

No. 634,994.

Patented Oct. 17, 1899.

J. B. NEUENDORFF.
AUTOMATIC TELEPHONE DIRECTORY.

(Application filed May 25, 1899.)

(No Model.)

2 Sheets—Sheet 1.

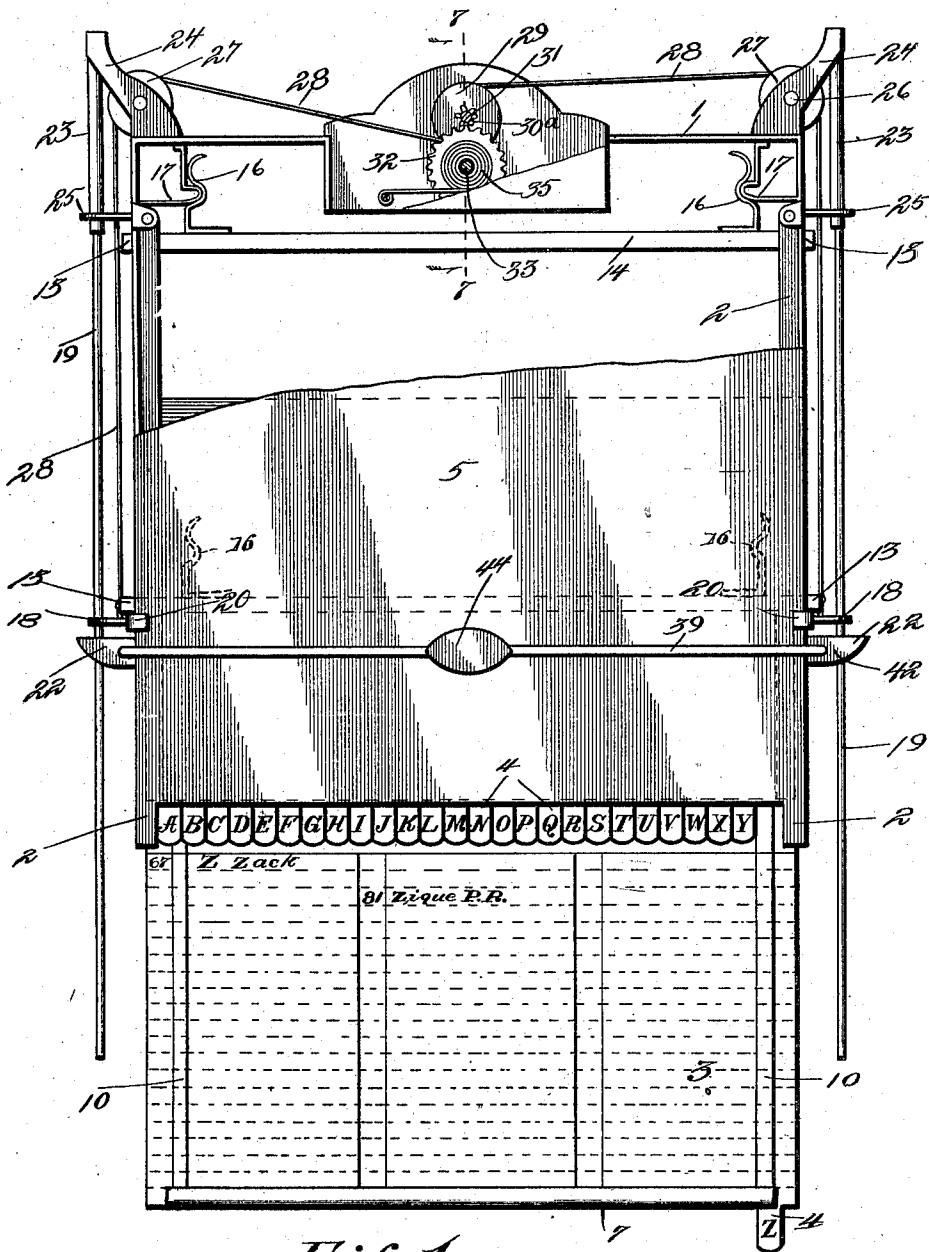


Fig. 1.

