Oct. 17, 1933. F. A. PETTIS 1,930,343

TELEPHONE INDEX STAND

Filed March 17, 1931 3 Sheets-Sheet 1

Fig. 1

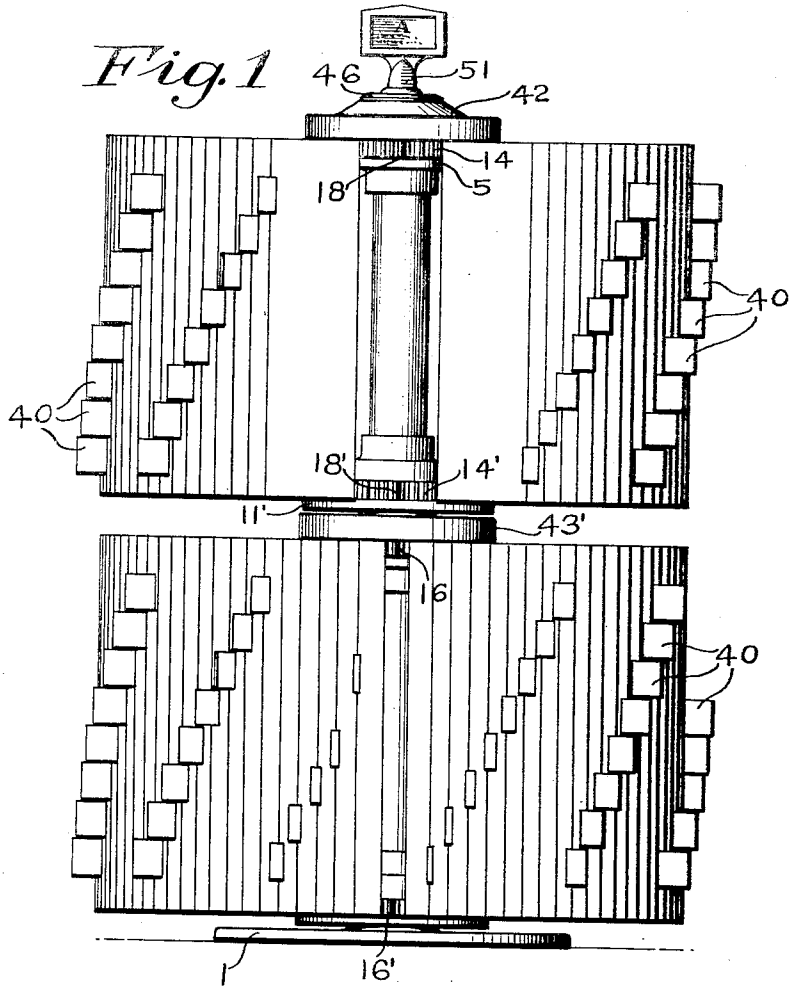
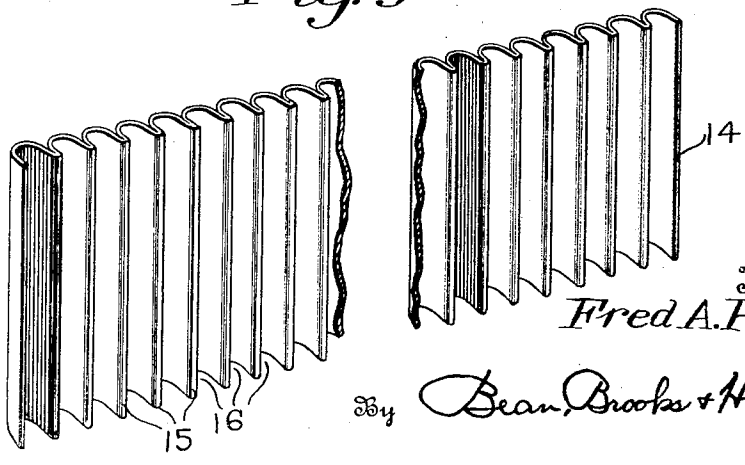


