

[54] **DIRECTORY NAMEPLATE
CONSTRUCTION**

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[51] Int. Cl. **G09f 1/00**

[58] Field of Search..... 40/104.13, 104.18, 104.19,
40/63 R, 64 R, 65, 78, 124, 124.2, 124.4

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[57]

ABSTRACT

A nameplate for a directory comprising a strip and blank in which the strip is comprised of a thin, flexible, resilient, deformable material having rounded ends forming lobes, and the blank being a plastic engravable blank being secured to the strip; the nameplate is flexible to be bent in a slight curvature and is resilient to return to that shape when flattened; the nameplate is deformed and/or positioned to cause only the strip of the nameplate to fit into and engage folded-over edge portions of a holder.

8 Claims, 20 Drawing Figures

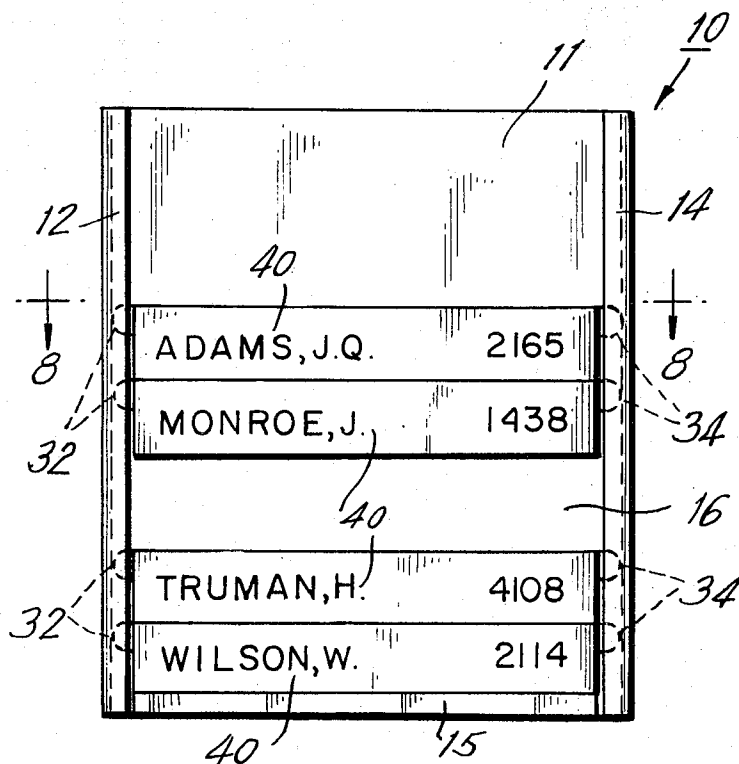


FIG. 1.
(PRIOR ART)

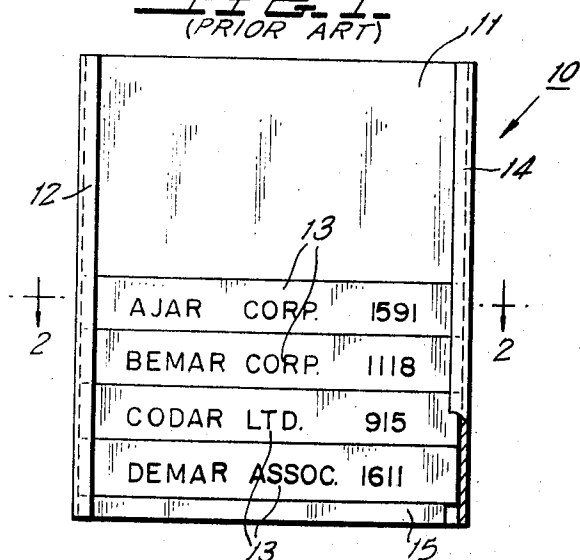


FIG. 2.
(PRIOR ART)

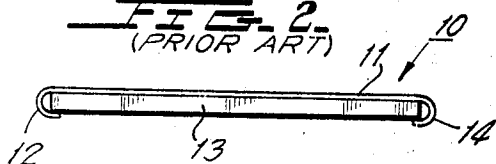


FIG. 3.
(PRIOR ART)

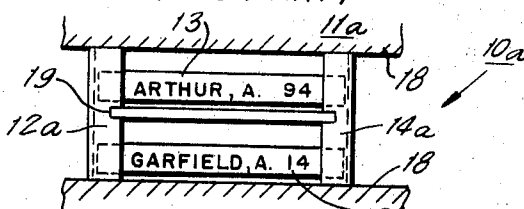


FIG. 4.
(PRIOR ART)



FIG. 5.

