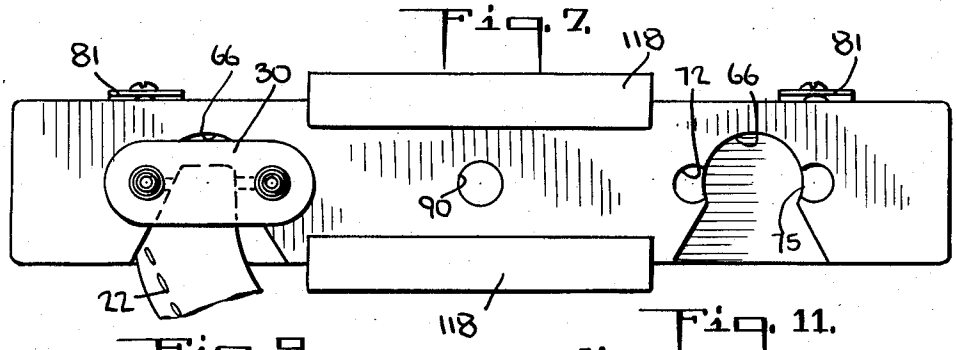


Fig. 9.

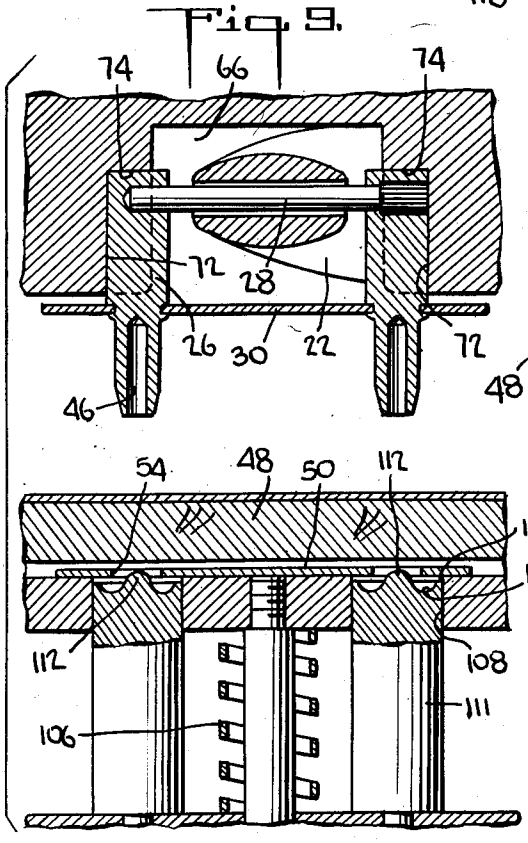
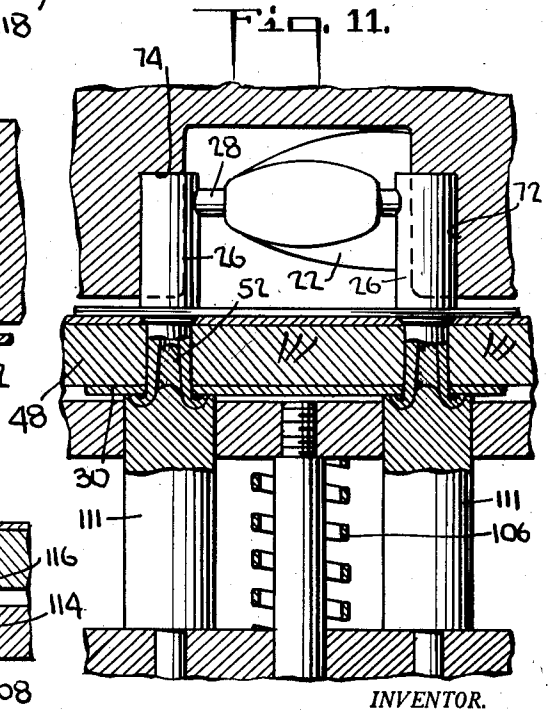


Fig. 11.



INVENTOR.
DAVID LEVINE

BY

Kirschstein, Kirschstein & Ottinger

ATTORNEYS

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2,896,755

LUGGAGE HARDWARE

David Levine, New York, N.Y., assignor to Crest Lock Co., Inc., New York, N.Y., a corporation of New York

Application July 10, 1956, Serial No. 597,020

6 Claims. (Cl. 190—58)

This invention relates to luggage hardware. More particularly, the present invention is concerned with post loops for articles of luggage such, for instance, as suitcases, briefcases, handbags and the like.

