

Oct. 14, 1924.

1,511,750

J. H. RAND

INDEX DEVICE

Filed Dec. 26, 1923

Fig. 1

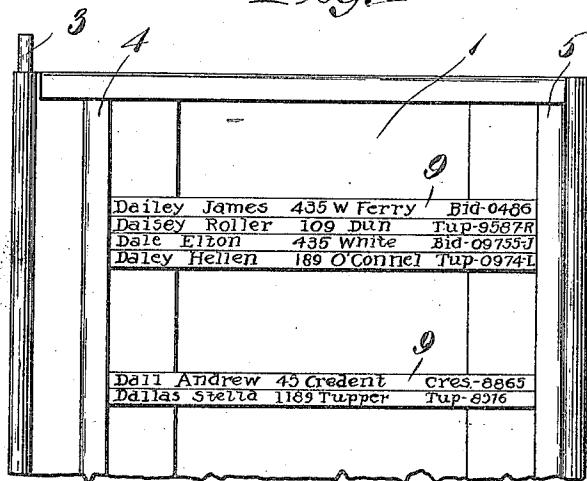


Fig. 2

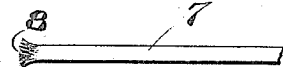


Fig. 3

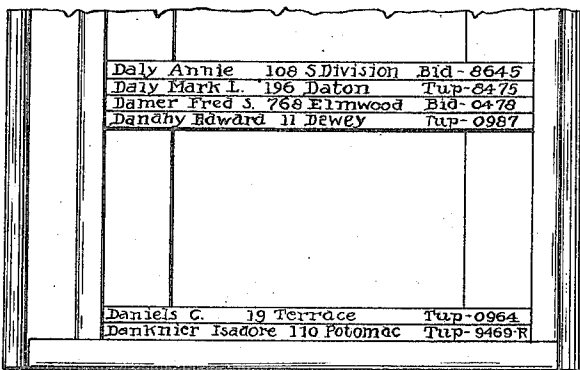
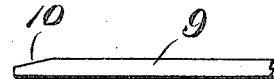


Fig. 4

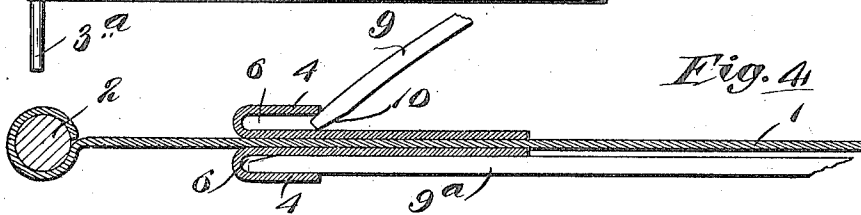
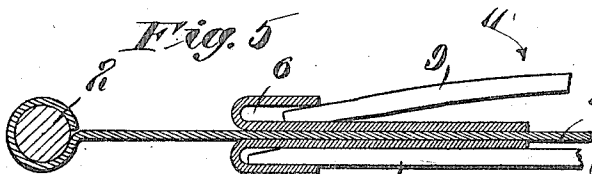


Fig. 5



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UNITED STATES PATENT OFFICE.

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INDEX DEVICE.

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To all whom it may concern:

Be it known that I, JAMES H. RAND, a citizen of the United States of America, and resident of North Tonawanda, in the county of Niagara and State of New York, have invented new and useful Improvements in Index Devices, of which the following is a specification.

This invention relates to visible indices of the type in which index slips are held at their ends under the overhanging flanges of a holder adapted to hold a series of slips in edge to edge alignment. While the invention is applicable to indices in which the slips are in the form of rails carrying index cards or sheets, it is particularly applicable to indices in which the indicia is carried directly on the slips and the invention will therefore be described as applied to the latter type. A typical use of such slips is in telephone exchanges where the name, address and telephone number of a subscriber is carried by each slip.

Indices of this type are used where individual changes are more or less frequent and it is therefore essential that the slips may be changed quickly and easily. When a slip is removed for replacement or correction the slips thereabove tend to slide down and fill the gap. To avoid the necessity of restoring the displaced slips, and also to prevent the slips from becoming accidentally dislodged, in has been proposed to make the slip-holding flanges flexible and to make the channels formed thereby somewhat narrower than the thickness of the slips, whereby the flanges yieldingly grip the ends of the slips and hold the slips in position. This introduces a difficulty in inserting the ends of the slips beneath the flanges since the paper slips are usually thin and easily bent and the ends frequently become mutilated by engagement with the edges of the flanges, this difficulty being particularly troublesome in the case of steel flanges having thin edges which are relatively sharp. Ordinarily the flange is flexed outwardly to permit the insertion of a new slip but this takes time and patience and frequently results in the dislodgment or disarrangement of the adjacent slips.

According to the present invention the slips are so constructed that they may be readily inserted beneath the flanges, even when the channels have a transverse dimension less than the thickness of the slips and

when the edges of the flanges are relatively sharp; the flanges need not be flexed outwardly to insert a new slip; and after insertion the slips are gripped by the flanges to hold them snugly in position.