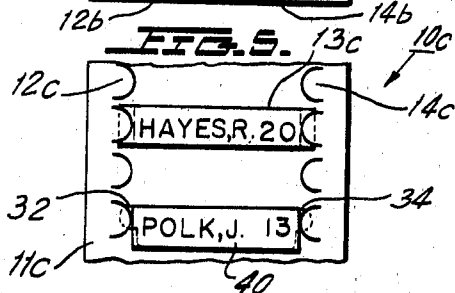


FIG. 6.

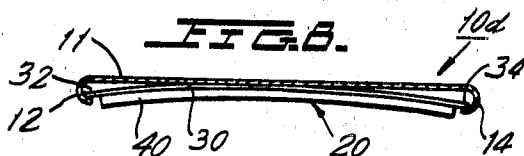


FIG. 7.

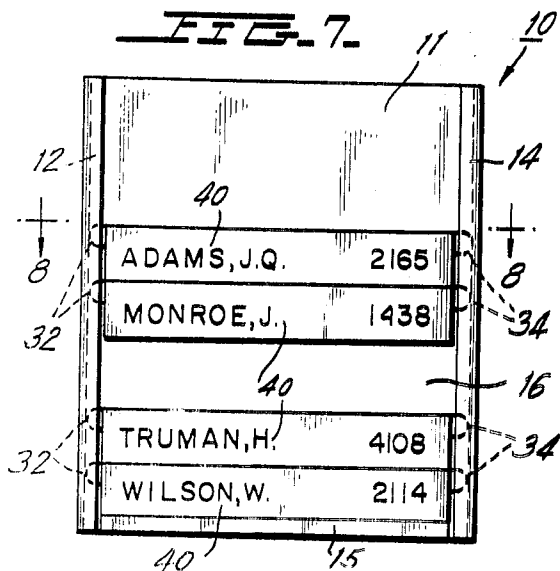
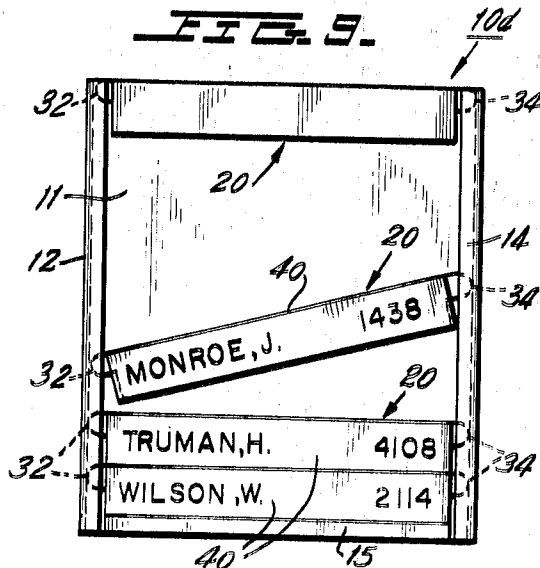


FIG. 8.



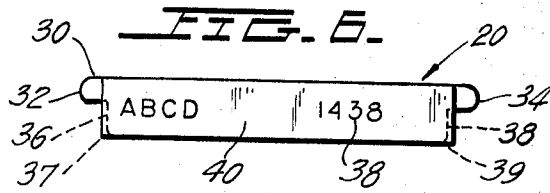
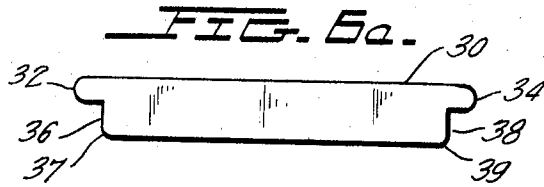
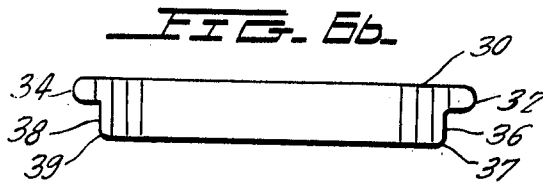
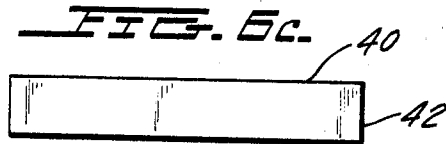


FIG. 10.

