March 29, 1960 L. W. ROSEN 2,930,154

BADGES AND PIN-ATTACHING MEANS THEREFOR

Filed May 15, 1958

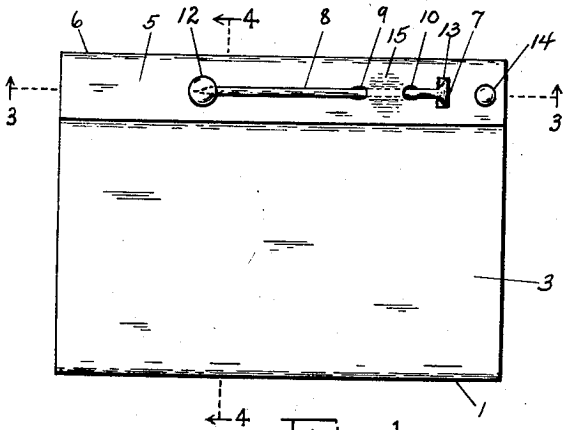

Fig. 1

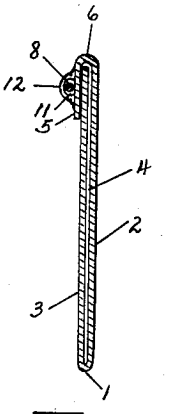

Fig. 4

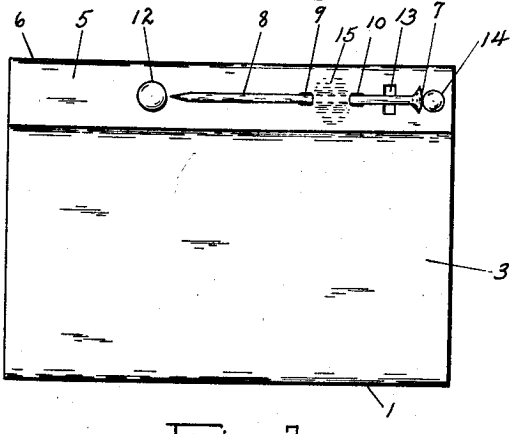

Fig. 2

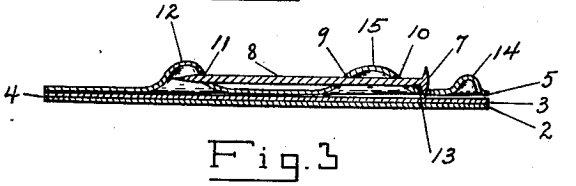

Fig. 3

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United States Patent Office 2,930,154
Patented Mar. 29, 1960

2,930,154

BADGES AND PIN-ATTACHING MEANS THEREFOR

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Application May 15, 1958, Serial No. 735,400

7 Claims. (Cl. 40—1.5)

My invention relates principally to a badge commonly known as an identification bar, fashioned out of a single sheet of thin resilient material such as Celluloid, and to a common pin in combination therewith, and discloses certain improvements in the art in addition to those enumerated on the same subject in my pending application in the United States Patent Office, filed March 18, 1957, and bearing Serial No. 646,890, now abandoned.

The object of these further improvements is to make it possible to use a common pin of uniform size and thickness for all of these badges, regardless of their dimensional variations. A further object is to have a device where the mounting of the pin could be made along any straight course and within very narrow confines, with particular benefit when so accomplished horizontally close to the top edge of the badge, in direct vision and right under the nose, so to speak, of one trying to adjust the same on to his garment. Another object, as a corollary to this top-edge mounting, is to gain thereby an unobscured space of practically the entire rear surface of any display card in the badge, whereon additional legends or other data may be shown to advantage or for handy reference, such for instance as instructions or directions promulgated by a sponsor for the benefit of the wearer at a convention or the like, or, for that matter, any kind of advertisement. A further object is to provide a simple, inexpensive and foolproof means for actually locking the pin after attachment and synchronously enveloping its point under complete coverage, without exterior exposure of any portion of it whatsoever. A further object is to have the badge pressed tight against the fabric of the wearer and thus made firm and unshakable, in contrast to the wabbly condition that obtains in the use of the conventional crimped pin which makes the badge stand out an appreciable distance from the fabric to which attached. Another object is to reduce to an absolute minimum the time required by an assembler to mount the attaching pin on to such badge, the disclosure here making it possible to effect such operation in a jiffy, even with the badge lying flat on the table and with no need for picking it up and fumbling with it for that purpose. Aside from such saving in labor, a further object is appreciably to reduce the cost in pin material, the common pin being about the cheapest there is. Not only is the conventional crimped pin much more expensive but, withal, it has the following disadvantages: The depth of its structure compels the badge, as already mentioned, to stand away from the garment an appreciable distance and thus in wabbly fashion; because of such bulk, the assembled badges with that type of pin take up an inordinate amount of space when packed in large quantities for shipment; special attention must be given in connection with such packing not to stack the badges too tight, for unless they are kept sufficiently apart interscratching will ensue because of the fact that the sharp point of the crimped pin is exposed even when locked, which is not so in the instant device; because of its awkwardness the crimped pin requires greater manipulation for mounting the same