One embodiment of the invention is illustrated by way of example in the accompanying drawings, in which:—

Fig. 1 is a side view of an index frame provided with removable index elements embodying the present invention;

Fig. 2 is a fragmentary top edge view of a single index element of usual type as it commonly appears after slight use;

Fig. 3 is a fragmentary top edge view of an improved index element constructed in accordance with the present invention;

Fig. 4 is a fragmentary horizontal section through the frame of Fig. 1 but to larger scale showing the first step in positioning one of the improved index elements therein; and

Fig. 5 is a view similar to Fig. 4 showing a later stage in the process of positioning the index element in the frame.

Referring to the drawings, the numeral 1 indicates an index frame or panel herein shown as provided with a rod 2 extending along one edge and projecting at top and bottom to form the upper and lower pintle members 3 and 3^a, respectively, by means of which the frame may be supported to swing in a suitable standard. While the frame herein shown is of the type adapted to swing, the invention is not thus restricted but is applicable to frames or holders of any of the usual types.

The frame herein shown consists of sheet metal and is provided at its lateral edges with inwardly turned steel flanges 4 and 5 which define opposed channels 6. The frame may be furnished with such flanges upon one or both faces, and is thus adapted to support one or more series of independent removable index elements, the opposite ends of which are positioned within the respective channels 6.

Usually such index elements, indicated at 7 in Fig. 2, are made of cardboard, heavy paper, or the like, and are provided with substantially square ends. The index elements preferably have a thickness somewhat greater than the width of the channel 6 in order that they may have the requisite frictional bearing against the walls of the channel to support them in proper position, but

as the flanges are thin their edges tend to cut into or bruise the ends of the index element when it is attempted to force the latter into position. Unless the index element is properly entered in the channel at the first attempt this action of the flange tends to split or splay the end of the index element as shown at 8 so that it is substantially impossible thereafter to push it into the channel and it must be discarded.

In accordance with the present invention the improved index element indicated at 9 in Fig. 3, which may be made of any of the usual stiffly resilient materials such for example as cardboard, is bevelled at its ends, preferably upon its rear face as indicated at 10, so that its extremities taper in thickness. The relatively thin end thus provided may easily be slipped beneath the edge of the channel forming flange of the frame without any danger that it will be cut or bruised by the latter. For example, as shown in Fig. 4, the extreme end of the index element is first placed just within the opening of the channel, the index element being disposed substantially as shown in said figure; the index element is then swung about its ends as a pivot in the direction shown by the arrow 11 in Fig. 5 and is gradually pushed into the channel until it assumes a position such as shown at 9^a in Figs. 4 and 5. The opposite end of the index element is then inserted in the other channel in substantially the same manner, the necessary angle of inclination for entering its other end being obtained by flexing the index element. The tapered end of the index element is less in length than the width of the channel so that the element is securely retained in the channel when finally positioned by engagement of the parallel front and rear surfaces of its body portion with the walls of the channel. It is thus possible to remove and reinsert the index elements substantially an unlimited number of times without difficulty or damage.

A distinct advantage results from beveling the strips on the back instead of the front, viz, the edges of the channel flanges have this tendency to mutilate the slips in inserting the latter since the flanges engage the smooth front faces of the slips instead of the bevelled surfaces, in which latter case the bevelled surface might be splayed or split since they extend obliquely across the grain or fibre of the card.

By making the distance between the bevels at the opposite ends of each slip somewhat greater than the distance between the edges of the flanges, the flanges overlap portions of maximum thickness and thereby yieldingly grip the slip when fully inserted, at the same time avoiding the buckling tendency which would result if the slip were pinched by the flanges intermediate the ends of the bevels.

I claim:

1. An index comprising a frame having opposed marginal channels, and an index slip provided with bevelled ends, the bevelled ends of such slip being disposed within the respective marginal channels of the frame.
2. An index comprising a substantially rigid frame having flanges at its opposite edges defining opposed channels, and an elongate slip of stiff but resilient material, the ends of the slip tapering in thickness to facilitate insertion beneath the flanges of the frame.
3. An index comprising a frame having flexible marginal flanges and an elongate slip of resilient material of a thickness somewhat greater than the corresponding dimension of the space beneath the flanges when the flanges are not flexed outwardly, the ends of said slip being tapered toward their extremities and being yieldingly gripped by the flange, the distance between the tapered ends being greater than the distance between the flanges so that the flanges grip portions of the slip of full thickness.
4. An index comprising a frame having opposed marginal channels and an elongate slip of resilient material bearing indexing symbols upon its front face and having its rear surface chamfered off adjacent to its extremities to facilitate insertion of its opposite ends in the respective channels.
5. An index slip for insertion beneath the side flanges of an index holder, the slip being bevelled at the ends to facilitate insertion in the holder and the distance between the bevels being greater than the distance between the edges of the side flanges.
6. An index slip for insertion beneath the side flanges of an index holder, the back of the slip being bevelled at the ends to facilitate insertion in the holder.

Signed by me at Boston, Massachusetts, this 18th day of December, 1923.

JAMES H. RAND.