

March 12, 1957

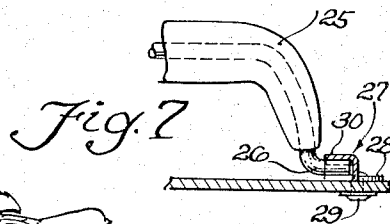
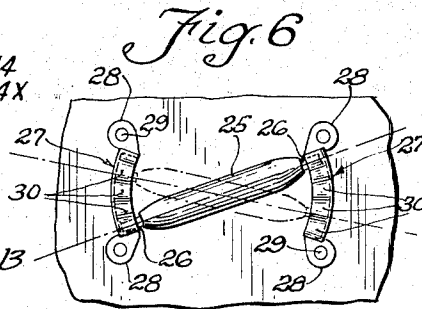
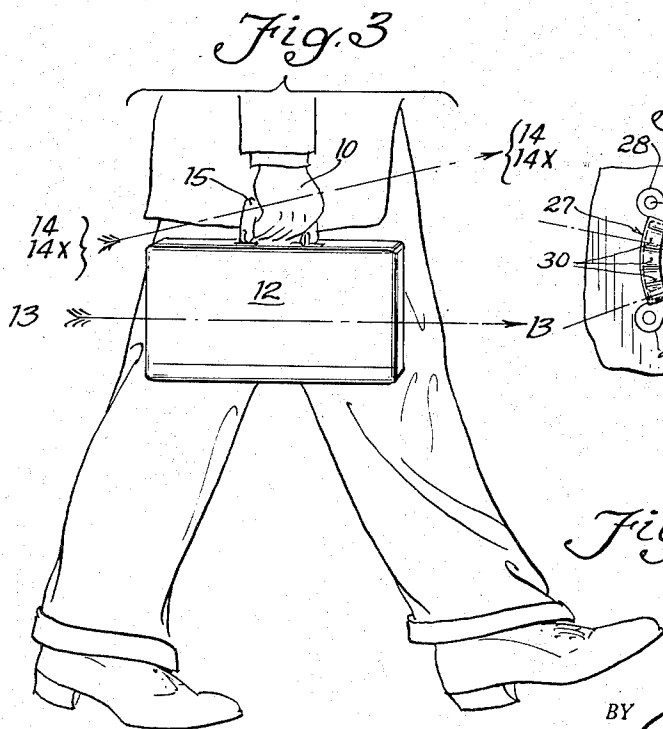
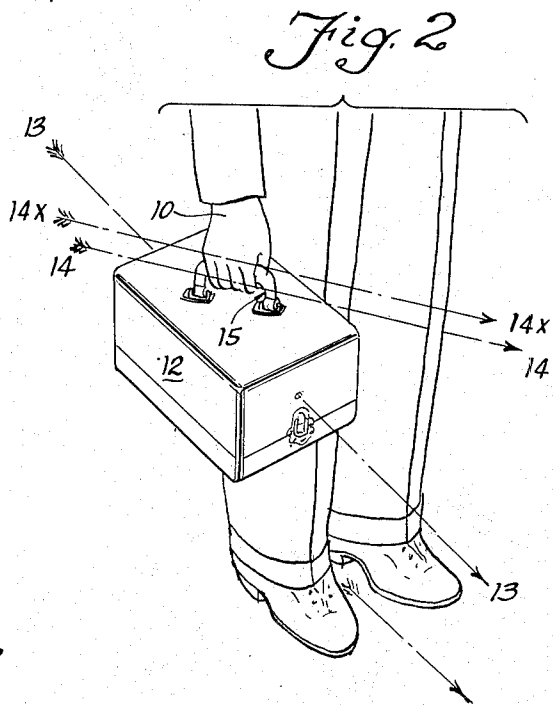
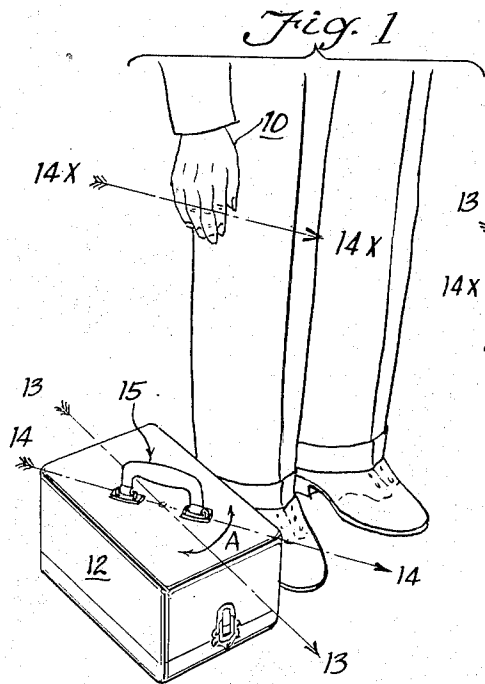
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2,784,816