on to a badge; its spreading design and necessary positioning away from any top-edge portion of the badge result in obscuring a good portion of the rear surface of any display card that may be desired for imprint thereon of any legend or advertisement; it must necessarily be of sufficiently thick gauge to resist distortion on pressure of its shank portion toward engagement with the locking hook, which physical characteristic is in contrast to the preferred sleekness of the fine common pin and the resultant benefit therefrom when attached even to delicate fabric. In my device, the mere sliding of the common pin along a snugly channeled track, rather than any downward pressure on its shank, makes it unnecessary to provide against any such distortion of the pin shank, and, for the same reason it can be as reasonably thin as wanted because no appreciable weight depends on it in connection with the badge proper.

Other features of my invention and of the application thereof, and further details of my improvement and of the manner of constructing and operating the same will be set forth as this specification proceeds. It will be understood, however, that said invention is not limited to this particular disclosure, but is susceptible of many changes and modifications which may be made by those skilled in the art without departing from the spirit and scope of this invention.

For a more particular description of my invention, reference is to be had to the accompanying drawings, forming part hereof, in which—

Fig. 1 is a rear elevation of my improved device, showing the location of the pin in horizontal position on the tab portion of the badge and as it would appear when locked.

Fig. 2 is a view similar to that of Fig. 1, but showing said pin in unlocked position ready for mounting of the badge on to a garment or the like.

Fig. 3 is a view in horizontal cross section, taken along the line 3—3 of Fig. 1, looking in the direction of the arrows.

Fig. 4 is a view in vertical cross section, taken along the line 4—4 of Fig. 1, looking in the direction of the arrows.

Throughout the drawings, similar reference characters indicate similar parts.

Proceeding with my description, the badge or identification bar is composed of a thin sheet of transparent resilient material folded crosswise at edge 1 into an outer wall 2 and an inner wall 3, between which walls is the resulting chamber 4 for the insertion of a card or the like therein for display purpose. When first creased, the position of the fold at edge 1 is such as to leave an extra length on what will follow as the outer wall 2, sufficient to create the tab 5 folded crosswise at edge 6 and inwardly to afford a sort of pocket or retaining medium for insertion of the horizontal free edge portion of the inner wall 3 between the opposing surfaces of said tab and outer wall for the purpose of closing the opening to said chamber in the vicinity of said tab.

Mounted on the external surface of said tab 5 is the common straight pin, such as used for fitting purposes and the like, having the conventional head 7 and the shank 8, which pin is channeled for operational purpose through the unform slots 9 and 10 cut in the tab 5, said slots being in effect apertures restricted to such complemental width in relation to the diameter of the pin shank as will accommodate said shank snugly and permit it to slide or move only in a straight course without lateral derivation for locking and unlocking purposes, it being noted that the alignment of all of the parts on tab 5, as shown in Fig. 1, is such as to insure only that kind of movement. As can be further seen in Fig. 1, the pin is of such length as to leave a substantial portion of it