Witnesses

John B. Neuendorff Inventor

Flaunce W. Walker, by his Attorneys,

J. F. Riley

C. A. Snow & Co.

No. 634,994.

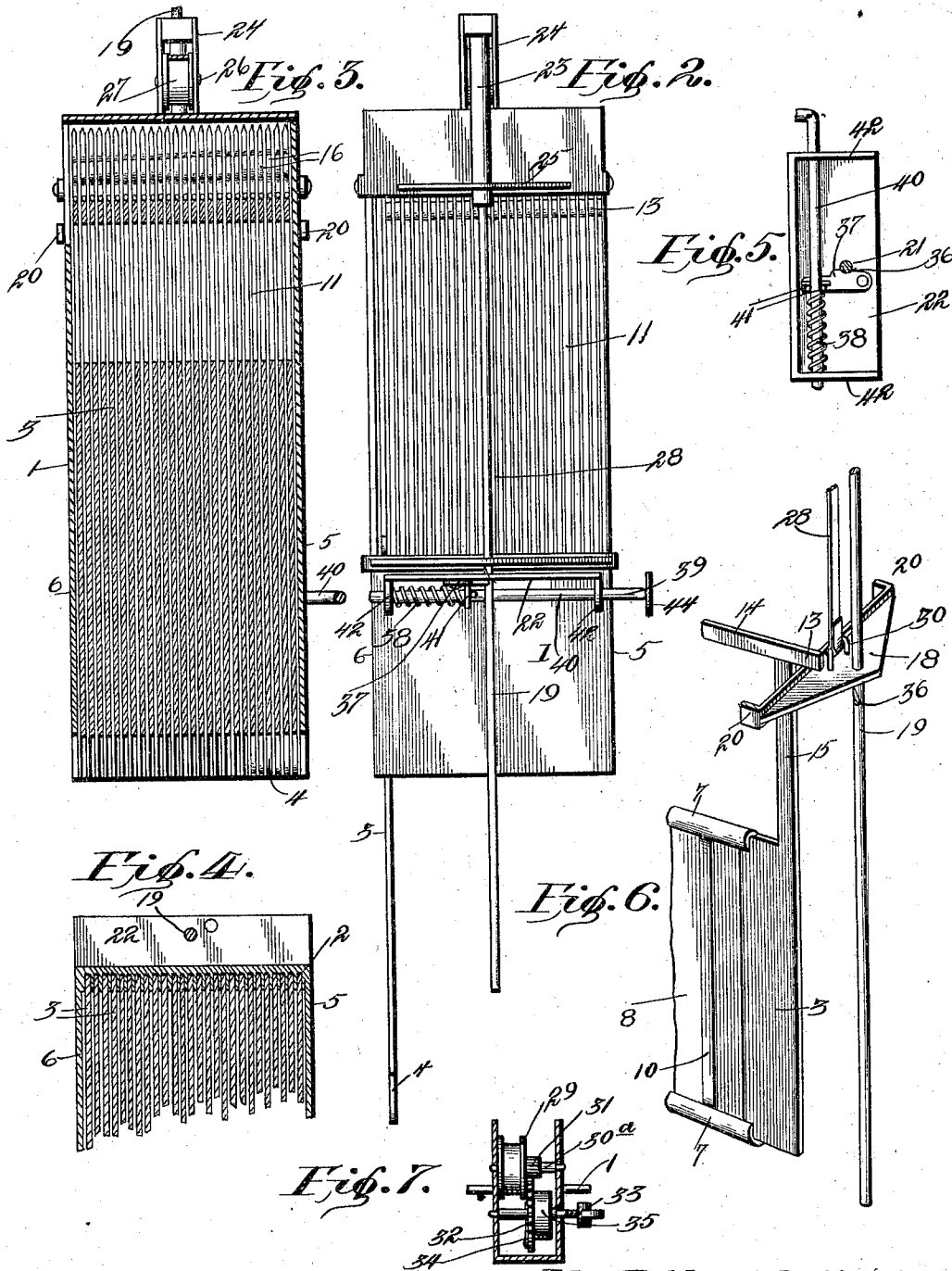
Patented Oct. 17, 1899.