LUGGAGE HANDLE

Filed Jan. 29, 1951

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 4

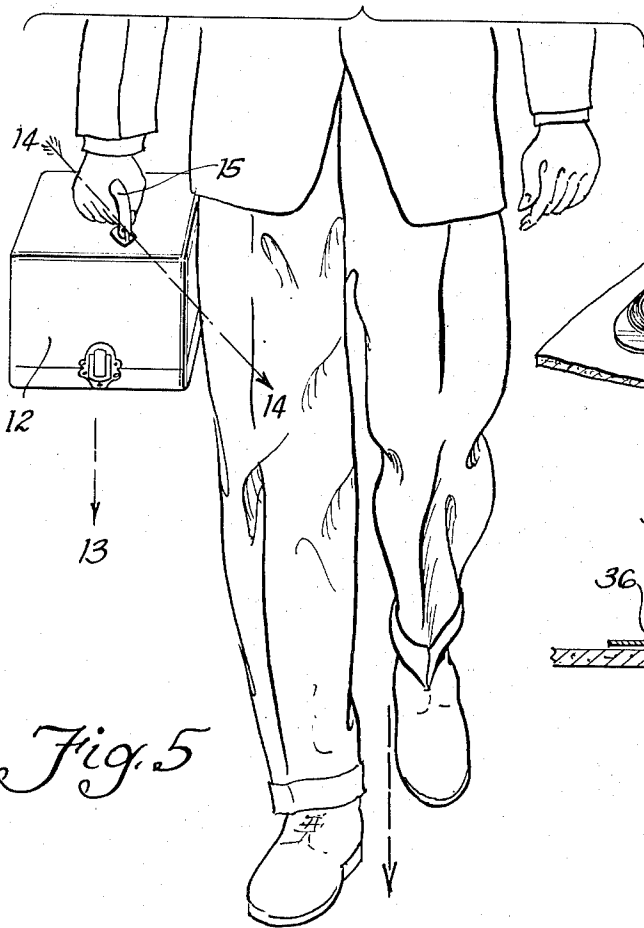
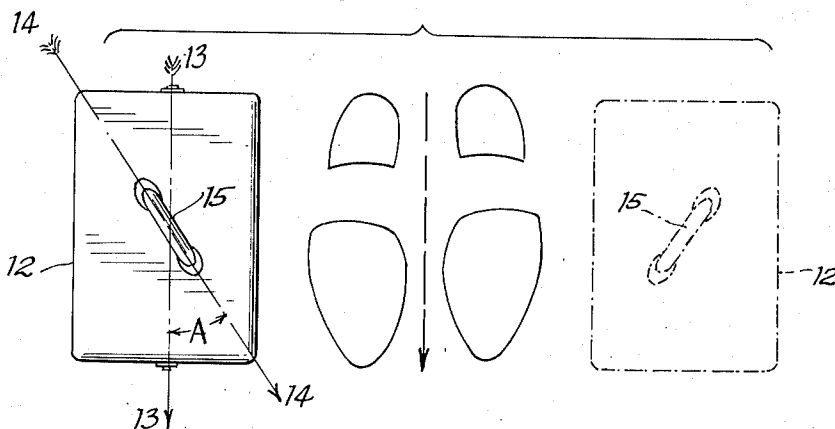