Fig. 5



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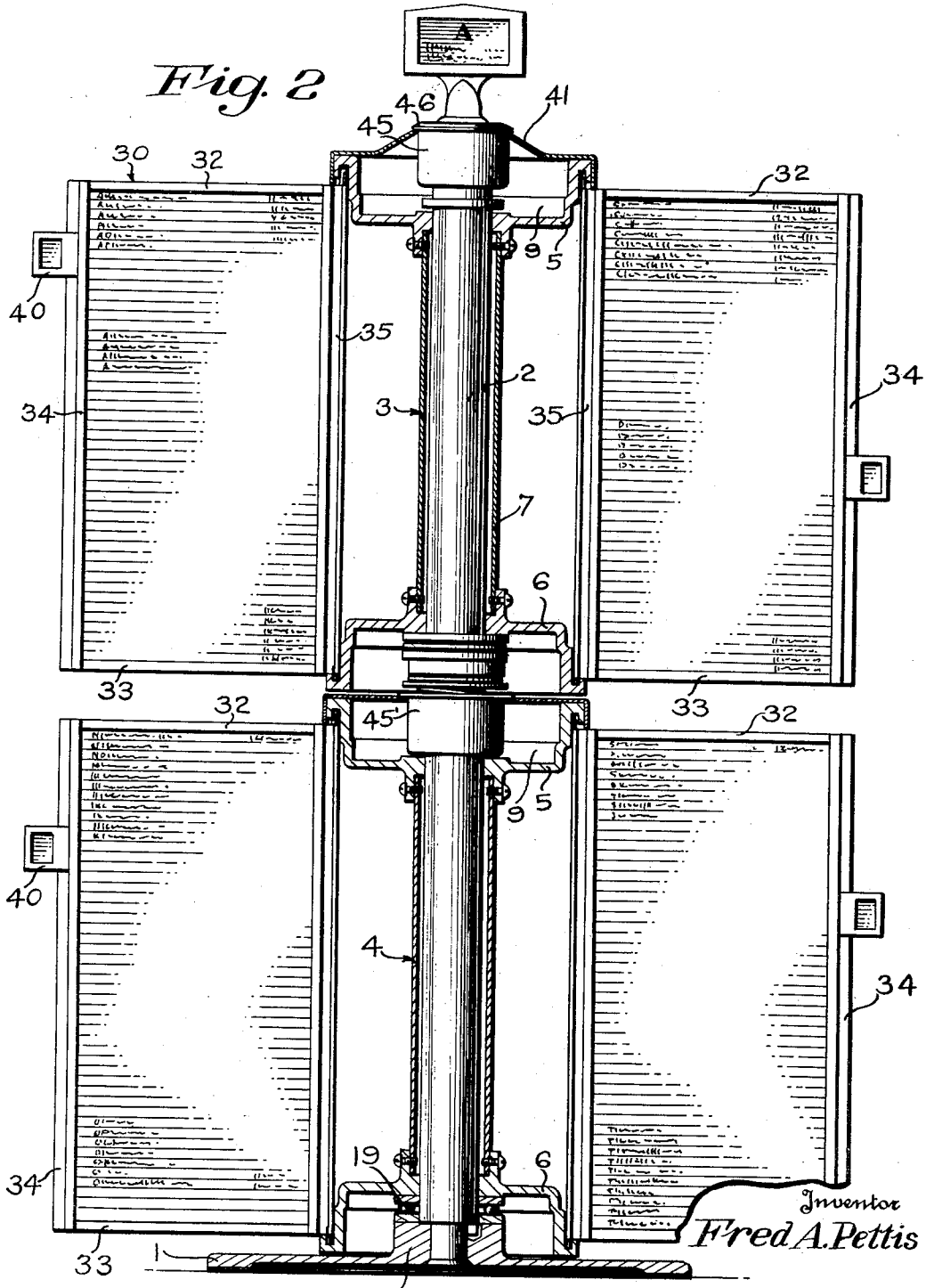
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Fig. 2



