O. HERRMANN.

COMBINED LOCK AND OPENER FOR EXTENSION TABLES.

APPLICATION FILED NOV. 8, 1915.

1,215,656. Patented Feb. 13, 1917.

Fig. 1.

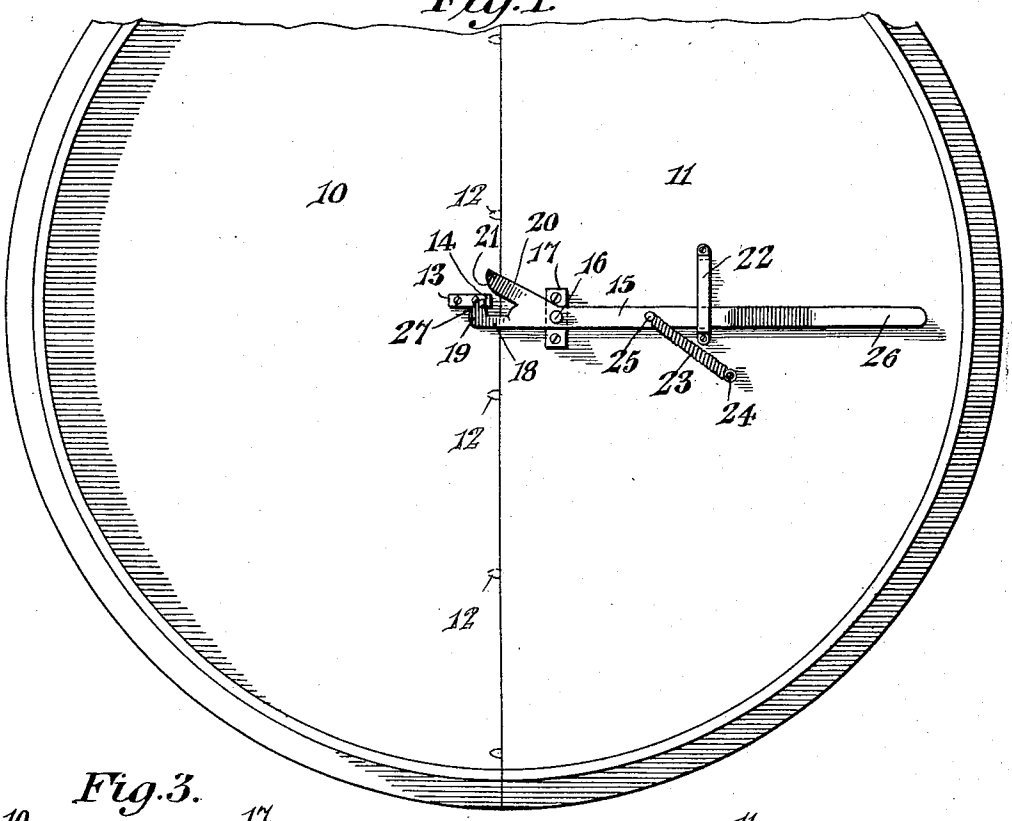


Fig. 3.

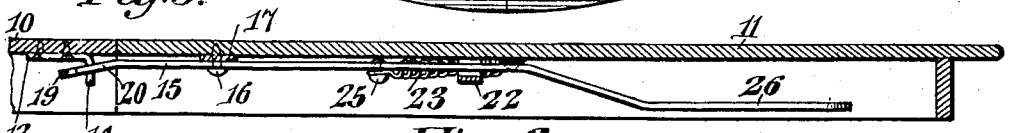
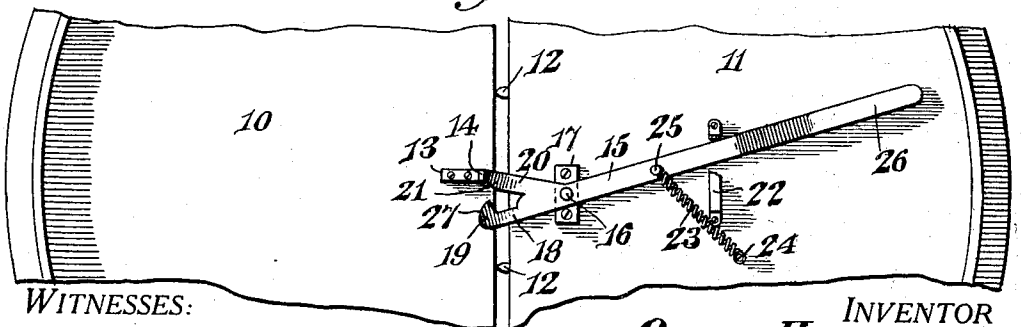


Fig. 2.

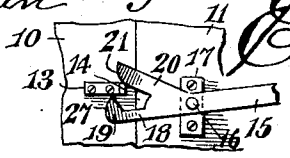


WITNESSES:

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Fig. 4.



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UNITED STATES PATENT OFFICE.

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COMBINED LOCK AND OPENER FOR EXTENSION-TABLES.

1,215,656. Specification of Letters Patent. **Patented Feb. 13, 1917.**

Application filed November 8, 1915. Serial No. 60,428.

