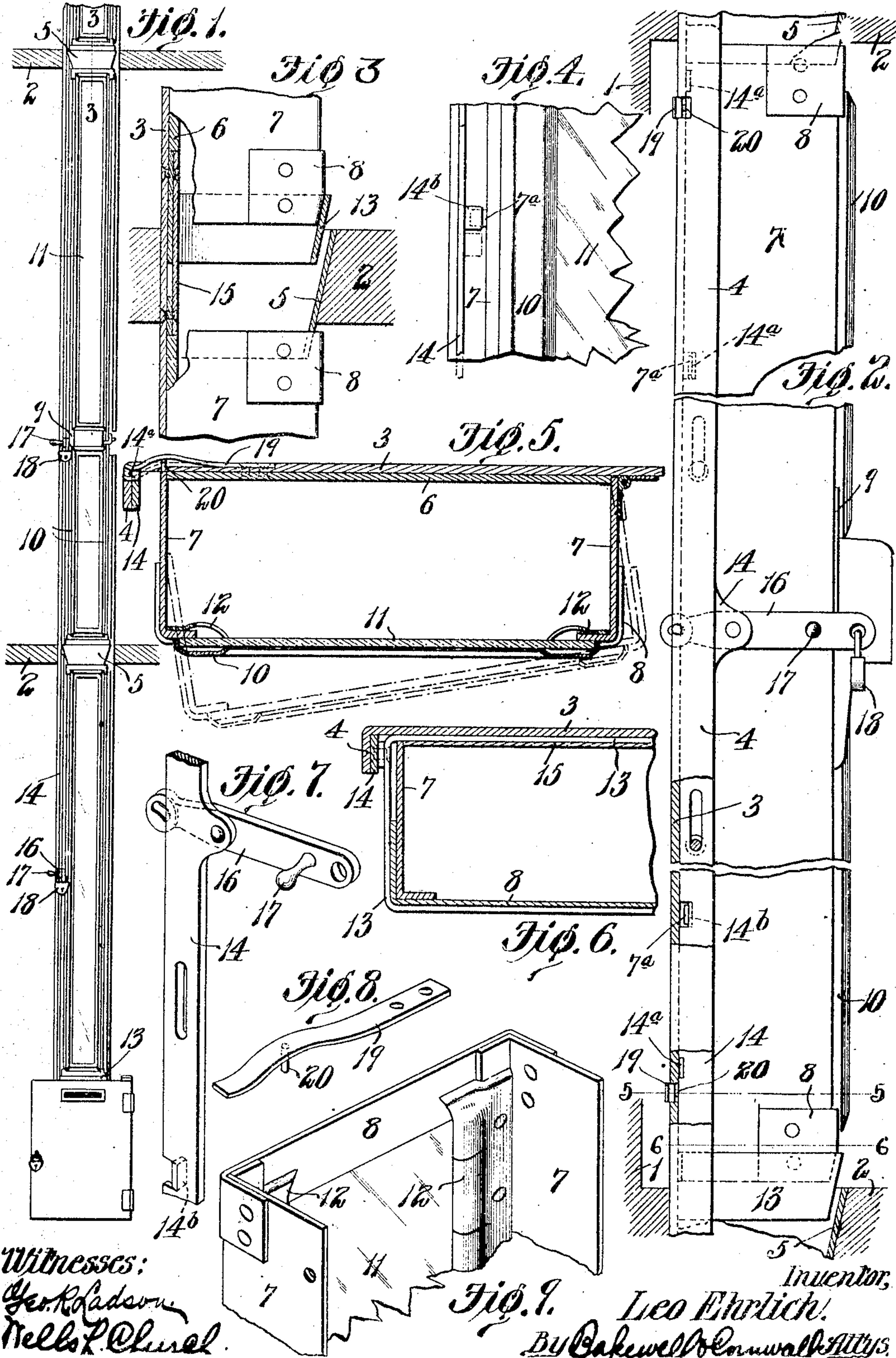


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MAIL CHUTE.

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913,114.

Patented Feb. 23, 1909.



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UNITED STATES PATENT OFFICE.

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MAIL-CHUTE.

No. 913,114.

Specification of Letters Patent.

Patented Feb. 23, 1909.

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Serial No. 390,182.