Fig. 5

Fig. 8

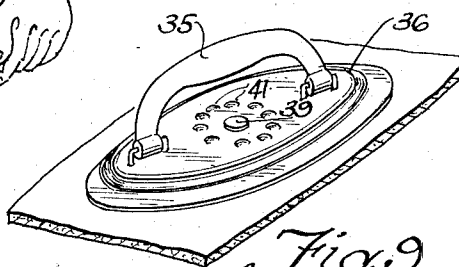
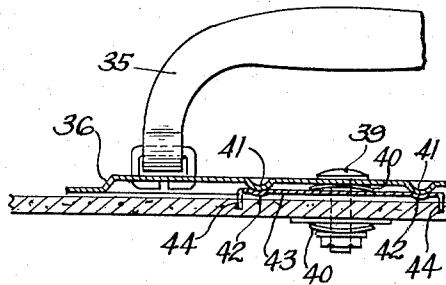


Fig. 9



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2,784,816

LUGGAGE HANDLE

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9 Claims. (Cl. 190—58)

This invention pertains to luggage and handle structures therefor, and has as its principal object the provision of a carrying case provided with a postural handle situated in a manner to dispose the case at the side of the individual carrying it in a position of least interference in grasping, walking, or holding the case at the side.

Viewed from another aspect, it is an object of the invention to provide a carrying case, or the like, having a handle situated at a certain angle relative to the configuration of the case so as to dispose the handle in a position of alignment with the palm of the hand when the arms are relaxed and dropped at the side of the body, with the result that the handle is not only more easily seized, but the case or other carried object is disposed in a more comfortable carrying position with less likelihood of striking or rubbing against the legs when in motion.

Further objects relate to the provision of a handle structure for cases which may be adjustably position diagonally to facilitate carriage dependently upon the relative width and length of the case and which is adjustable for right- or left-handed carriage.

More detailed aspects of novelty and utility in the invention pertain to features of construction and operation of the embodiments described hereinafter in view of the annexed drawings, in which:

Fig. 1 shows in perspective one type of case equipped with the new handle means, in position to be grasped and lifted from ground level;

Figs. 2 and 3 show the case of Fig. 1 in carrying positions;

Fig. 4 is a top plan view of the case of Fig. 1 as seen in relation to the stance of the bearer;

Fig. 5 is a front perspective view of the case, equipped with the new handle structure, and disposed in carrying position;

Fig. 6 is a fragmentary top plan view of a modified handle structure which is adjustable;

Fig. 7 is a fragmentary vertical sectional detail, to enlarged scale, through the handle structure of Fig. 6;

Fig. 8 is a perspective view of a modified, adjustable handle unit;

Fig. 9 is a fragmentary vertical sectional detail of the handle structure of Fig. 8, to enlarged scale.

When the arm is relaxed in pendant attitude, as illustrated in Fig. 1, it has been found that the hand 10 of the average normal person will generally rest with the palm turned somewhat sidewise, toward the body, so that a plane effectively containing the open palm does not lie in a line extending fore-and-aft or straight-ahead position, in relation to the rest of the body or the direction faced.

Stated in another way, when the arm of the average person is dropped at the side in relaxed condition, the attitude of the hand is such that an axis through (or which would be embraced by) the clenched or closed fist, extends in a sense across the front of the body and across the path of travel of the body in forward motion.

In still other terms, the back of the hand tends somewhat to face forward.

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This phenomenon may be observed by simply dropping the arms at one's side several times, and (without changing the position of the hands or torso) observing the attitude of the back of the hand, the palm, and the fingers, whether open or closed.

For purposes of description, the aforesaid attitude of the hand is referred to as the "natural," "dropped," or "relaxed" condition, with reference of course to the average, physically normal individual.

The luggage case 12 shown in Fig. 1 is of a rectangular shape particularly awkward for comfortable carrying purposes, being very wide across, so that the conventional, centrally-mounted handle extending in the usual fore-and-aft line requires a turning of the hand from the aforesaid natural position in order to be grasped.

According to the invention, the handle 15 is not disposed in a fore-and-aft line, such as indicated by the arrows 13—13, but is pitched diagonally, in alignment with the arrow 14—14, so as to lie at an angle A of approximately 30° to the fore-and-aft or longitudinal attitude of the conventional handle.