J. B. NEUENDORFF.
AUTOMATIC TELEPHONE DIRECTORY.

(Application filed May 25, 1899.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses

Harvey H. Walker

By his Attorneys,

J. F. Riley

John B. Neuendorff Inventor

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JOHN B. NEUENDORFF, OF SAN ANTONIO, TEXAS.

AUTOMATIC TELEPHONE-DIRECTORY.

SPECIFICATION forming part of Letters Patent No. 634,994, dated October 17, 1899.

Application filed May 25, 1899. Serial No. 718,212. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. NEUENDORFF, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Automatic Telephone-Directory, of which the following is a specification.

The invention relates to improvements in automatic telephone-directories.

10 The object of the present invention is to provide a simple and comparatively inexpensive directory, designed for use at telephone-stations and for analogous purposes and capable of being readily operated to display a series of subscribers' names, so that the number of any one of them may be ascertained without the inconvenience and delay incident to finding the same when the names are arranged in book form.

20 A further object of the invention is to enable the exposed names to be readily returned to their normal position after the desired information has been obtained.

25 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

30 In the drawings, Figure 1 is an elevation of an automatic telephone-directory constructed in accordance with this invention, a portion of the casing being broken away to show the gearing for returning the sliding plates to their normal position. Fig. 2 is an end elevation of the same. Fig. 3 is a vertical sectional view. Fig. 4 is a detail horizontal sectional view illustrating the construction of the ways of the casing. Fig. 5 is a detail sectional view illustrating the construction of the locking device for holding the plates in their extended position. Fig. 6 is a detail perspective view of a portion of one of the plates and one of the vertically-movable spring-actuated carriers which returns the plate to its normal position. Fig. 7 is a detail sectional view on line 7 7 of Fig. 1, the gearing being shown in elevation.

35 Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a casing of substantially rectangular form, designed to be constructed of

sheet metal or other suitable material and provided at opposite sides with vertical ways 2, consisting of grooves formed by flanges or strips and receiving vertically-movable plates 3, adapted to be pulled down and withdrawn through the bottom of the casing to expose the major portion of its surface. The casing is open at the bottom, and the plates, which are designed to be equal in number with the letters of the alphabet, are provided with depending tongues or extensions 4, located at different points and designed to be provided with a letter, as clearly illustrated in Fig. 1 of the accompanying drawings, to indicate the character of the names on the plates. The ways 2 are extended beyond the lower edges of the front 5 and back 6 of the casing to enable the plates to be extended sufficiently to clear the tongues or extensions 4, so that none of the names on an extended plate will be concealed by the tongues or extensions of the other plates. Each of the vertically-movable plates is provided at its inner and outer transverse edges with flanges 7, adapted to receive printed strips 8, of paper or other suitable material, bearing the names of the subscribers, with their telephone-numbers, and these strips, which may be readily removed and replaced, are retained in position by longitudinal springs 10, which have their terminals engaging the flanges 7.

The lower portions of the ways 2 are closed, as clearly shown in Figs. 2 and 4 of the accompanying drawings, and the upper portions are provided with openings 11, through which extend projecting lugs 13, formed by the terminals of transverse bars 14, which are connected with the plates by arms 15. This construction provides an open frame or portion at the inner end of each of the plates, but, if desired, the entire plate may consist of a continuous piece of sheet metal, as the openings are for the purpose of lightening the construction and lessening the material employed therein. The plates are retained within the casing by oppositely-disposed resilient catches 16, mounted on the transverse bars 14, and consisting of a substantially L-shaped piece of spring metal, having the other arm sigmoidally curved. The catches 16 engage opposite ribs 17, which are rounded, as clearly shown in Fig. 1 of the accompanying drawings, and the

engaging portions of the catches present outer convex portions and inner concave portions to the ribs and are adapted to engage and disengage the same automatically. The catches are disengaged from the ribs by a light pull in drawing the plates outward, and they are reengaged with the rib by the means hereinafter described for returning the plates to their normal position within the casing. The ribs 17, which are located within the casing at the top thereof, may be constructed by any suitable means.