Heretofore in the use of post loops, the attaching portions of the posts either were inserted in pre-formed openings in the part of the luggage to which the post was to be attached or were forced therethrough. For economy of manufacture, the openings usually were not pre-formed where the post was attached to a wall it could penetrate, e.g., a wooden wall. In such cases, however, the attachment of the posts sometimes split the wall and spoiled the luggage. This was particularly true where a shook wall was utilized, consisting of only a single thickness of wood; but even where plywood was employed, the bottom ply often splintered, so the connection between the post and luggage was weakened.

Another difficulty encountered with present-day posts and the methods of attaching the same was that the tips of the posts frayed badly when curled to form the head that secured the post to the wall of the luggage. This often caused an insecure connection or resulted in a worn spot in the luggage lining where material rubbed against the rough head.

It is a main object of the present invention to provide a post of the character described the attaching portion of which when forced through a luggage wall does not tend to split or splinter the wall.

It is another object of the present invention to provide a post of the character described the attaching portion of which can be forced through a wall with less effort than heretofore and therefore causes less operator fatigue when a foot press is used.

It is another object of the present invention to provide a post of the character described which is inexpensive and simple to fabricate and mount by mass production methods.

It is another object of the present invention to provide a post of the character described which is more easily and effectively held in place on the luggage.

It is another object of the present invention to provide a post of the character described the attaching portion of which when headed for attachment to the wooden wall of the luggage does not fray.

It is another object of the present invention to provide a post of the character described which does not tend to push splinters out from a wooden wall when forced therethrough, whereby the mounting dies are maintained comparatively free from debris without the necessity for constant cleaning.

Other objects of the invention in part will be obvious and in part will be pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangements of parts which will be exemplified in the articles hereinafter described and shown in the drawings, and the scope of which will be indicated in the appended claims.

In the accompanying drawings, in which are shown various possible embodiments of the invention,

Fig. 1 is a side elevational view of an article of luggage having post loops constructed and mounted according to the present invention;

Fig. 2 is an enlarged fragmentary vertical sectional view through one of the post loops shown in Fig. 1;

Fig. 3 is a bottom view of the post loop shown in Fig. 2;

Fig. 4 is an exploded perspective view of a post loop, an end of the luggage handle also being shown;

Fig. 5 is a partially sectional rear view of a post loop attaching press, the same being shown open and with a pair of post loops and a luggage wall disposed therein;

Fig. 6 is a top view of the press anvil;

Fig. 7 is a bottom view of the press holder;

Fig. 8 is an enlarged sectional view taken substantially along the line 8—8 of Fig. 5;

Fig. 9 is an enlarged sectional view taken substantially along the line 9—9 of Fig. 8;

Figs. 10 and 11 are views similar to Figs. 5 and 9, respectively, but showing the press closed;

Fig. 12 is a sectional view taken substantially along the line 12—12 of Fig. 6;

Fig. 13 is a sectional view through a post embodying a modified form of the invention; and

Fig. 14 is a sectional view through a post embodying another modified form of the invention.

Referring now in detail to the drawings, and more particularly to Figs. 1–4, the reference numeral 20 denotes a suitcase having a handle 22 secured to its top by post loops 24 constructed and mounted in accordance with the present invention. Each post loop comprises two metal posts 26, a bar 28 and an escutcheon plate 30.

A post includes an upper handle mounting portion 32 and an attaching shank 34. The latter has a smaller diameter than the former and is separated therefrom by a perpendicular shoulder 36. The upper, i.e. handle mounting, portion of one post includes a blind opening 38 extending perpendicularly to the vertical axis of the post. Said opening faces and is registered with a through opening 40 in the upper portion of the other post. The bar 28 is received in these openings and permanently secured in place, as by force fitting its knurled head 42 into the opening 40.

The posts and escutcheon plate are pre-assembled in any convenient manner. As illustrated in the drawings, this can be accomplished by providing openings 43 in the escutcheon plate to receive the attaching shanks of the posts and making the region 44 of each shank just below the shoulder slightly larger in diameter than the rest of the shank. The posts are inserted into the escutcheon plate until the shoulder 36 abuts the upper surface thereof. Then region 44 is peened against the undersurface of the escutcheon plate, forming a holding flange 45.