centrally located for attaching purpose, while the remaining portion thereof inclusive of the head, functioning off center in relation to the horizontal length of the tab, is utilized in keeping the pin mounted for the operational procedure of locking and unlocking the pin in connection with attachment of the badge to same fabric. The locking thereof is effected by pushing the pin from the direction of its head to the extent that a predetermined portion thereof at its opposite end will enter pointwise the aperture **11** directly in its path and located in a portion of the elevation presented by the hollow mound **12** formed out of an outwardly directed depression in tab **5** at that location. Upon such entry the underportion of the head **7** will edgewise, up to the bottom plane of the shank **8**, synchronously snap into the vertical slot **13** under the surrounding tension of the sheet material and thus prevent the pin from any further movement in either direction. In that position, the pin is positively locked in connection with any fabric to which the badge is attached, and, furthermore, the pointed end thereof is then completely enveloped or encased underneath said mound and shielded against accidental contact therewith by any person. In the course of this sliding movement for locking purpose, the head of the pin, because of its greater diameter with relation to that of the shank, maintains in its edgewise position a pitch of the pin shank in such direction whereby its pointed end is so stressed against the opposing surface of the tab **5** as to make it impossible for such end to override the aperture **11** on such movement and thereby miss going through it. At the same time it is the tension energized by this pitch that serves synchronously to bring about, as aforementioned, the snappy entry of such pin head into the slot **13** for locking purpose, as shown in Fig. 3, such entry in effect affording relief to such tension. To unlock the pin, the reverse movement is followed from that above described, which is accomplished first by a slight pick-up, against the tension referred to, of that portion of the pin between the slot **10** and its headed end so as to free the same from the vertical slot **13**, and then by sliding the pin toward the mound **14**, fashioned in the same way as mound **12**. This mound **14** is suggested as an optional backstop or means of caution for cessation of movement as soon as the pointed end of the pin has through such sliding operation emerged from the aperture **11**, for then the pin becomes unlocked and again ready for fastening purpose. However, this mound **14** is not so high as to prevent the mounting of the pin from that direction through the slots **10** and **9**, in the order named, the resiliency of the badge material being also slightly drawn upon for such adjustment. This backstop is not an element actually needed for locking or unlocking purpose, and accordingly it is not of vital importance to one using ordinary caution not to retract the pin too far when a detachment of the badge is desired. On the other hand, this mound **14** could additionally be provided with a vertical slot similar to **13** for positive locking of the pin as at **13**, or else the same result could be accomplished by provision of this additional slot alone in place of said mound.

Apropos of this reference to slot **13**, it might be noted that, in edgewisely resting in said slot as shown in Figs. 1 and 3, the pin head is so oriented that the top of it abuts the contiguous edge of said slot, while the beveled or under portion of said head leading to the shank is adjacent to the opposite edge of said slot. This is functionally very important, because the first described contact is a guard against the one real danger to be avoided, namely an accidental unlocking of the pin and the possible losing of the badge. That protection is here amply covered because it is the practically flat surface of the head top that is pitted against the edge referred to and so held under a downwardly directed tension against the pin shank, under which circumstance there is no possibility of the pin gliding over said edge and in turn paving the way for accidental disengagement of the locking means by unchecked movement of the pin in direction away from aperture **11**. On the other hand, as to the secondly described contact, under normal handling the beveled or under portion of the pin head will not glide over its adjacent edge, but even if this came about through excess force followed by extra travel of the pin the latter will still remain locked, becoming no further movable after the head has reached the slot **10**, with slight brakeage on the way to resist this superfluous travel because of the upward slope, as later explained, in tab **5**, encountered along that course. In any such ultimate position the pin point will merely extend a further distance beyond the mound **12** equivalent to the additional travel referred to and, of course, will still remain shielded underneath the tab **5**.

It will be noted by reference to Fig. 4 that a sufficient portion of inner wall **3** at its free end acts as an intervening layer between the otherwise opposing surface of tab **5** and the outer wall **2**. Unlike the resultant contact with an inserted card imparted by a mounted crimped pin, this intervening layer in my device acts as a complete shield between the pin and any card inserted in chamber **4** between the said two walls. It might here be said that, conventionally, this crimped pin is mounted sort of midway of the badge as shown in Austad's drawings, and, because of its structure, it could not possibly be located in the interest of economy on any such narrow strip as tab **5** of applicant with resulting benefit of such intervening layer. Yet it might also be observed that even if the pin were opitonally mounted in my device in some chosen position below said tab as in Austad, any such card in chamber **4** would nevertheless remain practically free of frictional contact with said pin. This is because of the bellied portion **15**, which automatically is formed in the wake of the pin insertion through slots **10** and **9**, no matter where those slots may be aligned, and which in turn imperceptibly elevates the pin in its horizontal position from the initial plane in the region of those slots, which otherwise would remain in status quo if designed for the insertion of a crimped pin. It is also to be noted that the bellied portion **15** so tapers off that slot **13** will yet be on an elevated plane, but somewhat closer to the base, which in turn affords sufficient space between the plane of said slot and that of said base for an unobstructed overlapping, edgewise, of any revolved portion of the pin head that has snapped into said slot up to the lower level of the pin shank, as shown in Fig. 3, thus insuring a non-slipping and positively locking position of said head. It is also to be noted by reference to Fig. 3 that because of such horizontal elevation of the pin shank, a very slight hollow results between said shank and the normal base underneath along the distance between the slot **9** and the mound **12**, which snugly compensates for the slight depth taken by the usual bite of such pin into the fabric where attached, any other variation nevertheless leading to similar compactness because of the resiliency of the base structure and the narrowing of said hollow to the vanishing point at each end.