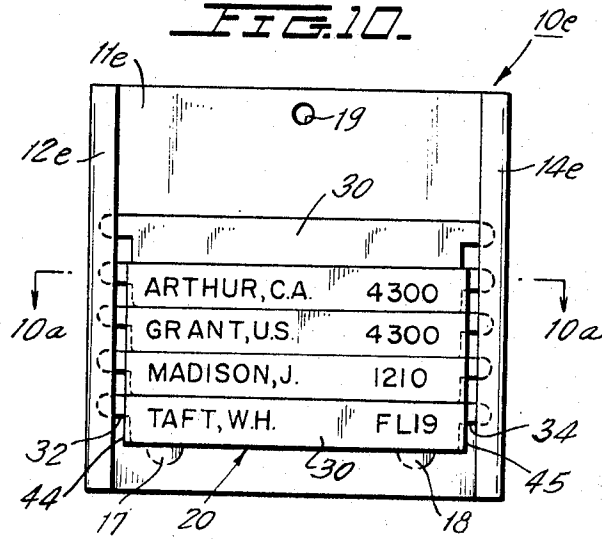


FIG. 10a.

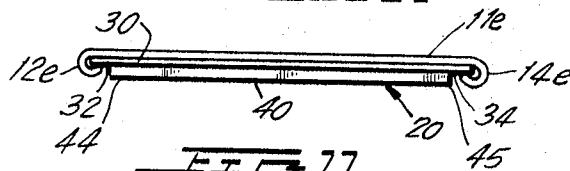


FIG. 11.

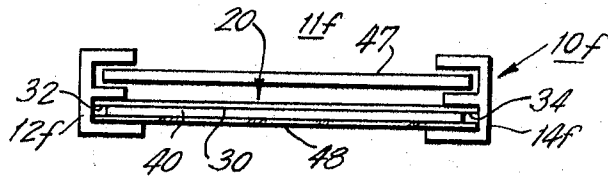


FIG. 12.

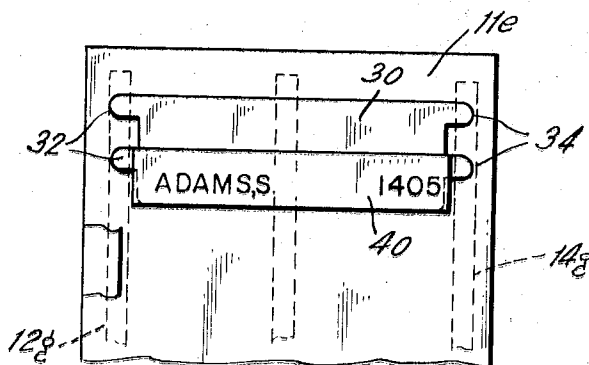
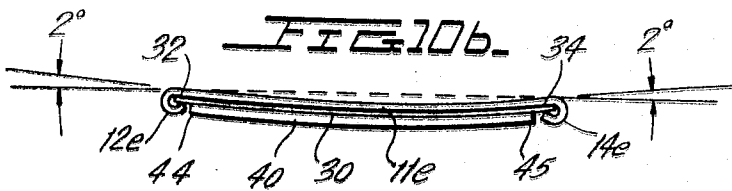


FIG. 10b.



DIRECTORY NAMEPLATE CONSTRUCTION

This invention relates to directory nameplates for directories used in buildings, offices or the like; and particularly to a directory nameplate construction comprised of both a resilient metal strip and a plastic engraving blank wherein with a few variations of directory nameplates, one size can be selected so that they can be used in all standard size, or special size nameplate holders or frames. In particular, each resilient metal strip has lobes at each end, protruding beyond the plastic blank, to enable the metal strip to be easily adapted and adjusted for use with various sizes and configurations of frames or holders.

BACKGROUND OF THE INVENTION

In multiple dwellings, apartment houses, office and commercial buildings, a directory is used to indicate the name and locations of the occupants.

The principal and most relevant form of directory includes a holder comprising a sheet and folded-over vertical marginal hem edges, which extend the length of the holder. The holder is usually oriented so that the marginal edge portions are along the vertical sides, giving the holder a C-shaped horizontal cross-section. A holder can carry a plurality of nameplates. When first installed, the nameplates are inserted into the holder from its top.