To all whom it may concern:

Be it known that I, LEO EHRLICH, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Mail-Chutes, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevational view of my improved mail chute; Fig. 2 is a fragmentary side elevational view of the chute; Fig. 3 is a sectional view on the line 3—3 of Fig. 1; Fig. 4 is a detail front elevational view; Fig. 5 is a sectional view on the line 5—5 of Fig. 2; Fig. 6 is a sectional view on the line 6—6 of Fig. 2; Fig. 7 is a detail view of part of the locking mechanism; Fig. 8 is a detail view of the spring cooperating with the locking mechanism; and Fig. 9 is a detail view showing the interior of the chute.

This invention relates to a new and useful improvement in mail chutes for public buildings, the present application being a division of my pending application Serial No. 336,963, filed October 1, 1906.

The object of the invention described in this application is to construct a chute in such a manner that the several sections composing the tube may be so manipulated as to give access to the interior of the tube.

With this object in view, the invention consists in the construction, arrangement and combination of the several parts, all as will be hereinafter described and afterwards pointed out in the claims.

In the drawings, 1 indicates the vertical wall of a building and 2 the floors thereof, these parts being illustrated conventionally for the purpose of locating the same with respect to my improved mail chute.

Referring to Fig. 5, the tube sections of my mail chute consist of a back plate 3 which is composed of pieces of sheet metal cut in appropriate lengths and connected together so as to extend practically throughout the length of the chute. This back plate may be flanged at both side edges (only one flange 4, however, is shown in the drawings),

for the purpose of giving it strength. The back plate 3 is secured by suitable fastening devices to the vertical wall of the building in such manner as to provide a space between said back plate and the vertical wall of the building, as shown in Fig. 2. This back plate 3 may also be connected to thimbles 5 (see Fig. 1), which thimbles are in the horizontal planes respectively of the floors of the building.

6 indicates facing plates secured to the back plates 3. The joints between the back and facing plates may be broken so that the said plates constitute splices for each other. These plates are riveted together at the building, the heads of the rivets being counter-sunk in the facing plate so as to offer no obstruction to the descent of mail. The facing plate 6 is as wide as the interior width of the chute, its edges forming shoulders by which rabbeted joints may be made with the side walls of the tube sections.

Each tube section consists, in addition to the facing plate 6, which forms the back wall of the tube, of two side angles 7 constituting the side walls of the tube section and a front wall, which latter is made up principally of glass panels through which the condition of the interior of the tube may be seen. The angles 7 may be made up by forming a flange along one edge (the forward) of a sheet metal plate, as shown in Fig. 5. These angles are connected together at their upper and lower edges by means of connecting straps 8 riveted or otherwise fastened thereto. In addition to the straps 8, the angles have secured to them a plate 9 which contains the mail-receiving apertures and the frames 10 in which the glass panels are mounted. Frames 10 are preferably made of polished brass so as to give an ornamental finish to the tube sections.

The panels of glass, indicated at 11, are arranged inside the frames 10 and are held in position by strips 12, the latter being preferably thin spring metal of suitable character and which are secured to the inner faces of the flanges or front legs of the side plates 7. As the glass panels 11 are not usually of uniform thickness, I prefer to cut the free edges of the strips 12 as shown in Fig. 9, so as to form independently yielding

spring tongues. These tongues are placed under tension and in addition to holding the glass panels 11 tightly against their frames, leave no crevice in which mail may be caught.

Means for shedding the mail and preventing it from being caught by the upper ends of the strips 12 is illustrated in Fig. 9, wherein it will be seen that the metal strip is beveled and bent so as to hug the inner face of the chute closely.

The length of the so-called tube section is coincident with the length of the side plates 7, and one of these side plates is hinged substantially throughout its length to the back plate 3, as shown in Fig. 5. The tube section composed of the front and two side walls may thus swing outwardly from the back wall, the said tube section clearing the floor and ceiling in its swinging movement.

The thimbles 5 before referred to have their front and side walls tapering, as shown in Fig. 1. Each thimble is flush with the floor but projects a short distance below the ceiling so that when the tube section is closed it embraces the tapered lower end of the thimble. In this manner mail falling from above and passing through the thimble cannot be caught upon any projection at the joint between the upper end of the swinging tube section and the lower end of the thimble. The lower end of each tube section may swing free of the thimble located thereunder.