The projecting lugs 13, which extend laterally from the casing, are located above or at the inside of the carriers 18, fixed to rods 19 at the opposite sides of the casing, as clearly shown in Figs. 1 and 6 of the accompanying drawings, and the said carriers are provided at their ends with inwardly-extending lugs 20. The rods, which extend longitudinally of the casing, slide in openings 21 of stationary lower brackets 22 and in stationary tubes 23, arranged at the top of the casing and supported by upper brackets 24 and 25. The lower brackets 22 are arranged beneath the openings 11, and the upper brackets 24, which are composed of two sides and an outer connecting portion, are provided with bearings for shafts or spindles 26 of guide-pulleys 27. The guide-pulleys 27, which are located at the top of the casing, are preferably grooved at their peripheries and receive oppositely-disposed belts 28, which may be constructed of metal or any other suitable material. The belts have their adjacent upper terminals wound around a drum 29 in the same direction, so that they are simultaneously drawn inward and outward, and their outer terminals are secured to loops 30, arranged at the upper faces of the vertically-movable carriers 18. The belts have their vertical portions lying beyond the ends of the projecting lugs 13, and any one of the said lugs is adapted to engage the adjacent vertically-movable carrier, and when a plate is drawn outward or downward the carriers are moved downward with it.

The drum 29 is mounted on a shaft 30^a, which carries a pinion 31, and the latter meshes with a gear-wheel 32 of a winding-shaft 33, connected with the gear-wheel by a clutch 34, and having one end of a barrel-spring 35 attached to it. The front end of the shaft is provided with a suitable grip or handle, and by rotating it the spring may be wound up to any desired tension. When the plate is drawn downward or outward, the belts are unwound from the drum against the action of the spring which returns the plate as soon as the latter is free to move inward or upward.

The longitudinal rods are provided at points below the carriers 18 with shoulders 36, formed by notches and adapted to be engaged by spring-actuated catches 37, pivotally mounted on the lower face of the brackets 22. Each catch is pivoted at one end, and its

other end is engaged by a coiled spring 38, which holds the catch in engagement with the rod. The catches are tripped by a depressible frame 39, extending across the front and sides of the casing and having its sides or arms 40 guided in perforations of the brackets 22. The pivoted catches are provided with depending yokes 41, which straddle the arms 40, and the springs are interposed between the brackets and the catches, as clearly shown in Fig. 5. The brackets 22 are provided at their front and rear ends with flanges 42, which have the said perforations for the sides or arms of the frame 39. The frame 39 is provided at its center with a plate 44, which is adapted to be readily engaged by the finger, whereby the catches are disengaged from the rods to release the plates.

The casing may be constructed of any desired size, and its front is designed to bear suitable advertising matter, and any number of plates may be employed.

It will be seen that the device is simple and comparatively inexpensive in construction, that the plates, which are indexed, may be readily drawn outward to expose a set of names of subscribers, and that the plates are automatically returned within the casing after the desired information has been obtained.

The device is adapted to operate in a horizontal or vertical position, and although it is described as designed for a telephone-directory, yet it will be readily apparent that it may be employed for a variety of purposes.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. A device of the class described comprising a casing, vertically-movable plates mounted in the casing and adapted to be withdrawn therefrom, a spring-actuated carrier arranged to be engaged by the plates and adapted to return the same within the casing, and a locking device for engaging the carrier, substantially as described.

2. A device of the class described comprising a casing, sliding plates mounted in the casing and provided with projecting lugs, and adapted to be drawn outward, a spring-actuated carrier arranged in the path of the lugs and adapted to return the plates within the casing, and means for holding the carrier when the plates are drawn outward, substantially as described.

3. A device of the class described comprising a casing provided with longitudinal openings and having ways, sliding plates mounted in the ways and provided with lugs extending through the said openings, a spring-actuated carrier arranged on the exterior of the casing and adapted to be engaged by the said lugs, and a locking device for holding the spring-actuated carrier to permit the plates to re-

main in their extended position, substantially as described.