As to the imposition on a rear surface of the badge of the novel alignment of parts as disclosed in this device for the mounting of a common pin and for the locking and unlocking of same when desired, the elements thereof, consisting of the mound **12**, the aperture **11**, the horizontal slots **9** and **10**, the vertical slot **13**, and the mound **14**, all can be effected in one stamping operation by a single battery of dies, the mounds **12** and **14** being synchronously created by the mere depression of the sheet material at their location with the aid of slight heat electrically applied to the relevant die. At one and the same time the linear path between the slots **9** and **10**, to be later traversed by the shank of the pin, can be outwardly depressed, with similar heat and an appropriate die included in said battery, to create a linear archway sufficient for straight and snug entry of the pin through both of these slots, without the necessity of a threading or weaving mo-

tion for that purpose, thereby reducing considerably the work of the assembler. All this synchronous priming and preparation can be accomplished, as stated, in a single operation without extra expense in time and labor over and above what it takes to stamp out the complementary apertures in a badge designed for the reception of the conventional crimped pin. In connection with such apertures for the crimped pin, it might here be observed that they must be large enough for initial admittance respectively of its hook at one end and of its spiraled spring at the other end, following which, however, these apertures become altogether too large for diametrical accommodation of the wire body alone which ultimately becomes at rest therethrough. This results in a very shaky combination between badge and pin, totally in contrast to the snugly harnessed pin in the instant device, immovable at all times except for operational purpose to be effected by just a sliding movement in a fixed track. Furthermore, under the disclosure made herein with particular reference to the mounting of my pin on tab 5, the force of any accidental or moderate pull on the attached badge would first be resisted by the tension residing at the hinged edge 6, resulting merely in a corresponding angular movement of the tab 5 rearwardly and against that tension, sufficient to overcome or to mitigate that pull on any casual tampering with the badge. Where, however, the pull is deliberate, the pin itself is so strongly moored in its locked position as to overcome, in reasonable bounds, the excess force engendered thereby.

It is obvious from the foregoing that this pin-fastening device in connection with resilient sheet material such as transparent Celluloid, can be accomplished with similar sheet material of resilient quality, even though nontransparent, whether either kind is applied to other types of badges than that herein described or to kindred objects of one or more plies of such material.

While I have shown and described one embodiment of my invention, it is obvious that it is not restricted thereto, but is broad enough to cover all structures that come within the scope of the annexed claims.

Having described my invention, what I claim is:

1. In a badge and pin combination, a badge member consisting of a thin sheet of resilient and transparent material folded transversely intermediate its ends to define an outer and inner wall in confrontation with each other for the reception of a card or the like therebetween for display purpose and a supporting tab, by way of an extended length of said outer wall, inturned along a line parallel with said fold to a plane substantially parallel with that of said outer wall; a straight pin of the common type, having a round-edged head at one end of its shank and a point at the other, with attendant means for removably mounting the same preferably from and along the outer surface of said tab in a pre-set and interlockable combination adapted for securing said badge on to and flat against any face of a garment or the like; said attendant means consisting of two apertures in said tab, aligned along a normally flat base and of uniform width infinitesimally greater than that of the diameter of the pin shank, for receiving and slidably channeling said pin over the fixed linear course pre-established thereby; and the said apertures being otherwise so disposed as would induce in their region a slight buckling in said base in the wake of such pin-mounting operation; a hollow mound in said alignment at the farther end from said apertures, drawn to a height above the normal plane of said base, with an opening in its elevation facing the point of said mounted pin, for automatic reception to a position beneath the dome of said mound, of a complementally extended end of the pin shank when slid pointwise, along the normal level of said course, to pin-locked position, regardless of embodiment therewith of any such face material; means by which such locked position is automatically effected, consisting of a vertical slot in said alignment eventuating in the outer slope of said buckled region when introduced as aforementioned, of a marginal proportion designed snugly to house, under tension of the surrounding base material, any casually revolved portion of the pinhead which, against such tension, has snapped edgewise into said slot up to stoppage by the base-abutment of said shank, upon entry of such shank through the opening in said mound to the extent and in the manner aforementioned.