The means for locking the tube sections closed consists of a vertically slidable coupling sleeve 13 which is carried by a slide bar 14, said bar being guided in its movements by slot and pin connections to the flange 4 of the back plate. The coupling sleeve 13 is in the form of an open-ended box whose back wall is housed behind the thin cover plate 15 constituting a flush portion of the facing plate 6. The side and front walls of the sleeve 13 are of such size and shape as to snugly fit around the lower end of the swinging tube section, as shown in Fig. 3. The lower end of this coupling sleeve section is at all times received in the thimble 5. When the rod 14 is moved downwardly it carries with it the coupling sleeve section 13, which is telescopically housed in this thimble 5 when it releases the lower end of the swinging tube section, which may then be swung outwardly. When the sleeve section 13 is closed and the rod 14 is raised the coupling sleeve section embraces the lower end of the tube section and locks the same in its closed position.

It will be observed with relation to the construction just above described that no obstructions are left in the chute on which mail may lodge.

The rod 14 preferably extends from floor

to ceiling, as shown in Fig. 2, and is pivotally connected to an operating lever 16 whose rear end is provided with a curved slot for engagement with the pivot pin mounted in the back plate of the chute. The forward end of this lever 16 is provided with an operating handle 17, said lever also having an opening at its forward end which, when the lever is raised, registers with an opening in a lug on the plate 9. Thus a key-operated lock 18 may be introduced through these registering openings to lock the lever 16 in place.

The facing plate 6 has been heretofore described as being located between the edges of the side walls 7 so as to form a rabbeted joint. In order to insure a full closing movement being given the swinging tube section, means under control of said swinging tube section and actuated thereby are cooperatively related to the bar 14 and lock said bar 14 in its lowered position, preventing any rising movement thereof until the swinging tube section is fully closed. By provision of this means no crevice is left at the back edges of the side walls 7 in which mail matter may be caught.

Referring to Fig. 5, 19 indicates a leaf spring secured behind the back plate 3 and provided with a pin 20 which passes through an opening into said back plate in line with the back edge of one of the side walls 7 adjacent the bar 14. The back plate is provided with a slot in which the spring 19 may operate and engage a notch or recess 14^a in the slide bar 14, which notch is in line with the free end of the spring when the bar 14 is in its lowermost position. In this manner when the swinging tube section is closed the springs 19 will be forced back out of the recess 14^a; but when said swinging tube section is open, at which time the bar 14 stands in its lowermost position, said bar cannot be raised until the swinging tube section is closed and stands fully closed both at its top and at its bottom. There are two springs 19 for each swinging tube section, one located near the top and the other near the bottom thereof. The rear edge of bar 14 is cut and the tongue portion between the cuts is bent laterally as at 14^b so as to cooperate with the lateral projections 7^a on the side wall of the swinging tube section. When the bar 14 is depressed these tongues 14^b are moved away from the projections 7^a. When the swinging tube section is closed and the bar 14 raised the tongues 14^b will move over and engage projections 7^a and thus lock the swinging tube section home, as shown in Fig. 2.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a mail chute, a back plate and a facing plate, said facing plate being nar-

- rower than the back plate so that the edges of the facing plate form a stepped shoulder; substantially as described.
2. In a mail chute, a back plate, and a facing plate connected together and breaking joints with each other; substantially as described.
3. In a mail chute, a back plate, a facing plate corresponding in width to the width of the tube, and a back plate having a forwardly projecting flange along its edge; substantially as described.
4. In a mail chute, a back plate, and thimbles secured to said back plate in the horizontal planes of the floors of the building, said thimbles forming part of the chute proper; substantially as described.
5. In a mail chute, a back plate, thimbles secured to said back plate in the horizontal plane of the floor through which said chute passes, said thimbles constituting sections of said chute; substantially as described.
6. In a mail chute, a back plate, a tapered thimble secured to said back plate and constituting a section of said chute; substantially as described.
7. In a mail chute, a back plate, a facing plate secured to the back plate, said facing plate being as wide as the interior width of the tube, and said back plate extending laterally on each side of said facing plate, whereby the edges of the facing plate form shoulders by which rabbeted joints may be made with the side walls of the chute sections; substantially as described.
8. A mail chute consisting of a back plate, side walls in the form of angles, means for securing said side walls together, and glass panels constituting the front wall, the edges of said glass panels being arranged against the outer front faces of said angles; substantially as described.
9. A mail chute consisting of a back wall, side walls with inwardly bent flanges at their front edges, straps for connecting said walls together, glass panels constituting the front walls of the chute, the edges of said glass panels being arranged against the outer faces of said angles, and frames in which said glass panels are mounted; substantially as described.
10. In a mail chute, glass panels, and spring metal strips for holding said glass panels in position, the free edges of said strips being cut or scored so as to form independently movable tongues; substantially as described.
11. In a mail chute, a glass panel, a frame in which said glass panel is mounted, a metal strip whose free edge is cut or scored and placed under tension so as to bear against the inner face of said glass panel to hold the same in position in its frame; substantially as described.
12. A mail chute embodying a plurality