In one alternative embodiment of prior art, the holder has no backplate, but is instead comprised of only two U-shaped brackets facing toward each other and defining guideways for the edges of the nameplates.

Conventionally a nameplate is of a length such that its ends extend into both of the folded-over marginal hem edge portions of the holder. The opening within the edge portions is a particular thickness. If the thickness of the nameplate is the same as that of the opening in the marginal edge portion, the nameplate can be supported in a position above the base of the holder, but it will require manipulation to fit into place.

To insert, remove or replace a particular nameplate, it is usually necessary to remove nearly all, if not all, the nameplates above the particular nameplate.

A nameplate conventionally has indicia engraved on it, and are usually of laminated plastic stock. To be engraved, the nameplate is placed in a supporting jig. The different length nameplates available from various manufacturers require different supporting jigs of the engraving apparatus which applies the indicia. It would be preferable to design a nameplate wherein a few jig arrangements and/or set-ups can be used for engraving indicia on different size nameplates than can be used in all holders.

SUMMARY OF THE INVENTION

In accordance with the present invention, directory nameplates are comprised of flexible resilient metal strips and plastic blanks. The metal strips have lobes at each end, extending beyond the plastic blank, wherein the lobes have rounded ends. The strip is preferably comprised of thin metallic material which is flexible, deformable, resilient, such as spring tempered steel. For any one size of indicia carrying blank, one of several metal strip lengths can be used so that the directory nameplate can be assembled to fit a variety of different directory holders or frames.

The nameplate strip is of lesser thickness than the thickness of the openings in the marginal edge portions of the holder. The strips would normally freely slide through the holder to its base, except that before the strips are placed in the holder, the deformable strips are deformed, curved or bent, such that the strips press against the interior wall of the hem edge.

Various indicia are applied to an engravable plastic blank which is attached to the resilient strip. A few standardized length blanks can be used for the few different length strips needed to be used in the numerous size and type holders sold by different suppliers. This enables use of a standardized jig arrangement to apply indicia to nameplates of various lengths. This avoids the requirement for many different style and size jig arrangements usually required for each size nameplate.

The thickness dimension of the nameplate, comprising the flexible resilient strip and the indicia-carrying plastic blank, is not critical. The thin, flexible resilient strip will fit in the frame or holder, even with a plastic blank laid over it, because the resilient strip can be held in position in the frame or holder through deformation of either the strip or the holder, rather than through the nameplate having a preselected total thickness.

In the novel nameplate of this invention, the ends of each of the strips are rounded and relatively shortened in height with respect to the height of the rest of the strip, e.g., to about one-half the height of the strip. Each strip can be emplaced in a holder by being rotated and the rounded strip ends permit such rotation. It is thus unnecessary to slide the strips out of the end of the holder.

Accordingly, it is an object of the present invention to provide an improved nameplate construction for a directory.

It is a further object of the present invention to effectively support a nameplate in a nameplate directory.

It is another object of the present invention to ease insertion and removal of the nameplates from a directory holder.

It is another object of the present invention to reduce the number of different size engraving or indicia-carrying blanks for directory nameplates.

It is yet another object of the present invention to minimize the number of different jig arrangements necessary for applying indicia to directory nameplates.

It is a further object of the present invention to provide a nameplate construction adaptable for use with various types and styles of directory holders or frame constructions.

These and other objects of the invention will become apparent from the following description of the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front elevation view of a directory in accordance with one prior art embodiment;

FIG. 2 is a horizontal cross-sectional view through the directory of FIG. 1 in the direction of and along the line of arrow 2—2 in FIG. 1;

FIG. 3 is a front elevation view of another type of directory in accordance with prior art;

FIG. 4 is a front elevation view illustrating yet another embodiment of directory in accordance with the prior art;

FIG. 5 is a front elevation view of another embodiment of directory nameplate holder in accordance with

the prior art, and illustrates how prior art nameplates can be held and at the bottom illustrates how my novel nameplate can be held;

FIG. 6 is a front view of a nameplate in accordance with the present invention;

FIG. 6a is a front view of the metal strip of FIG. 6 that is part of my invention;