The attaching shank of each post is formed with the axial blind bore 46 running from the free bottom end of the post to about the level of the flange 45.

Pursuant to the invention, the free ends of the post shanks are chamfered around the mouths of the blind bores, optionally to almost knife edges. As shown in the form of the invention being described, said chamfers are external.

The pre-assembled post loops are mounted on a wooden top wall 48 of a shook box having no pre-formed openings in the manner and with the apparatus described in detail hereinafter. Generally, the mounting is as follows: An elongated metal bearing plate 50 is located below the shook wall. The said plate has openings 54 through which the ends of the attaching shanks of a post loop are snugly insertable. The shanks are forced through the wooden shook wall to which the posts are to be at-

tached. Said shanks are long enough to extend completely through the wall and the openings in plate **50**. The mounting is completed by heading the chamfered ends of the shanks against the undersurface of plate **50**.

The chamfering permits the posts to pierce the shook wall with a minimum of effort and avoids splintering or splitting of the wall material. Also, due to their slight thickness, the ends of the posts do not fray when headed. In this way, a more secure and lasting attachment is obtained. It also will be observed that the post is bored deeply to receive fully the wooden plug **52** (Fig. 11) and thus avoid the imposition of bursting pressure on the tubular attaching shank.

In the modified form of the invention shown in Fig. 13, the ends **55** of the tubular shanks are provided with an internal chamfer. The modified form of the invention shown in Fig. 14 has an internal and external chamfer at the ends **56** of the tubular shanks. These forms of posts are mounted in the same manner as the first-described form.

The different types of chamfers for the tubular shanks are preferably, although not necessarily, employed under different conditions. For example, the attaching shank **34** with an external chamfer requires the least effort for penetration and therefore is the easiest to use from the operator's point of view. However, it exerts a spreading effect on edges of the opening formed in the wooden wall and therefore desirably is not used on extremely narrow walls such as are found, for instance, in an attaché case. On the other hand the attaching shank with an internally chamfered end **55** does not create a spreading stress and can, accordingly, be used on narrow walls and very close to an edge without any danger of splitting the wood. Moreover, said internally chamfered shank forms a particularly clean exit opening when forced through wood. The plug **52** cut by such an internally chamfered shank has a diameter considerably in excess of the diameter of the blind bore **46** so that the plug must be diametrically compressed as it is forced into the shank. This creates no particular problem with soft woods; but dense or hard woods sometimes exert so much pressure on the inside walls of a tubular attaching shank that a split or crack is developed therein. Thus, the shank **34** desirably is used where the handle is to be fastened in other than a narrow wall or where the shook box is of dense or hard wood, and the shank with the internally chamfered end **55** will be employed on narrow walls or close to an edge, provided that the wood will not tend to split the shank.

The shank with both an internally and externally chamfered end **56** incorporates to a substantial degree the advantages of both the other shanks and to some extent their disadvantages as well. I have found that the double chamfered shank secures the best results for overall run of the mill operations where all types of shook boxes are used so that this is the type of shank that I prefer to employ unless conditions, such as very narrow walls, or a very close-to-the-edge mounting, or very dense hard woods, are encountered.

Referring now in detail to Figs. 5–12, a method and apparatus are provided for mounting post loops of the character described on a wall of a piece of luggage. The apparatus includes a press **57** having an upper holder **58** and an anvil **60**, each comprising an elongated metal block. A stud **62** is secured to and projects from the top surface of the holder block, said stud being fastened in a socket in a vertically reciprocable ram **64** located above the anvil.

A notch **66** is provided near each end of the holder **58** in the bottom thereof, each notch opening onto the front of the holder. The notches are large enough and deep enough to freely and wholly contain the ends **68** of the luggage handle **22**. Each notch is provided with a pair of circular slots **72**, the slots of each pair being disposed on opposite sides of the associated notch and the axes of the slots being contained in a vertical plane parallel to the longitudinal axis of the holder. Each slot has a roof **74** located a distance from the bottom surface of the holder **58** somewhat less than the length of the upper handle mounting portion **32** of the post **26**. The reason for this will become apparent hereinafter.