In Fig. 1, the straight line 14X—14X extends approximately in the effective grasp or plane of the palm of the pendant hand 10, so that the line 14—14 through the improved handle, and the line 14X—14X through the palm are approximately parallel or tend to be much more nearly so than would be the case if a conventionally disposed handle were substituted for handle 15. (See Fig. 5, also.)

Assuming that the case 12 is lifted by the hand 10 in the attitude illustrated in Fig. 2, it will be seen that the aforesaid "natural" position of the hand remains substantially as it was in the unengaged condition of Fig. 1. No appreciable turning of the hand is necessary to grasp the new handle 15.

It will also be observed from Fig. 2 that the lengthwise, fore-and-aft line of the case 12 remains in approximate parallelism with the direction faced by the bearer, as indicated by the directional arrows.

The aforesaid angular attitude of the handle 15 not only facilitates grasping and holding, but it also tends to dispose the case in the most favorable position for bodily movement or walking of the bearer. The feel of such a handle is noticeably different and more comfortable.

By reason of the natural inclination of the hand (in most persons) to turn the palm somewhat crosswise of the body, the carried object will likewise be turned where the old type of handle is employed (unless conscious effort is made to the contrary) and results in urging the forward portions of the object toward the body to strike against, or be struck by the legs of the carrier. Annoyance from this source is greatly relieved by the novel angularly disposed handle, because, as illustrated in Figs. 3 and 5, the hand 10 may assume its most usually natural attitude, while the lengthwise extent of the case 12 continues in a substantially forward line, without conscious effort to maintain this condition.

The relative angular relationship between the configuration of the case 12, the attitude of the handle 15, and the stance of a person with the case at his side, is illustrated in Fig. 4, and is substantially correlative to the same relationships illustrated in Figs. 1 and 2.

The handle structures illustrated in full lines in Figs. 1 through 5 are all contrived for righthanded persons, but no structural changes are required to adapt the handle to lefthanded carriage; in the latter case, as suggested in the dotted-line view of Fig. 4, the handle is simply rotated 60° from its position shown in full lines.

Accordingly, since the only adjustment necessary to adapt the improved handle structure, with all of its advantages, to lefthanded persons, is an angular displac-

ment of the handle by about 60° from its position for righthanded persons, the claims hereinafter asserted are intended to apply to either sense of mounting.

The advantages of the invention are most pronounced in conjunction with cases, articles of luggage, and like objects, which are of rectangular or analogous configuration (although the advantages are equally appreciable to other shapes), and especially bulky cases and the like having a substantial width, or a substantial width, length, and depth, since the wider objects require more deliberate and conscious adjustments of the arm and hand positions to keep the object away from the body and particularly the legs; while the deeper objects offer increased areas for collision with the legs.

In the modified constructions of Figs. 6 through 9, the handle is angularly adjustable.

Referring to Fig. 6, the handle 25 includes, at opposite ends thereof, offset projections 26 engaging loosely beneath a pair of arcuate metal plates, straps, or cleats 27, which are simple stampings, each having terminal apertured flanges 28 at its ends, and secured to the top of the case by means such as rivets 29. Each of the arcuate handle-mounting straps 27 has embossed notches or detents 30 to receive the handle projections 26. Thus, handle 25 may be adjusted for right- or left-handed carrying or for conventional fore-and-aft carrying, it being merely necessary to twist the handle to the desired position (e. g. as indicated by the dotted-line position) to engage the projections 26 in the selected positioning notches or detent means 30, which are of a depth to prevent the handle from accidental displacement when the associated case is in carrying position.

In the construction of Fig. 8, the handle 35 is mounted on a rotatable plate means 36, which is pivoted by pin means 39 extending through the top wall of the case, as in Fig. 9.

Formed circumambiently of the pivot 39 in plate 36 are a plurality of inwardly convex detent bosses 41, which are adapted to seat in complementary concave detent embossments 42 (Fig. 9) formed in a positioning plate 43 through which the pivot pin 39 passes and which is prevented from rotating relative to the case by means of a plurality of integral, sharpened tangs 44 forced into the case. Spring washers 40 on pin 39 permit the plate means 36 to yield as the bosses 41 ride into and out of the positioning formations 42 when the handle is turned to adjust its position.