FIG. 6b is a back view of the strip of FIG. 6a and shows outer orientation guide lines for use in positioning the plastic blank on the front of the strip, and inner orientation guide lines for centering the engraving indicia on the front of the plastic blank;

FIG. 6c is a front view of the plastic blank of FIG. 6 before the indicia is engraved thereon;

FIG. 6d is a back view of the plastic blank of FIG. 6c and shows the adhesive thereon;

FIG. 6e is a top view of the plastic blank of FIG. 6c showing its limited thickness;

FIG. 6f shows the top view of the nameplate of FIG. 6 and the manner in which it may be bent before inserting into a holder;

FIG. 7 is a front elevation view of the prior art nameplate holder of FIG. 1 carrying nameplates made in accordance with the present invention;

FIG. 8 is a horizontal cross-sectional view through the nameplate strip holder of FIG. 7, along the line and in the direction of arrows 8—8 in FIG. 7, illustrating the novel nameplate of FIG. 6 in use;

FIG. 9 shows the holder of FIG. 7, and illustrates one manner of insertion of the novel nameplate of FIG. 6;

FIG. 10 is a front elevation view of a novel directory metal holder to be used especially for the novel nameplate of this invention.

FIG. 10a is a horizontal cross-sectional view of FIG. 10 taken in the direction of the arrows 10a—10a, illustrating the new holder and novel nameplate used together;

FIG. 10b is a horizontal cross-sectional view of a holder shown in FIG. 10, but in which the holder was slightly flexed along its entire vertical center before the novel nameplates are inserted;

FIG. 11 is a horizontal cross-sectional view through yet another version of nameplate holder, illustrating the holder and my novel nameplate used therewith; and

FIG. 12 is a front elevation view of another embodiment of holder for the novel directory nameplate of FIG. 6.

DESCRIPTION OF THE PRIOR ART

Referring to FIGS. 1 and 2, directory 10 is comprised of a frame or holder 11 and vertical, longitudinal marginal edge hem portions 12 and 14. Edge hem portions 12 and 14 are curved and folded over so that holder 11 has a C-shaped horizontal cross-section, as seen in FIG. 2. The edge portions each have an interior surface including a portion that is forward of and opposite frame 11. The openings in edge hem portions 12, 14 are on the order of about 1/16 thickness.

Edge hem portions 12, 14 guide nameplates 13 in the frame or holder 11. As can be seen in FIG. 2, nameplate 13 has substantially the same thickness as the thickness from the front to the back of the opening in the marginal hem edge portions 12, 14 of holder 11. Nameplates 13 can be slid into holder 11 from the top, or rotated into position, and can be held in position in

the holder 11 by the stop member 15 at the bottom thereof. The type of nameplate 13 is not always easily inserted because their thickness prevents easy entrance into hems 12, 14 of holder 11. It is apparent that any slight variation in thickness of nameplate 13 or any inadvertent bending or improper shaping of edge hem portions 12, 14 will preclude proper support of the nameplates 13 in the holder 11.

To replace one or more directory nameplates 13, depending upon the location of that nameplate 13, it may be necessary to remove some or all of the nameplates above it. This is because, as illustrated in FIG. 2, it is conventional and essential to make each nameplate almost precisely the thickness of the hem 12, 14, whereby rotating or twisting of the nameplates into position, as suggested in FIG. 9, is precluded or difficult because the corners of nameplates 13 may block this motion. Nameplates 13 are of such thickness that they may be removed by being slid out from the top or by being bent. However, if the blank 13 is bent, it may be sufficiently deformed to prevent reuse, since it does not have the benefit of a metal strip 30 to give it body and resilience, and is thicker than the plastic blanks 40 used in my nameplate 20.

FIG. 3 shows an alternate embodiment of prior art directory 10a. Holder 11a is comprised of two channel brackets 12a and 14a, which have a U-shaped horizontal cross-section. The open sides of the U's face toward each other, thereby defining facing channels for receiving nameplates 13. Channels 12a and 14a perform the same function as edge hem portions 12, 14 in the embodiment of FIG. 1. To properly space and position brackets 12a, 14a, they are permanently mounted at the desired spacing in directory mounting blocks 18, or in a similarly functioning fixed position mounting such as an extruded aluminum inner frame. Hence, holder 11a is a permanent installation.

Normally, it might be expected that nameplates 13 will settle to the bottom of holder 11a. To hold a nameplate 13 above the bottom of holder 11a, a strip of adhesive tape 19, or other supporting and/or securing means is used. Such securing means may not be esthetically pleasing and may be cumbersome to work with.

