

June 19, 1934.

C. J. GUTBERLET ET AL

1,963,439

NUMBER PLATE FOR DIAL TELEPHONE INSTRUMENTS.

Filed July 30, 1932

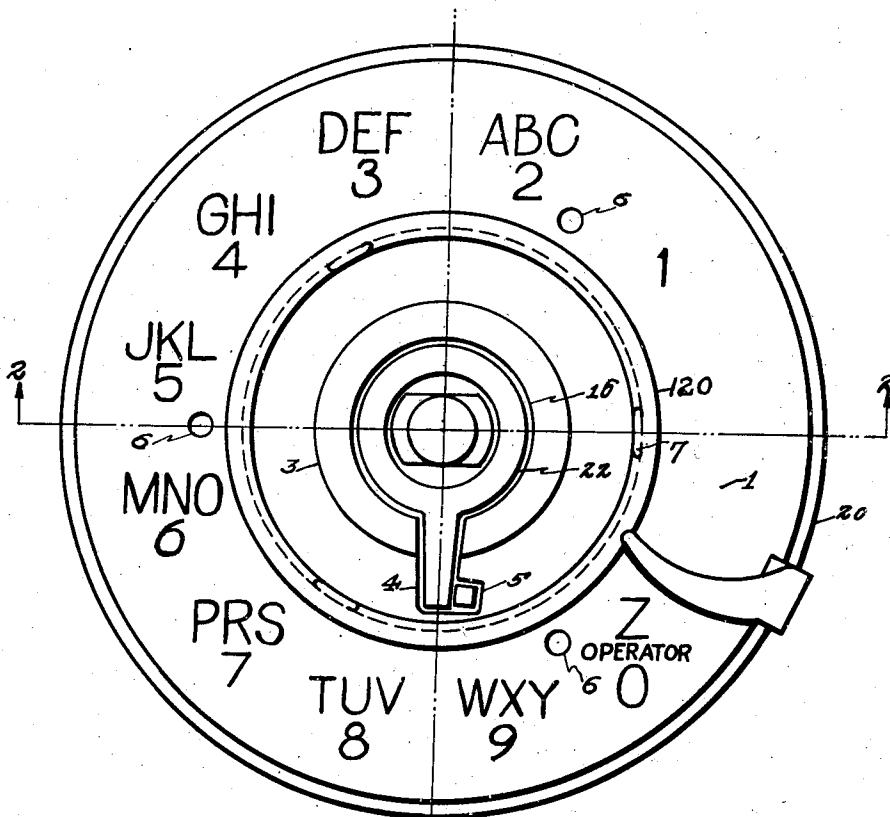


Fig. 1

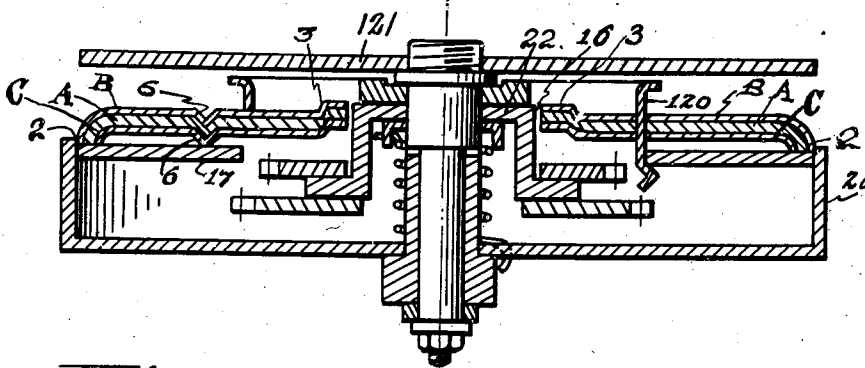


Fig. 2

INVENTORS
Charles J. Gutberlet
& George D. Cox.
BY Mark W. Collet
ATTORNEY

UNITED STATES PATENT OFFICE

1,963,439

NUMBER PLATE FOR DIAL TELEPHONE
INSTRUMENTSCharles J. Gutberlet and George D. Cox,
Philadelphia, Pa.

Application July 30, 1932, Serial No. 626,626

4 Claims. (Cl. 40—10.5)

In our application for Letters Patent bearing the Serial Number 566,546, we described a number plate for dial telephones composed of a cellulose material. The present application is for a number plate that has additional features of rigidity and strength and adaptability, and which closes still more completely the space immediately around the central pillar and also obviates the necessity for several minor parts in the mechanism of the dialing device. Especially the nearly annular ridge placed around the greater part of the opening into which the pillar of the dialing mechanism fits snugly, replaces the spider that, in former constructions, was placed on the top of the number plate. This spider, sometimes also called a positioning rim, held the number plate in place and also spaced the number plate and finger plate from each other. The present construction of the number plate renders the spider unnecessary.

Fig. 1 shows a face of the number plate; the parts of a standard telephone dialing device mechanism, so far as they are relevant to the invention, or are helpful in understanding it, being sketched in. Fig. 2 is a cross-section of the number plate on the line 2—2 of Fig. 1.