2. In a badge and pin combination, a badge member consisting of a thin sheet of resilient and transparent material folded transversely intermediate its ends to define an outer and inner wall in confrontation with each other for the reception of a card or the like therebetween for display purpose and a supporting tab, by way of an extended length of said outer wall, inturned along a line parallel with said fold to a plane substantially parallel with that of said outer wall; a straight pin of the common type, having a round-edged head at one end of its shank and a point at the other, with attendant means for removably mounting the same preferably from and along the outer surface of said tab in a pre-set and interlockable combination adapted for securing said badge on to and flat against any face of a garment or the like; said attendant means consisting of two apertures in said tab, aligned along a normally flat base and of uniform width infinitesimally greater than that of the diameter of the pin shank, for receiving and slidably channeling said pin over the fixed linear course pre-established thereby; and the said apertures being otherwise so disposed as would induce in their region a slight buckling in said base in the wake of such pin-mounting operation; a hollow mound in said alignment at the farther end from said apertures, drawn to a height above the normal plane of said base, with an opening in its elevation facing the point of said mounted pin, for automatic reception to a position beneath the dome of said mound, of a complementally extended end of the pin shank when slid pointwise, along the normal level of said course, to pin-locked position, regardless of embodiment therewith of any such face material; means by which such locked position is automatically effected, consisting of a vertical slot in said alignment eventuating in the outer slope of said buckled region when introduced as aforementioned, of a marginal proportion designed snugly to house, under tension of the surrounding base material, any casually revolved portion of the pinhead which, against such tension, has snapped edgewise into said slot up to stoppage by the base-abutment of said shank, upon entry of such shank through the opening in said mound to the extent and in the manner aforementioned; and means in said alignment located beyond said vertical slot at the closer end to said apertures for preventing said pin from accidentally emerging from said pre-set combination upon liberation thereof from such locked position.

3. In a badge and pin combination, a badge member consisting of a thin sheet of resilient material folded transversely intermediate its ends to define a panel for integration therewith of readable matter on either side thereof for display purpose, that in the rear depending on the transparency of said material, and a tab hinged rearwardly along the line of said fold to a plane substantially parallel with that of said panel; a straight pin of the common type, having a round-edged head at one end of its shank and a point at the other, with attendant means for removably mounting the same preferably from and along the outer surface of said tab in a pre-set and interlockable combination adapted for securing said badge on to and flat against any face of a garment or the like; said attendant means consisting of two apertures in said tab, aligned along a normally flat base and of uniform width infinitesimally greater than that of the diameter of the pin shank, for receiving and slidably channeling said pin over the fixed linear course pre-established thereby; and the said apertures being otherwise so disposed as would induce in their region

a slight buckling in said base in the wake of such pin-mounting operation; a hollow mound in said alignment at the farther end from said apertures, drawn to a height above the normal plane of said base, with an opening in its elevation facing the point of said mounted pin, for automatic reception to a position beneath the dome of said mound, of a complementally extended end of the pin shank when slid pointwise, along the normal level of said course, to pin-locked position, regardless of embodiment therewith of any such face material; means by which such locked position is automatically effected, consisting of a vertical slot in said alignment eventuating the outer slope of said buckled region when introduced as aforementioned, of a marginal proportion designed snugly to house, under tension of the surrounding base material, any casually revolved portion of the pinhead which, against such tension, has snapped edgewise into said slot up to stoppage by the base-abutment of said shank, upon entry of such shank through the opening in said mound to the extent and in the manner aforementioned.

4. In a badge and pin combination, a badge member consisting of a thin sheet of resilient material folded transversely intermediate its ends to define a panel for integration therewith of readable matter on either side thereof for display purpose, that in the rear depending on the transparency of said material, and a tab hinged rearwardly along the line of said fold to a plane substantially parallel with that of said panel; a straight pin of the common type, having a round-edged head at one end of its shank and a point at the other, with attendant means for removably mounting the same preferably from and along the outer surface of said tab in a pre-set and interlockable combination adapted for securing said badge on to and flat against any face of a garment or the like; said attendant means consisting of two apertures in said tab, aligned along a normally flat base and of uniform width infinitesimally greater than that of the diameter of the pin shank, for receiving and slidably channeling said pin over the fixed linear course pre-established thereby; and the said apertures being otherwise so disposed as would induce in their region a slight buckling in said base in the wake of such pin-mounting operation; a hollow mound in said alignment at the farther end from said apertures, drawn to a height above the normal plane of said base, with an opening in its elevation facing the point of said mounted pin, for automatic reception to a position beneath the dome of said mound, of a complementally extended end of the pin shank when slid pointwise, along the normal level of said course, to pin-locked position, regardless of embodiment therewith of any such face material; means by which such locked position is automatically effected, consisting of a vertical slot in said alignment eventuating in the outer slope of said buckled region when introduced as aforementioned, of a marginal proportion designed snugly to house, under tension of the surrounding base material, any casually revolved portion of the pinhead which, against such tension, has snapped edgewise into said slot up to stoppage by the base-abutment of said shank, upon entry of such shank through the opening in said mound to the extent and in the manner aforementioned; and means in said alignment located beyond said vertical slot at the closer end to said apertures for preventing said pin from accidentally emerging from said pre-set combination upon liberation thereof from such locked position.