In another embodiment of the prior art, illustrated in the directory 10b of FIG. 4, the nameplates 13 are adhered to the adhesive strips 12b, 14b on the front surface of a sheet 11b. The support 11b has a width selected such that it will extend across and a thickness such that it will fit or slide into the U-shaped channels formed by brackets 12a, 14a of FIG. 3. Changing the information on holder 11b, e.g., to maintain proper alphabetical sequence of names, is cumbersome because it may require removing the entire holder 11b from its mounting and will require subsequently removing some adhesively attached nameplates 13, and applying substitute ones. It is apparent that shifting of nameplates 13 to make space for a name which belongs between two adjacently positioned names becomes quite difficult and time-consuming, especially if a large number of nameplates 13 must be moved.

In still another embodiment of the prior art shown in the directory 10c of FIG. 5, holder 11c carries forwardly projecting, inwardly directed prongs 12c, 14c which are inserted in the open ends of clear plastic envelopes, as seen at the top, in which labels 13c are inserted. Holder 11c is permanently mounted on brack-

ets by way of screws. Changing information is as cumbersome as in the embodiment of FIG. 4. Also, the nameplates 13 are usually spaced apart from each other so that a directory 10c of this type does not use space economically. With the use of my novel nameplates 40, as seen at the bottom of FIG. 5, the need for plastic envelopes is eliminated, since one conventional type window, as in FIG. 1, 3 and 4 can be used.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The features of FIGS. 1 and 2 that are carried over to FIGS. 3-12 are similarly numbered.

Referring to FIGS. 6, and 6a to 6f, in accordance with the present invention, directory nameplate 20 is comprised of flexible strip 30 of FIGS. 6a, 6b and plastic engraving blank 40 of FIGS. 6c, 6d, 6e. Strip 30 is resilient, flexible metal and has a generally elongated, rectangular shape. Preferably, the strip 30 is of spring tempered steel. Strip 30 is 1/64 inch thick, considerably thinner than the 1/16 inch thickness of edge hem portions 12, 14. Strip 30 terminates at both ends in rounded lobes 32, 34 which are rounded for reasons to be described below. Beneath lobes 32, 34 are notches 36 and 38 with rounded lower corners 37 and 39, the purpose of which notches is described below.

The adhesive 43 is on the back of plastic blank 40 as seen in FIG. 6d. The adhesive-backed plastic engraving blank 40 is secured to the front surface (FIG. 6a) of strip 30, as seen in FIG. 6. I have found it preferable to have the adhesive applied to the back of the blank 40 rather than the front of the strip 30, since the former arrangement permits the blank to be easily removed and repositioned or replaced, and such is very difficult with the latter arrangement. When strip 30 is placed in a holder 11, the indicia on the front surface 42 of plastic blank 40 faces outwardly and forward of said holder 11. Blank 40 is slightly longer than the distance between the inner edges of notches 36 and 38 and provides a protective overlap for the metal edges of the notches, which prevents rubbing against the hard metal of the notches. The use of attachable engraving blanks 40 is preferred. However, a whole roll of embossed or imprinted labels can be easily imprinted and later cut out in the appropriate lengths and easily applied to strips 30. The additional thickness to the strip 30 resulting from application of indicia-carrying blank 40 does not interfere with proper operation of the invention.

It will be noted that the back surface of the metal strips 30 may have orientation guide lines marked thereon, as seen in FIG. 6b where the outer lines serve to indicate the mounting limitations for securing the adhesive back surface 43 of plastic blank 40 to the front surface, seen in FIG. 6a, of the strip 30 to thereby form the nameplate 40 of FIG. 6. The inner orientation guide lines on the back of strip 30 of FIG. 6b are used to center the engraving indicia to be applied to the front surface 42 of the plastic blank 40. As seen in FIG. 6e, the thickness of the plastic blank 40 can be, and is intended to be substantially less than the thickness of the prior art blanks 13. Hence, with the blank 40 secured to the strip 30, the strip 30 will control the resilience and flexibility of the blank 40.

On the other hand, in the prior art of FIG. 2, it is apparent that an addition of a strip would undesirably increase the thickness of nameplate 13 and preclude its emplacement in holder 11.