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Fig. 3

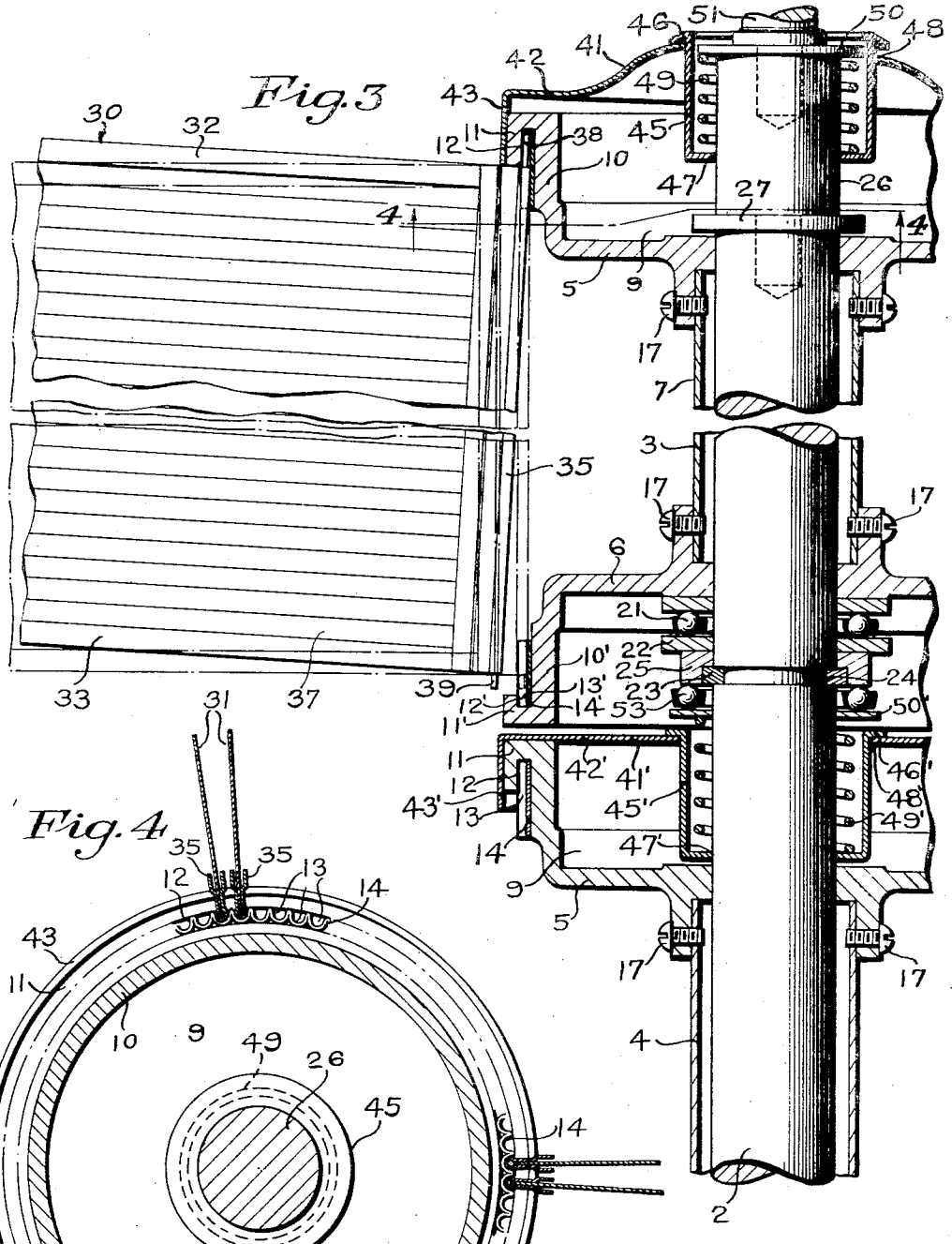


Fig. 4

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UNITED STATES PATENT OFFICE

1,930,843

TELEPHONE INDEX STAND

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Application March 17, 1931. Serial No. 523,354

4 Claims. (Cl. 40—72)

This invention relates to index devices of the type wherein a series of index holders are hinged to swing on a support so that they may be readily manipulated to inspect the index or other data on the index holders, or to remove one or more of the holders.

Heretofore various arrangements have been used in devices of this general type whereby the index holders may be mounted on and removed from a support. However, certain objections to the particular arrangements used have arisen, and it is to overcome these objections that the present invention was made.

One embodiment of the invention having certain novel features to be hereinafter described, is illustrated in the accompanying drawings, in which:

Fig. 1 is an elevational view of the device with several of the index holders removed;

Fig. 2 is a vertical sectional view of the device with parts shown in elevation;

Fig. 3 is a fragmentary vertical sectional view on an enlarged scale showing one of the index holders being removed;

Fig. 4 is a horizontal sectional view taken on line 4—4 of Fig. 3 with portions of the strip broken away; and

Fig. 5 is an enlarged fragmentary perspective view of one of the spacers for the index holders before insertion in the device.

Referring to the drawings a standard having a supporting base 1 is provided with an upstanding central post 2 upon which a pair of supporting members 3 and 4 are rotatably mounted in superposed relation. The supports 3 and 4 each have an upper hub 5 and an oppositely disposed lower hub 6 connected by a tubular spacer 7 freely rotatable about post 2, (Figs. 2 and 3). The supports 3 and 4 are of like construction and a description of one will suffice for both.

The upper hub 5 is formed with an upwardly opening annular recess 9 confined by an annular wall 10 having a peripheral flange 11. The lower face of the peripheral flange 11 is provided with an annular groove 12 adjacent wall 10. The oppositely disposed lower hub 6 is similar to hub 5, corresponding parts thereof being designated by the reference characters 9', 10', 11' and 12'.