4. A device of the class described comprising a casing, sliding plates having projections 5 or lugs, longitudinally-movable rods mounted on the casing, carriers fixed to the rods and arranged to be engaged by the lugs or projections of the plates, a spring for actuating the rods, and means for engaging the rods, 10 whereby the plates are permitted to remain in their extended position, substantially as described.

5. A device of the class described comprising a casing, sliding plates mounted within 15 the casing and adapted to be drawn outward and provided with lugs or projections, carriers arranged to be engaged by the lugs or projections, a spring-actuated drum, a pair of belts 20 mounted on the drum and connected with the carriers and adapted to return the plates within the casing, and a locking device for holding the spring-actuated carrier to permit the plates to remain in their extended position, 25 substantially as described.

6. A device of the class described comprising a casing, sliding plates mounted therein 30 and having projecting portions, carriers arranged in the paths of the projecting portions, a centrally-arranged spring-actuated drum, guide-pulleys located at opposite sides of 35 the casing, a pair of belts mounted on the drum and extending from opposite sides thereof and connected with the carriers, said belt being arranged on the guide-pulleys, and 40 means for holding the carriers to allow the plates to remain in their extended positions, substantially as described.

7. A device of the class described comprising a casing, sliding plates, rods mounted on 45 the casing at opposite sides thereof, carriers fixed to the rods and arranged to engage the plates, a spring-actuated drum, belts wound around the drum and connected with the carriers, fastening devices engaging the rods and 50 adapted to hold the carriers to permit the plates to remain in their extended position, and a tripping device for releasing the catches, substantially as described.

8. A device of the class described comprising a casing, sliding plates mounted in the 55 casing, rods guided on the casing, carriers mounted on the rods and arranged to engage the plates to return the same within the casing, pivoted spring-actuated fastening devices engaging the rods for holding the carriers 60 to permit the plates to remain in their extended position, and a tripping device having arms arranged to engage the fastening devices, substantially as described.

9. A device of the class described comprising a casing, sliding plates mounted in the casing 65 and adapted to be drawn outward, a carrier adapted to return the plates within the casing, means for holding the carrier when the plates are drawn outward and automatically-operating catches carried by the plates 70 and adapted to hold the plates within the casing, substantially as described.

10. A device of the class described comprising a casing, vertically-movable plates mounted 75 within the casing and adapted to be withdrawn therefrom, a horizontal rib mounted on the casing at the top thereof, and upwardly-extending resilient catches carried by the plates and arranged to engage the rib automatically, whereby the plates are retained 80 within the casing, substantially as described.

11. A device of the class described comprising a casing provided with ways and having 85 openings, plates sliding in the ways and provided with lugs extending through the openings, upper and lower brackets mounted on the casing, guide-tubes supported by the upper brackets, rods sliding in the guide-tubes 90 and in the openings of the lower brackets, catches mounted on the lower brackets and engaging the rods, a spring-actuated drum, guide-pulleys arranged at opposite sides of the casing, belts wound around the drum, arranged on the guide-pulleys and connected 95 with and adapted to actuate the rods, carriers mounted on the rods and arranged to engage the lugs, and means for releasing the catches, substantially as described.

12. A device of the class described comprising a casing provided with ways and having 100 openings, sliding plates mounted in the ways and provided with longitudinal arms, transverse bars secured to the arms and having their terminals projecting beyond the same and extended through the said openings to 105 form lugs, carriers arranged to engage the lugs and adapted to return the plates within the casing, and catches mounted on the transverse bars and arranged to engage the casing to hold the plates within the same, substantially as described.

13. A device of the class described comprising a casing provided at opposite sides with 110 fixed ribs, vertically-movable plates mounted to slide in the casing and adapted to be withdrawn therefrom, and the upwardly-extending resilient catches provided with bends to receive the ribs and arranged to engage the same automatically, whereby the plates are 115 retained within the casing, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN B. NEUENDORFF.

Witnesses:

SANTOS LEAL, Jr.,
JOS. TUNSCHEID.