A. O. JOHNSON & J. A. EBY.

TELEPHONE DIRECTORY.

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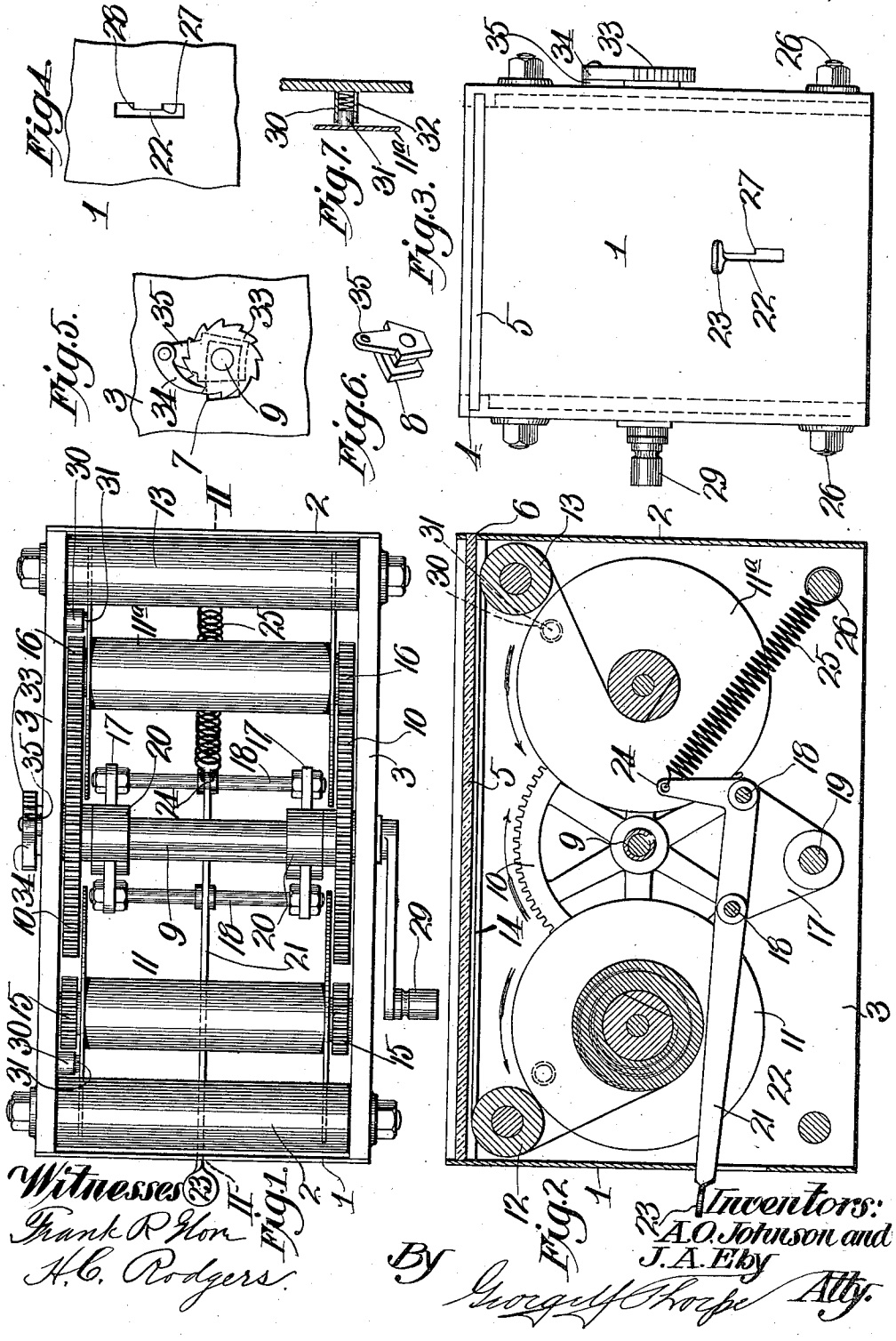
1,028,117.

Patented June 4, 1912.



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UNITED STATES PATENT OFFICE.

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TELEPHONE-DIRECTORY.

1,028,117. Specification of Letters Patent. Patented June 4, 1912.

Application filed July 27, 1910. Serial No. 574,151.

To all whom it may concern:

Be it known that we, ARTHUR O. JOHNSON and JOHN A. EBY, citizens of the United States, residing, respectively, at Liberty and Excelsior Springs, in the county of Clay and State of Missouri, have invented certain new and useful Improvements in Telephone-Directories, of which the following is a specification.

This invention relates to telephone directories and has for its object the production of an efficient and reliable directory in the form of a web containing the names of the subscribers and susceptible of being wound back and forth upon a pair of drums.

A further object is to produce a directory of the character outlined of simple, compact, strong, durable and cheap construction.

With these general objects in view and others as hereinafter appear, the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawing, in which—

Figure 1, is a top plan view of a structure embodying our invention, with the web and the top plate omitted. Fig. 2, is a vertical longitudinal section on the line II—II of Fig. 1, but showing the web and top plate. Fig. 3, is a front view of the directory. Fig. 4, is a front view of a modified construction of the front wall of the directory. Fig. 5, is a detail view showing the pawl and ratchet mechanism for preventing back rotation of the actuating shaft. Fig. 6, is a detail perspective view of one of the slidable bearings of the actuating shaft. Fig. 7, is a detail section showing one of the friction brakes for the drums.