In the embodiment of FIGS. 6-9, strip 30 can be deformed, bent or curved before use, as seen in FIG. 6f, preferably concavely about the front side which carries indicia blank 40, in order that it stay in position in holder 11 under the curved marginal edge hem portions 12, 14. The end lobes 32, 34 of concavely curved nameplates 20 in FIG. 8 press against the forward surface of the curved interiors of hem portions 12, 14 and the rear surface of strip 30 presses against the front of holder 11. The resilience of strip 30 forces it against the surfaces of the holder 11 and supports the strip in position. As a result, nameplates 20 can be arranged as in FIG. 7 to provide a separation between neighboring nameplates, as shown at 16. This could be helpful, for example, to leave spaces for additional names, for separating succeeding letters of the alphabet, etc. In new buildings, the nameplates for the initial occupants can be kept in a central location in the directory until most spaces in the directory panel are completed.

The construction of the nameplate 20, with strips 30 and blanks 40, enables them to be readily inserted or removed from the holder 11, without having to remove all of the strips above or below the one which is being added, replaced or removed. Because lobes 32, 34 are curved, nameplate 20 can be positioned in holder 11, as seen in FIG. 9, by placing it at an angle to occupy no more than three nameplate spaces and then rotating it around from the top position illustrated in FIG. 9, where lobes 32, 34 can then be moved into edge portions 12, 14. The curvature of lobes 32, 34 enables the rotation just described. The short height of these lobes additionally assists in the rotation. Were the ends of strip 30 straight and squared off, as with blanks 13 of FIGS. 1 and 2, the points at its corners would preclude the twisting of the strip to enable its insertion. Removal of nameplate 20 from holder 11 is accomplished simply by pulling, or prying it out. Insertion can also be easily achieved by flexing and snapping in place, through spring action of the resilient metal strip 30, without having to make space for more than one nameplate 20.

A further development of a holder is seen in FIGS. 10 and 10a where the edge hem portions 12e, 14e of metal holder 11e are crimped to define a quite narrow opening, on the order of 1/64 inch for example, which would not interfere with the insertion of the lobes 32, 34 of strips 30 in accordance with the technique shown in FIG. 9, but will permit the nameplate 20 to be held securely, and which will preclude insertion of prior art nameplates 13. Holder 11e is comprised of resilient, deformable metal material that can be slightly predeformed convexly toward nameplates 20, as seen in FIG. 10b. The holder 11e need only be deformed about 2° on each side from its original position of the dotted line of FIG. 10b. Thus, the center of holder 11e would press against the center of nameplates 20. The lobes 32, 34 contact the interior surfaces of the marginal edge portions 12e, 14e respectively, and the center of strip 30 could cooperate with the center of holder 11e to hold the nameplates 20 in place. This arrangement provides holding friction between the holder 11e and the nameplate 40 just by flexing or curving the nameplate, without bending it.

It should be noted that an alternate way of obtaining greater friction for holding the nameplates 20 in holder 11e is by slightly bending the nameplate 20, as seen in

FIG. 6f, in substantially the same manner as illustrated and described in FIG. 8.

It should be noted that two factors control the positioning of the nameplate 20 within the holder 11e to provide appropriate directory alignment. Namely, the lobes 32, 34 of the strip 30 extend close to the extreme edges of the marginal hems 12e, 14e (i.e., with 1/32 inch) and also the sides 44, 45 of the blank 30 are positioned close to the inside edge (1/16 inch) of the hem 12e, 14e as seen in FIGS. 10, 10a and 10b. Thus, the inside and outside vertical edges of each of the hems 12e, 14e are side movement controls for nameplate 20 alignment.

The holder 11e has two embossments 35 at the bottom to hold the nameplates 20 in position.

FIG. 11 illustrates an embodiment of a directory 10f, similar to the directory 11a of FIG. 3, for mounting the inventive nameplates 20. Nameplate 20 may or may not be curved convexly toward the viewing window 48 of holder 11f and end lobes 32, 34 of strip 30 are positioned in the track 12f, 14f of holder 11f. A transparent plastic or glass viewing window 48 is rigidly positioned at the front of holder 11f. Normally the prior art nameplates 13 are mounted in the back track 12f, 14f. However, with my novel arrangement, the nameplates 20 are positioned in the front track 12f, 14f which also defines a track for window 48. A backdrop 47 may be inserted in the back track 12f, 14f directly behind the nameplates 20.