Each slot communicates with its associated notch by a side opening **75**, and the slots of each pair are spaced from each other a distance such that the slots will receive the posts of a pre-assembeld post loop. The notches are spaced apart a distance sufficient for them to receive the ends of a given handle. The sizes of the notches and slots, the distances between the slots of each pair, and the distances between the notches can, of course, be varied from holder to holder for different-sized handles and/or post loops.

The slot of each notch nearer an end of the holder **58** includes a linear passageway **76** extending horizontally to the back of the holder. The shank of a headed pin **77** is slidable in each passageway, said pin being of such length that when the head **80** thereof abuts the back of holder **58**, the other end projects into the slot. A leaf spring **81** has an end disposed over each pinhead **80**, said spring comprising a flat strip of resilient steel suitably held to the back of the holder **58**, as by a bolt **82** screwed in a tapped opening **84** in the holder. The spring biases the pin into the slot. This best may be seen in Fig. 8.

The anvil **60** supports an elongated flat horizontal levelling plate **88**. The bottom of the anvil is provided with a central tapped opening **90** adapted to receive an externally threaded shaft **92** on which the anvil is carried.

As may be seen in Fig. 5, the levelling plate **88** is mounted on the anvil by vertical support rods **94** suitably secured to the plate and slidably received in vertical through openings **96** near each end of the anvil. Each opening **96** includes a narrow upper portion **98** and a larger lower portion **100**, said portions being separated from each other by an annular step **102**. A plunger **104**, snugly slidable in the portion **100** but too large to fit into the portion **98**, is fastened to the end of each rod below the step **102**. A spring **106** is held under compression between the bottom of the levelling plate **88** and the top of the anvil. Said spring biases the plate away from the anvil to an uppermost position occupied when the press is open and in which the plunger **104** of each rod is disposed against the step **102**. The levelling plate can be moved downwardly against the springs **106**.

The levelling plate is provided with a central top longitudinal channel **107** having a depth equal to the thickness of and a width just slightly greater than the width of a bearing plate **50**. A pair of circular vertical through openings **108** is provided in the channel near each end thereof. Said openings are of larger diameter than openings **54** of a bearing plate **50**, and the pairs of openings **108** are adapted to be coaxially aligned with said openings **54**. Nubs **109** project from the base of the channel to aid in aligning the bearing plates with said pairs of openings. The distance between the openings of each pair and the distance between the pairs themselves is such that the pairs of openings **108** in the levelling plate are aligned with the pairs of slots **72** in the notches of the holder.

A die **110** is located in each opening **108**, each die constituting the top surface of a circular column **111** mounted on the anvil and extending into said opening **108**. The dies and columns are snugly receivable in said openings. Each die includes a rounded central protuberance **112** projecting slightly above the base of the channel **107** when the levelling plate **88** is at its uppermost position. The protuberance is surrounded by a shallow concave annular depression **114** which in turn is surrounded by an upwardly projecting peripheral flange **116** of slightly less height than the protuberance. The protuberances are adapted to fit into the mouths of the blind bores at the free ends of the attaching shanks **34**, and the depressions are of such diameter as to receive said ends themselves.

The apparatus operates as follows: The holder is vertically reciprocable over the anvil which is mounted in a fixed position. The two post loops **24** of a handle **22** are inserted in the notches **66** of the holder with the press in open condition. The handle mounting portion **32** of each post loop is received in a slot **72**. The escutcheon plates at this time will be located a slight distance below the bottom of the holder, and the tops of said mounting portions will be in contact with the roofs of the slots (see Fig. 9). The purpose of disposing the escutcheon plates slightly below the bottom surface of the holder **58** is to avoid placing pressure on the joints between the escutcheon plate and the posts; in the apparatus described, the pressure on closing of the press is absorbed by the tops of the posts. On insertion of the posts, the friction detents **77** are cammed outwardly against springs **81** to retain the posts in position.

Next, the bearing plates **50** are placed in the channel **107** of the levelling plate **88** with the plate openings **54** aligned with the openings **108** in the channel. Now the wall **48** of a piece of luggage is placed on the levelling plate with the portion of the wall to which the handle is to be secured located over the channel. The ram thereupon is lowered with enough force to drive the chamfered ends of the attaching shanks through the luggage wall, said ends, upon emerging, passing through the openings in the bearing plates **50**.