The groove 12 is divided into a continuous series of downwardly opening vertical recesses 13 by the transversely corrugated face of a deformed strip member or insert 14 mounted in groove 12 by press-fitting or the like, (Fig. 4). The groove 12' is likewise divided into upwardly opening recesses 13' by a similar strip member 14' mounted in groove 12' in the above described manner. The strip member 14 is of greater depth than strip member 14' as groove 12 is of greater depth than groove 12' so that each strip member projects beyond its groove substantially the same distance and provides a visible portion for a purpose to be hereinafter described, (Fig. 1).

The strip members 14 and 14' are preferably formed of sheet metal strips transversely corrugated so that the outer faces present a continuous series of vertical relatively narrow ridges 15 and 15' and relatively wide grooves 16 and 16' respectively, (see Fig. 4). The ridges 15 and grooves 16 of strip member 14 cooperate with the outer walls of groove 12 to define the recesses 13 and the recesses 13' are likewise defined by the ridges 15' and grooves 16' of strip members 14 cooperating with groove 12'. In assembling the invention, grooves 16 are vertically aligned with the grooves 16' by rotating hub 5 with respect to hub 6 until said grooves are aligned. This alignment is maintained as by screws 17 which pass through the hubs and engage the tubular spacer 7.

Certain of the vertically aligned grooves 16 and 16' are provided with vertically aligned visible indicating or signal portions 18 and 18' respectively which visably sectionalize the grooves into small groups so that an operator may locate any pair of vertically aligned grooves by simply starting from a pair of the vertically aligned signals and counting off in the same direction the same number of grooves on each strip member. While the signal portions may be on the strip members 14 and 14' and of a contrasting shade or color as shown in Fig. 5, it should be understood however, that innumerable forms of sectionalizing signals may be used.

The index supports 3 and 4 are rotatable on the post 2 independently of each other and for this purpose the lower support 4 is rotatably mounted on the lower portion of post 2 upon an anti-friction bearing 19, disposed between support 4 and a boss 20 formed centrally of the base 1. The upper index support 3 is spaced from the lower support 4 and is similarly mounted on the intermediate portion of post 2 upon an anti-friction bearing 21 disposed within the recess 9' of support 3 and upon an annular ring 22.

A split ring 23 is mounted in a groove 24 formed in post 2 with a portion of said ring projecting beyond said shaft to provide a shoulder upon which the ring 22 is seated. A depending annular flange 25 formed on ring 22 overlies and retains the split ring 23 in supporting position on the shaft 2.

The upper end of the shaft 2 projects slightly into the recess 9 of the upper hub 5 and is adapted to receive the threaded lower end of a short post 26 of the same diameter. A washer 27 is mounted between posts 2 and 26 being secured therebetween by the threaded end of post 26 and is of a size to overlie a portion of the hub 5, thus preventing upward movement of the support 3, (see Figs. 2 and 3).

The index holders 30 are in the form of rectangular panels 31 the marginal edges of which are provided with narrow U-shaped reinforcing strips 32, 33, 34 and 35. The inwardly extending edges of the vertical strips 34 and 35 are offset throughout their length to provide vertical opposed channels 36 that receive the ends of a series of index slips 37 having suitable data inscribed thereon. A wire is mounted in each of the strips 35 with the ends thereof projecting to form a relatively long pintle or bearing portion 38 and a relatively short pintle or bearing portion 39 by means of which the index holders are mounted on the supports.

Due to the face-to-face position of the index holders when mounted the index slips are normally more or less concealed. In order to facilitate locating any of the concealed index strips each holder is provided with an index tab 40 which is staggered with respect to the other tabs so that they are readable from either side.

In order to prevent accidental displacement of the index holders from the supports, retaining means 41 and 41' are provided. The means 41 comprises a cap 42 which is mounted on the hub 5 of support 3 and is formed with an annular depending flange 43 that extends beyond the grooved face of flange 11 into proximity to the upper edge of holders 30 so that pintles 38 thereof cannot be removed from the recesses 13 without displacing the cap. A depending spring supporting cup 45 formed with an outwardly extending annular flange 46 and a central opening 47 in its bottom portion is slidably mounted on post 26. The cup 45 is mounted in a central opening 48 of cap 41 with the flange 46 engaging the upper face of cap 41. A coil spring 49 is mounted in cup 45 around post 26 and is held under compression by a washer 50. The washer 50 is mounted to post 26 by the threaded portion of a member 51 which is formed with a general index portion 52. The retaining means 41' is of like construction the corresponding parts being designated by the reference characters 42', 43', 45', 46', 47', 48', 49' and 50'.

An anti-friction bearing 53 is interposed between the movable washer 50' and the stationary ring 22 to prevent friction between the parts and for the same purpose a similar bearing may be interposed between washer 50 and member 51.