5. In a badge and pin combination, a badge member consisting of a thin panel of resilient material for integration therewith of readable matter on either side thereof for display purpose, that in the rear depending on the transparency of said material; a straight pin of the common type, having a round-edged head at one end of its shank and a point at the other, with attendant means for removably mounting the same on said panel in a pre-set and interlockable combination adapted for securing said badge on to and flat against any face of a garment or the like; said attendant means consisting of two apertures in said panel, aligned preferably at the top along a normally flat base and of uniform width infinitesimally greater than that of the diameter of the pin shank, for receiving and slidably channeling said pin over the fixed linear course pre-established thereby; and the said apertures being otherwise so disposed as would induce in their region a slight buckling in said base in the wake of such pin-mounting operation; a hollow mound in said alignment at the farther end from said apertures, drawn to a height above the normal plane of said base, with an opening in its elevation facing the point of said mounted pin, for automatic reception to a position beneath the dome of said mound, of a complementally extended end of the pin shank when slid pointwise, along the normal level of said course, to pin-locked position, regardless of embodiment therewith of any such face material; means by which such locked position is automatically effected, consisting of a vertical slot in said alignment eventuating in the outer slope of said buckled region when introduced as aforementioned, of a marginal proportion designed snugly to house, under tension of the surrounding base material, any casually revolved portion of the pinhead which, against such tension, has snapped edgewise into said slot up to stoppage by the base-abutment of said shank, upon entry of such shank through the opening in said mound to the extent and in the manner aforementioned.

6. In a badge and pin combination, a badge member consisting of a thin panel of resilient material for integration therewith of readable matter on either side thereof for display purpose, that in the rear depending on the transparency of said material; a straight pin of the common type, having a round-edged head at one end of its shank and a point at the other, with attendant means for removably mounting the same on said panel in a pre-set and interlockable combination adapted for securing said badge on to and flat against any face of a garment or the like; said attendant means consisting of two apertures in said panel, aligned preferably at the top along a normally flat base and of uniform width infinitesimally greater than that of the diameter of the pin shank, for receiving and slidably mounting said pin over the fixed linear course pre-established thereby; and the said apertures being otherwise so disposed as would induce in their region a slight buckling in said base in the wake of such pin-mounting operation; a hollow mound in said alignment at the farther end from said apertures, drawn to a height above the normal plane of said base, with an opening in its elevation facing the point of said mounted pin, for automatic reception to a position beneath the dome of said mound, of a complementally extended end of the pin shank when slid pointwise, along the normal level of said course, to pin-locked position, regardless of embodiment therewith of any such face material; means by which such locked position is automatically effected, consisting of a vertical slot in said alignment eventuating in the outer slope of said buckled region when introduced as aforementioned, of a marginal proportion designed snugly to house, under tension of the surrounding base material, any casually revolved portion of the pinhead which, against such tension, has snapped edgewise into said slot up to stoppage by the base-abutment of said shank, upon entry of such shank through the opening in said mound to the extent and in the manner aforementioned; and means in said alignment located beyond said vertical slot at the closer end to said apertures for prevent-

ing said pin from accidentally emerging from said pre-set combination upon liberation thereof from such locked position.

7. In a badge and pin combination as described in claim 6 wherein a linear depression is provided in direct communication between the said two apertures as an archway sufficient for the straight and snug entry of the pin therethrough in the course of the mounting operation therein described.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 2,930,154 March 29, 1960

Louis W. Rosen

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 2, line 68, for "derivation" read -- deviation --; column 3, line 6, for "same" read -- some --.

Signed and sealed this 27th day of September 1960.

(SEAL)

Attest:

KARL H. AXLINE
Attesting Officer

ROBERT C. WATSON
Commissioner of Patents