When the posts first touch the upper surface of the luggage wall, said wall will be pressed against the levelling plate **88** to depress the same until the undersurface of the wall squeezes the escutcheon plate against the peripheral flange **116**. This lowering of the plate **88** assures levelling of the luggage wall so that said wall surely presents a surface set squarely to the posts. This is of particular importance due to the comparatively narrow width of the levelling plate which is necessarily slender, since it must fit under narrow as well as wide luggage walls and since the anvil **60** is frequently canted to facilitate placement of the die parts in a kickpress.

If desired, additional means may be included to assure leveling of the luggage wall. Such means may constitute a spring mounted leveling pad **118** carried by the holder **58** and mounted thereon in such fashion as to present a lower surface parallel to the levelling plate **88** and yet be vertically slidable relative to the holder. A series of springs (not shown) urges the pad **118** downwardly toward an idle position in which its lower surface is slightly below the bottoms of posts mounted in the holder. Thus, the first surface to engage the top of the luggage wall will be that of the leveling pad **118**. It will be understood that there are two leveling pads **118**, one on each side of the holder, and a suitable mounting for each of said pads, said mounting being similar to that shown for the levelling plate **88**.

It will be observed that by using a mounting for the levelling plate **88** which permits the luggage wall to be lowered to the bearing plate, I am able initially to provide clearance between the two, thus simplifying insertion of the bearing plates in their channel and preventing the presence of splinters in the die from interfering with proper mounting of the posts.

When the lower ends of the hollow posts eventually reach the die surfaces **110**, the mouths of the blind bores will be turned outwardly and curled back up against the bearing plate to firmly press them against the undersurface of the luggage wall, thus securely fastening the two post loops to the luggage. Any core of wood which tends to leave the luggage wall before the same is fully pierced by the post will be held back by the bearing plate and by the protuberance **112** at the center of the die. Moreover, said protuberance will compress the core at and before the time that the tip of the post emerges from the lower surface of the luggage wall.

The apparatus and method described and shown but not claimed herein are shown, described and claimed in my copending divisional applications for Apparatus for Mounting Luggage Hardware and for Method for Mounting Luggage Hardware, Serial Nos. 765,912 and 765,913, respectively, filed on October 7, 1958.

It thus will be seen that there are provided devices which achieve the several objects of the invention and are well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that all matter herein described, or shown in the accompanying drawings, is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A post for a luggage post loop, which post includes a handle mounting portion and an attaching shank and wherein the attaching shank is provided with a blind bore running from the free end of the shank inwardly of the post; said post having a chamfer on the free end of the attaching shank around the mouth of the blind bore to provide a narrow edge that facilitates penetration of the attaching shank through a wall of a piece of luggage.

2. A post for a luggage post loop, which post includes a handle mounting portion and an attaching shank and wherein the attaching shank is provided with a blind bore running from the free end of the shank inwardly of the post; said post having an external chamfer on the free end of the attaching shank around the mouth of the blind bore to provide a narrow edge that facilitates penetration of the attaching shank through a wall of a piece of luggage.

3. A post for a luggage post loop, which post includes a handle mounting portion and an attaching shank and wherein the attaching shank is provided with a blind bore running from the free end of the shank inwardly of the post; said post having an internal chamfer on the free end of the attaching shank around the mouth of the blind bore to provide a narrow edge that facilitates penetration of the attaching shank through a wall of a piece of luggage.

4. A post for a luggage post loop, which post includes a handle mounting portion and an attaching shank and wherein the attaching shank is provided with a blind bore running from the free end of the shank inwardly of the post; said post having internal and external chamfers on the free end of the attaching shank around the mouth of the blind bore to provide a narrow edge that facilitates penetration of the attaching shank through a wall of a piece of luggage.

5. A post loop comprising a pair of posts, an escutcheon plate having a pair of openings therethrough; means securing said posts to said escutcheon plate, said posts extending through said openings, each post including a handle mounting portion and an attaching shank, both the handle mounting portions being on one side of the plate and both attaching shanks being on the opposite side of the plate, each attaching shank having a blind bore extending inwardly of the post from the free end of the shank, said attaching shanks being chamfered around the mouths of the blind bores to provide narrow edges that facilitate penetration of the attaching shanks through a wall of a piece of luggage.

6. An article of luggage comprising a solid luggage wall and a post attached to said wall, said post including a handle mounting portion and an attaching shank, said shank having a blind bore extending inwardly of the post from the free end of the shank, said free end of the shank being tapered around the mouth of the blind bore and being outwardly curled against the undersurface of the luggage wall.

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