In the said drawings 1 and 2 indicate the front and rear walls and 3 the side walls of a casing adapted to be attached to or secured upon a desk or other support adjacent to a telephone, and said side walls are provided near their upper edges with grooves 4, for the reception of the slidable glass top 5 of the casing, the rear wall 2, having a slot 6 through which the glass top may be withdrawn for access to the interior of the casing when desired. The walls 3 are provided about centrally with arcuate slots 7 wherein slidingly fit bearings 8, for the actuating shaft 9 equipped near each end and adjacent side walls 3 with large gear wheels 10. Forward of shaft 9 is a drum or reel 11 and rearward of said shaft is a similar drum or reel 11^a. At the upper front corner of the casing is a guide roller 12, and at the upper rear corner is a similar roller 13, and extending over said rollers is a paper or other flexible web 14, the same extending downward to the drums or reels 11 and 11^a, the arrangement being such that the web shall wind from one drum or reel to the other at the will of the operator, and said web is adapted to contain an alphabetical list of the names of telephone subscribers, though of course it may be used for other purposes.

Secured upon the shafts of the drums or reels 11 and 11^a are small gear wheels 15 and 16 for alternate engagement by gear wheels 10, and for the purpose of effecting the engagement of the last-named wheels with either of the sets of wheels 15 and 16, a rock frame carries and forms a journal for the actuating shaft 9, said rock frame being constructed as follows:—17 is a pair of plates connected together by cross rods 18, and fulcrumed on a cross bolt 19 extending from side wall to side wall of the case, the upper ends of the said plates terminating in bearings 20, for shaft 9, and secured rigidly to cross rods 18 of the rock frame is a lever 21, which extends through a vertical slot 22 in the front wall of the casing and is formed at its front end with a head 23, for convenient engagement by one desiring to rock the rock frame and withdraw the gear wheels 10 from engagement with gear wheels 16 and into engagement with gear wheels 15, the lever being provided at its rear end with an upwardly projecting arm 24 connected by a retractile spring 25 to the cross rod 26, of the casing, which spring when unopposed rocks the rock frame rearwardly and holds the gear wheels 10 in engagement with gear wheels 16. By depressing the lever the resistance of spring 25 is overcome and the wheels 10 are thrown into engagement with gear wheels 15 as will be readily seen, and to relieve the operator of the necessity of holding the lever depressed, the slot 22 is widened at its lower end to form a downwardly-disposed shoulder 27 under which the lever can be hooked. If desired the spring 25 may be dispensed with and the slot 22 widened at its upper end to

form an upwardly-disposed shoulder 28 for the purpose of holding the lever in its elevated position, it being understood that the lever will have sufficient lateral play at its free end to be disposed in engagement with either of said shoulders. Assuming that the lever is up and either so held by the spring 25 or by shoulder 28, it will be seen that the wheels 10 are in engagement with wheels 16, and that the revolution of the actuating shaft 9 by the crank handle 29 thereof in the direction indicated by the arrow Fig. 2, will cause reel or drum 11ª to turn in the direction indicated by the adjacent arrow Fig. 2, and thus wind the web 14 upon such reel or drum, the winding of the web from the companion reel or drum obviously causing the same to rotate in the direction indicated by the adjacent arrow, same figure. The person performing the operation will see the names on the web pass in rapid succession until the name sought is found. If it is desired that the web shall travel in the opposite direction, the operator depresses the lever and thus disposes gear wheels 10 in engagement with gear wheels 15. He then rotates the actuating shaft in the same direction as before, which movement obviously reverses the movements of the reels or drums and thus causes the web to travel forwardly from the rear reel or drum to the front one.

To check the rotation of the reel or drum from which the web is being unwound and thus prevent the production of slack in the web, and possible injury thereto, the side walls are provided with inwardly projecting tubular guides 30 containing friction shoes 31 and springs 32, the latter holding the shoes frictionally against the sides of the reels or drums, and to prevent accidental backward movement of the actuating shaft, it is provided with a ratchet wheel 33 engaged by a gravity pawl 34 pivoted to the upwardly projecting arm 35 of the adjacent bearing 8. By this arrangement the pawl and ratchet mechanism moves with the rock frame but prevents back rotation of the actuating shaft.

From the above description it will be apparent that we have produced a telephone directory embodying the features of advantage enumerated as desirable and we wish it to be understood that we do not desire to be restricted to the exact details of construction shown and described except as set forth in the appended claims as obvious modifications will suggest themselves to one skilled in the art.

Having thus described the invention what we claim as new and desire to secure by Letters Patent is.

A telephone directory, comprising a suitable casing, a pair of reels journaled therein, pinions rotatable with said reels, a pair of guide rolls, a web extending over the guide rolls and thence to said reels, a cross bolt 19 vertically below the center of the space between said reels, plates 17 journaled on said bolt, a cross shaft 9 journaled in the upper ends of said plates, a gear 10 journaled on said shaft in the vertical plane of said pinions, a pair of cross rods connecting the plates 17 between the bolt 19 and shaft 9 and at opposite sides of the plane of said bolt and shaft, a lever secured to said cross rods, and projecting through one of the end walls of the casing and provided at its opposite end with an upwardly projecting arm, a retractile spring 25 connecting the upper end of said arm with a point fixed with relation to the casing and tending to hold the gear wheel 10 in engagement with one of the pinions, and a downwardly-disposed shoulder formed on the casing and adapted when the lever is depressed to withdraw the gear wheel 10 from engagement with the said pinion and into engagement with the other pinion to hold the lever depressed, slidable boxes forming journals for shaft 9 in the side walls of the casing, an arm projecting upwardly from one of said boxes, a gravity pawl pivoted to said arm, and a ratchet wheel rigid with the shaft 9 and engaged by said pawl, and an actuating handle secured to one end of shaft 9.

In testimony whereof we affix our signatures, in the presence of two witnesses.

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Witnesses:
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