When the invention is in use it is desirable that the data on the index holders be kept up to date. In practice it has been found advantageous to remove the index holders that require new data from the supports, and this is accomplished in the following manner. The index holder to be removed is first moved upwardly from the position depicted in Fig. 2, until the upper edge 32 thereof abuts the lower edge of the peripheral flange 11. At this time the pintle 39 is above the upper surface of the peripheral flange 11', (see Fig. 3). In the second movement, which is outward, the pintle 39 of the index holder clears the peripheral flange 11', (see Fig. 3), and a final downward movement withdraws the pintle 38 from groove 11 so that the index holder is free or detached. During the first movement of the holder the cap 42 has been moved upwardly against the tension of spring 49 which tends to return the cap to its normal position, (see Fig. 3) and during the final movement the cap returns to its normal position. All of the index holders may be removed in the above described manner.

After the data has been changed the index holder or holders, as the case may be, are ready to be reattached to the support.

In reattaching the index holders to the support it is essential that they be attached with the pintles thereof in a vertically aligned pair of recesses, but of course when the index panel to be reattached is immediately between adjacent index holders no difficulty in aligning the holders is encountered as there is only one pair of aligned recesses for the pintles to fit in. However, when all, or quite a few of the index holders are to be reattached, it then becomes quite difficult to insert the pintles of the index holders in the proper pairs of aligned recesses and it is to overcome this difficulty, that the sectionalizing signal portions are provided on the visible portions of the strip members. Assuming that all the index holders are removed, reattachment is made in the following manner: One of the upper signals, of a section is selected and the pintle 38 of an index holder inserted in the adjacent recess 13. The holder is moved upwardly until the upper edge abuts the lower edge of peripheral flange 11 (see Fig. 3). In this position the lower pintle 39, is above peripheral flange 11' and may be moved inwardly until it abuts the vertically aligned lower signal of that section.

The pintle 39 is engaged in the recess 13' adjacent the lower signal by moving the holder downward until the pintle 39 abuts the bottom of recess 13'. At this time upper pintle 38 extends into the selected recess 13 a distance substantially equal to the difference of its length over that of pintle 39 so that the index holder is now swingably mounted on the supports and cannot be removed without being moved upwardly. A holder is now attached in each of the recesses marked by a signal so that the grooves are divided into sections defined by the attached holders.

By simply starting from a pair of the vertically aligned grooves defined by the attached holders and counting off in the same direction the same number of grooves on the visible portion of each strip member, the holders intermediate the attached holders may be attached in vertical alignment in a manner described above.

During the attachment of each index holder the cap 42 is moved upwardly against the tension of spring 49, and when the holder is fully attached returns to its normal position in which the flange 43 lies in proximity to the upper edge of the holders. The relation of the flange 43 to the holder and the tension of spring 49 is such, that the holders cannot be accidentally displaced.

From the foregoing description it will be apparent that an index support of compact simple construction has been provided to which the index holders may be readily attached in vertically aligned relation thereto and maintained in said relation against accidental displacement.

What is claimed is:

1. In an index the combination of a standard, spaced support members mounted on said standard and having grooved surfaces therein, a plurality of index holders detachably engaged in said grooves, a movable cap having a central

portion mounted on said standard and having a flange surrounding a portion of one of said support members, and resilient means mounted on the standard operably engaging the central portion of said cap for normally maintaining said cap in position to retain said panels against accidental displacement.

2. In an index the combination of a standard, spaced supporting members rotatably mounted thereon and having grooves in the opposed faces thereof, a plurality of index holders having bearing portions detachably engaging said grooves, a movable cap formed with a flange portion, a cup engaging said standard and the central portion of said cap for normally retaining said cap in position to prevent detachment of the index holders from said supporting members.

3. In an index the combination of a standard, spaced supporting members rotatably mounted thereon and having grooves in the opposed faces thereof, a plurality of index holders having bearing portions detachably engaging said grooves, a cap movably mounted on one of said supporting members and encircling said standard, said cap being formed to extend beyond said supporting member and prevent detachment of said index holders in one position thereof, and resilient actuating means on said standard engaging said cap adjacent said standard for normally retaining said cap in said position.

4. In an index the combination of a fixed standard, spaced supporting members rotatably mounted thereon and having grooves in the opposed faces thereof, a plurality of index holders having bearing portions detachably engaging said grooves, a spring actuated index holder retaining means engaging one of said supporting members and rotatable therewith, and an anti-friction bearing mounted between said rotatable retaining means and said fixed shaft to prevent friction between said rotatable retaining means and said fixed standard.

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