In both forms of the adjustable handle shown in Figs. 6 and 8 the locating or positioning formations 30, 41—42, are angularly situated to afford the 30° positions (right or left) for accommodation to the so-called "natural" grasping attitude of the hand.

In its several aspects, the improved handle structure is characterized principally in that the axis of the handle-proper is situated (either permanently or adjustably) diagonally of the forward carrying axis, so as to be directed in a sense forwardly across the body of the carrier or his path of advance.

I claim:

1. The combination, with an article of luggage adapted to be carried at the side in the grasp of one hand, of improvements comprising, to wit: an elongated handle having an offset projection at each of its axial ends, a pair of arcuate plates, each mounted at one end of said handle on an uppermost surface of said article, the arc of said plates having a common center beneath said handle substantially at the mid-point thereof and being located on said article such that said center and a diametric axis through the same and both plates is in parallelism with the forward carrying axis of said article, each said plate having an arcuate flange overlying one of the adjacent projections on said handle to hold the latter on said surface for movement to dispose the same in any one of

a plurality of diagonal positions relative to said forward carrying axis.

2. The combination of claim 1 further characterized by the provision on the flange portions of each of said plates of a plurality of radial slots, each in diagonal radial alignment with a complementary slot on the other plate, such that said handle projections may be seated into any complementary pair of said slots to maintain said handle in selected positions of diagonal adjustment as aforesaid.

3. The combination, with an article of luggage or the like adapted to be carried in the grasp of one hand at the side of the person carrying it, of improvements in a diagonally adjustable handle comprising, to wit: a plate pivoted substantially centrally on an uppermost surface of said article, an elongated handle element attached at its opposite end regions to said plate at points lying on an axis through the pivot of the plate with the middle of the handle substantially overlying the pivotal axis of said plate, and means beneath said plate providing a plurality of fixed, diametrically opposite pairs of locating formations arranged circumambiently of said pivot, together with a plurality of pairs of diametrically opposite, complementary locating formations on the underside of said plate adapted to interfit with said fixed locating formations therebeneath for maintaining said handle in any of a plurality of angular adjustments relative to said surface and the forward carrying axis of said article.

4. The combination of claim 3 and further characterized by the provision of spring means normally urging said plate toward said surface whereby to yieldingly hold said locating formations on the plate in adjusted engagement with said fixed locating formations.

5. In a posturally adjustable handle structure for a carrying case, a pair of cleats attached to the top of the case in spaced relation equidistant from the center of the case top, and also respectively having portions raised from the case top and extending in a sense transversely of the intended carrying axis of said case, an elongated handle having opposite end portions each loosely engaged beneath the raised portion of one of said cleats, whereby said handle is movably attached to the case and is free to swing a limited amount in opposite directions about an axis passing substantially through the center of the handle between said end portions and midway between the cleats.

6. The construction according to claim 5 in which said cleats are arcuate and are disposed concentrically of said center and axis.

7. The construction of claim 6 in which said arcuate cleats are each provided along their length with a series of seating notches each of which is adapted to receive the corresponding end portion of the handle; each said notch being aligned radially with said axis.

8. In combination with an article of luggage adapted to be carried in one hand at the side of the person carrying it, a handle structure adjustable to the postural grasp of the hand and including an elongate handle element, and means movably mounting said handle element on an uppermost surface of said article to pivot about a vertical axis which is located substantially midway between the ends of the handle and also located substantially in a vertical axis through the center of gravity of said luggage article whereby said handle can assume a plurality of diagonal positions in which the longitudinal axis of said handle element extends diagonally of the forward carrying axis of said article when being carried as aforesaid, a plurality of formations fixed on said mounting means adjacent the opposite ends of the handle and complementary interfitting parts movable with the handle at each of the handle ends releasably engaging said first-mentioned formations for maintaining the handle in selected positions of diagonal adjustment about said vertical axis.

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9. In an adjustable posture handle structure for luggage, carrying cases and the like, an elongate handle member and means movably mounting the same thereon for freedom to turn about an axis passing vertically through the mid region of the handle between its opposing ends, means, including detent formations, affixed to the luggage relative to which the handle pivots as aforesaid, and formations on the handle cooperable with said detent means for releasably engaging said detent means in certain pivotal positions.

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