Convexly curved nameplates 20 press against tabs 12f, 14f and at their center, press against window 48, and are thereby held securely in position against moving vertically through holder 11f.

FIG. 12 shows yet another embodiment of a directory 10g, having a holder 11g with which the novel nameplates 20 can be used. Holder 11g has affixed to the back thereof magnetized strips, such as 12g, 14g so that the nameplates 20 are magnetically held in place. Also, instead of magnetic strips 12g or 14g, the holder 11g can be made of magnetic material to there provide a magnetic support for nameplates 20.

Applicant's novel nameplates 20, for use in a directory, permit the nameplates to be used with a standardized holder of the prior art, such as holders 11 of FIG. 1, as seen in FIGS. 7, 8 and 9; holder 11a of FIG. 3; holder 11b of FIG. 4; holder 11c of FIG. 5 as seen at the bottom thereof; or a modified new holder 11e as seen in FIG. 10, 10a; or any other type of holder such as 11f of FIG. 11 and 11g of FIG. 12.

Also, applicant's novel nameplate holder 11e of FIGS. 10, 10a, 10b can be used in prior art directories by having the edges 12, 14e inserted in tracks such as 12a, 14a of FIG. 3.

Although the present invention has been described in connection with preferred embodiments thereof, many variations and modifications will now become apparent to those skilled in the art. It is preferred, therefore, that the present invention be limited not by the specific disclosure herein, but only by the appended claims.

The embodiments of the invention in which an exclusive privilege or property is claimed are defined as follows:

1. A vertical directory, including in combination: a holder comprised of a rectangular sheet having forwardly folded over, marginal, hem edges along two opposite vertical sides; said folded over hem edges

each defining an opening to receive the end lobe of a nameplate strip;

plural, elongate rectangular nameplate strips each being thin and having opposed flat surfaces, each said strip being comprised of flexible, resilient, yet permanently deformable material; each said strip having two opposite ends, a respective rounded shape lobe projecting from each said end for securing each said strip in said hem edge openings and for enabling the insertion and removal of said strip; each said strip being of a length such that its said lobes each extend into a respective one said marginal hem edge opening;

each said strip being permanently deformed and concavely curved with respect to the front of the holder around an axis transverse to a line joining said strip ends such that said strip lobes can be flexed to engage said hem edges of said holder in the respective said openings thereof, and the resiliency of said strips biases them into fixed position along said holder vertical sides by their inherent flexible deformation;

a plurality of blanks of engravable material, each being secured to the forwardly facing surface of one said strip when in said holder; said blanks being adapted to display directory information.

2. The directory of claim 1, in which said marginal hem edge openings are of a thickness substantially equal to the thickness of said strip lobes and are thereby too thin to receive said blank;

said blank is of sufficient length to have indicia engraved thereupon and is short enough so as not to extend into said holder marginal hem edge openings.

3. The directory of claim 1, wherein said strip is of a first height and said lobes are of a shorter height.

4. The directory of claim 3 in which said strip is comprised of a spring tempered steel.

5. The directory of claim 1 in which orientation guide lines are positioned on a back surface of said strip to provide mounting limitation for a blank to be secured to a front surface of said strip.

6. The directory of claim 1 in which a notch with a rounded corner is formed below each lobe.

7. The directory of claim 6, wherein said blank of engravable material has an adhesive surface on the back thereof and said blank is secured by its adhesive surface to said strip.

8. A vertical directory, including in combination:

a holder comprised of a permanently deformable, metal, flexible, resilient, rectangular sheet having forwardly folded over, marginal hem edges along two opposite vertical sides; said folded over hem edges each defining an opening to receive the end lobe of a nameplate strip;

plural, elongate, rectangular nameplate strips, each being thin and having opposed flat surfaces; each said strip having two opposite ends, a respective rounded shape lobe projecting from each said strip end for securing each said strip in said hem edge openings and for enabling the insertion and removal of said strip; each said strip being of a length such that its said lobes each extend into a respective one said marginal hem edge opening;

said holder being permanently deformed convexly with respect to the front of said holder around the vertical height of said holder, which moves said

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marginal hem edges close together and twists said marginal hem edges, thereby to provide greater friction for holding said strip in position; said strip lobes engaging said hem edges in respective

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said openings thereof and the resilient deformation of said holder biasing said strips into position along said hem edges.

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