of superposed tubular sections consisting of a fixed back plate, side walls and a front wall, the latter being connected together so as to swing outwardly, and a hinge secured to the back plate and to the rear edge of one of said side walls; substantially as described.

13. A mail chute embodying a plurality of superposed tubular sections consisting of a fixed back plate and movable front and side walls, the latter being connected together so as to move collectively, a hinge secured to one of the side walls and the back plate, and means for locking said swinging parts in position; substantially as described.

14. A mail chute comprising a fixed back plate extending throughout the length of the chute, and swinging sections comprising front and side walls hinged at one edge to said back plate; substantially as described.

15. A mail chute comprising back plates and facing plates extending throughout the length of the chute, a swinging section consisting of front and side walls connected so as to collectively swing together, and a hinge section between one of said side walls and said back plates, and a thimble connected to the back plate and extending below the upper edge of said swinging section; substantially as described.

16. In a mail chute, a back plate, a hinged swinging section, and thimbles on the back plate at the extremities of said swinging section; substantially as described.

17. In a mail chute, a back plate, a hinged swinging section mounted thereon, a thimble secured to the back plate and extending below the upper edge of said section, and a thimble secured to said back plate and located below the lower edge of said swinging section; substantially as described.

18. In a mail chute, a back plate, a movable section, a thimble secured to the back plate below said movable section, and a vertically movable tube section for inclosing the space between said thimble and said movable section; substantially as described.

19. In a mail chute, a back plate, a movable section, a thimble secured to said back plate, and a vertically movable tube section whose lower end fits in said thimble and whose upper end fits around said movable section; substantially as described.

20. In a mail chute, a back plate, a movable section mounted on said back plate, a thimble fixed to the back plate below said movable section, and a tube section slidably mounted on the back plate and telescopically cooperating with said movable section and said back plate; substantially as described.

21. In a mail chute, a back plate, a movable section mounted thereon, a thimble secured to said back plate below said movable section, a movable tube section telescopically cooperating with the lower end of said movable section and said thimble, and a locking

bar connected to and operating said tube section; substantially as described.

22. In a mail chute, a back plate, a movable section mounted thereon, a thimble secured to said back plate below said movable section, a movable tube section telescopically cooperating with the lower end of said movable section and said thimble, the rear wall of said movable tube section being housed within said back plate; substantially as described.

23. In a mail chute, a back plate, a hinged swinging tube section having lateral projections, a locking bar slidably mounted on said back plate and having lateral projections for cooperating with the lateral projections of said swinging section; substantially as described.

24. In a mail chute, a support, a hinged swinging tube section mounted thereon and comprising front and side walls, locking means for cooperating with the upper and lower portions of the side walls of said swinging tube section, and means operated by said swinging tube section for preventing

the operation of said locking means when the swinging section is open; substantially as described.

25. In a mail chute, a movable section, a locking means for said movable section, and spring-actuated devices controlled by said movable section for rendering said locking means inoperative when said movable section is in other than home position; substantially as described.

26. In a mail chute, a back plate, a movable section mounted on said back plate, a locking bar for locking said movable section home, and a spring-actuated locking device for said locking bar which is moved out of locking position when said movable section is home; substantially as described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 23rd day of August 1907.

LEO EHRLICH.

Witnesses:

LENORE WILSON,
F. R. CORNWALL.