The number plate is circular. It has a substantially flat face 1, and fits snugly into the inside of the dial mechanism box 20 of the instrument. This disc is made of a cellulose material in practice, cellulose acetate. In practice, this disc is made with three thicknesses of material; the middle thickness is opaque, and preferably matt finished and white and has the letters and figures printed on its face from steel plates. This layer is marked A in Fig. 2. The face of this layer is covered with a much thinner transparent sheet of cellulose material, marked B in Fig. 2 and its back with a like sheet, marked C in Fig. 2. These layers run crosswise to each other and to the middle layer. The three layers are cemented together and subjected to pressure, in practice by passing them between rubber or rubber faced rollers and doing so preferably while the material is subjected to heat, and the disc is then formed and dyed out while still heated. Then the disc is dipped into a solution of cellulose acetate liquid. This dipping process gives additional thickness, protection and wearing qualities to the finished disc. This process renders the material of which the number plate is formed very homogeneous and elastic as well as stiff and strong.

The thickness of the layers we use in practice of these materials is .0030 for the middle layer,

and .0005 for the outer layers. The rollers, in practice, are solid rubber strongly pressed together; but these are details of construction that are not limitations on our invention.

The number plate is positioned beneath the finger plate 121 and has a downwardly projecting rim 2, that fits snugly within the side walls of the box 20. It also fits snugly around the central pillar 22, of the mechanism of the dialing device. An opening in the number plate being provided for this purpose. Around this opening 16 is the spacer and reinforcement 3, formed by a ridge bulging upward and lying adjacent to the opening 16 and extending annularly almost around it; it being interrupted by the slot 4; this ridge also acts as a division between the finger plate and the number plate of the dial and allows the mechanism of the dial to operate freely. This reinforcement in this upwardly rounded form acts as an additional shield against the entrance of dust into the dialing mechanism and also gives much additional strength and rigidity to the portion of the number plate adjacent to the hole 16. It also obviates the need for the use of the customary washer around the pillar at this point. It is formed in practice by bending the material of the number plate, preferably by dieing it out.

The slot 4 extends radially and has the slot 5 jutting out sidewise from it. These slots 4 and 5 permit the insertion of the number plate by allowing portions of the dialing mechanism to pass through it. The beads 6, 6, 6, rest upon portions 17 of the dialing mechanism situated beneath them, so that the number plate is at the same time spaced from the dialing mechanism and supported by it. The rigidity given to the number plate by the reinforcement obviates the need for the spider that was placed customarily heretofore on the top of the plate.

A spider 120 is shown in the drawings, as having its legs inserted through slots, 7, 7, but this element is not necessary, but is often used. The slots 7, 7 may be used for positioning the number plate relative to the dialing mechanism.

Many of the advantages of the present construction of the number plate may have been perceived by the reader, but a few may be referred to here briefly. A number of parts of the dialing mechanism that are relatively expensive have been rendered needless. The dust is much more effectually excluded from the dialing mechanism. The air is completely shut off from the ink of the printed layer, and it is protected from erasure by handling. Scratches can be eliminated usually by merely dipping the hurt plate

into cellulose acetate solution and allowing it to dry and the distinctness of the figures on this dial is preserved for a very long time.

While the invented device is a very specialized one and wide departures from the specific form are not claimed, a number of changes may be made without departing from our invention.

We claim:

1. In an assemblage of dialing mechanisms for telephones, which is provided with a central pillar and a turning arm and is contained in a mechanism box, a number plate composed of cellulose material such as cellulose acetate and having a circumferential rim fitting into said box, a central opening fitting snugly around said pillar, a raised reinforcement skirting the central opening, a radial slot extending outward from the central opening, allowing the passage through them of said turning arm, and downwardly projecting beads positioned between the central opening and the rim.

2. In an assemblage of dialing mechanisms for telephones, which is provided with a central pillar and a turning arm, and is contained in a mechanism box, a number plate composed of cellulose material, as defined in claim 1 wherein the cellulose material forming the number plate

consists of a middle layer of opaque material on which numbers and letters are printed and a back and front layer of transparent material cemented together, the whole being coated with a thin covering layer of cellulose acetate liquid.

3. The device as defined in claim 2 wherein the back and front layers are much thinner than the middle layer and the layers run crosswise of each other.

4. A number plate for the dialing attachment for telephone instruments that have a central pillar and a finger plate, composed of three layers of a cellulose material, such as cellulose acetate, cemented together, the fibre of one layer of said material running at angles with the other layers, said pieces of cellulose material being cemented together, and having a continuous coating enveloping said layers of cellulose material, said dial plate having a central opening fitting snugly around the pillar and having immediately around the greater portion of the same an upwardly projecting ridge, of sufficient height to space the finger plate and the number plate from each other and positioned between the number plate and the finger plate.

GEORGE D. COX.
CHAS. J. GUTBERLET.

30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150