To all whom it may concern:

Be it known that I, OSCAR HERRMANN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Combined Lock and Opener for Extension-Tables, of which the following is a specification.

The present invention has reference to an improved device for locking the sections of extension tables together, and has for an object to provide a simple, easily operated device, which, when moved to unlock the sections, will automatically and positively separate or force apart the sections to perform the initial opening movement of the table and when the table sections are brought together will automatically snap to a position locking the table sections together.

Another object of the invention is to provide a simple device operated by a single handle for releasing the nose of a latch hook from a keeper lip, and for bringing into action an opening finger or cam, which bears against the keeper lip, and forces the same outward away from the nose of the hook.

Another feature of the present invention is to provide a device having the hook and the opening member, which may be made in one piece, and which may be stamped or cut from heavy sheet metal, and economically manufactured, and easily applied to the sections of extension tables.

Other objects and advantages of the present invention will be brought out in the following detail description of the present preferred embodiment of the invention, shown in the accompanying drawing, wherein:

Figure 1 is a bottom plan view of an extension table closed, and locked with the device of this invention.

Fig. 2 is a fragmentary bottom plan view of the same, showing the sections forced open, and the lock released.

Fig. 3 is a longitudinal enlarged section, taken through the table, and through parts of the improved lock, showing the same in engaging position.

Fig. 4 is a detail fragmentary view of the table sections, and the interlocking portions of the improved device, the view showing the latch hook immediately upon its release from the keeper lip, and the position of the opening finger or cam, immediately prior to its operation upon the keeper lip.

Referring to this drawing, the numerals 10 and 11 designate the opposite sections of an extension table, which meet in a plane passing through the central portion, or passing diametrically through a table of the round type. The usual dowels 12 are employed for insuring the registering of the meeting edges of the table sections 10 and 11, in the usual manner.

The improved device is applied to the under side of the table and comprises a keeper 13, which is secured to one of the sections, as for instance, the section 10 about midway of the sides of the same, as disclosed to advantage in Fig. 1. This keeper 13 comprises a body plate adapted to lie flat against the under side of the section 10 and secured in place by screws, or the like, and has upon its outer end, a depending lip or pin 14, which projects appreciably downward from the section 10. A simple pin may be substituted for the plate and lip.

The opposite table section 11 is provided with a registering latch lever and opener, the same comprising an elongated shank 15 pivoted upon a pin 16, which is carried by a pivot plate 17 secured to the under side of the section 11. The shank 15 is continued outwardly beyond the pivot point 16 and provided with a hook arm 18 in line with one edge of the shank 15, and being of less width than the shank, to provide an inwardly projecting nose 19, for engagement about the keeper lip 14. The opposite edge of the shank 15, at its outer end, is provided with an outwardly and laterally extending finger 20, constituting an opening finger, and having a beveled outer edge 21 constituting a cam edge and extending inwardly toward and lying opposite to the nose 19. Thus, the outer end of the shank 15 is forked to provide the opposed arms 18 and 20, the arm 18 carrying the hook 19, while the arm 20 carries the cam 21. The hook and cam are slightly spaced apart, and the outer end of the cam terminates substantially opposite to the outer end of the hook 19. The lip of the keeper 14 is of such width that immediately upon the release of the lip from behind the

nose 19, the cam 21 engages the lip at the opposite side to that of the hook and immediately begins its opening action. There is, thus, little or no lost motion in the operation of the device.

The inner end of the shank 15 is limited in its vibratory movement, by a strap 22, the ends of which are suitably secured to the under side of the section 11 in spaced relation to the pivot plate 17. A spring 23, fixed at one end 24 to the section 11, and at its opposite end 25 to the shank 15, normally draws the shank toward one end of the strap to swing the hook 18 into alinement with the keeper 13. The inner end of the shank is offset downwardly and projected inwardly toward the adjacent edge of the section 11 to form a handle 26 adapted to be grasped by the person opening the table, and operated.

The nose 19 is provided with an inclined or cam-faced outer edge 27, which lies directly in the path of the keeper lip 14 and is employed in deflecting the hook laterally against the tension of the spring 23, when the table sections 10 and 11 are forced together. The spring 23 automatically snaps the hook nose 19 over the lip 14, into the closed position, shown in Fig. 1, as soon as the sections 10 and 11 are closed. The shank 15 and its parts lie close against the under side of the table section, and in order to insure a positive engagement between the hook and the cam arms on the outer end of the shank with the lip of the keeper, and prevent the binding of the fork arms 18 and 20 of the shank against the opposite edges of the body plate 13, the outer ends of the arms 18 and 20 are bent down at a slight angle, as shown in Fig. 3, so as to clear all obstructions and insure the easy and positive movement of the device.

Fig. 1 of the drawing shows the device locked, and wherein the nose 19 lies against the inner side of the lip 14 to thus prevent the separation of the sections 10 and 11. When it is desired to open the table, the operator grasps the handle 26 and draws the same over toward the opposite end of the strap 22 against the tension of the spring 23. When the handle 25 is moved substantially half way across the strap 22, the nose 19 of the hook is disengaged from the lip 14 to free the same, and the cam edge 21 of the opening finger 20 is brought into engagement with the opposite edge of the lip 14. This intermediate position of the device is shown to advantage in Fig. 4 of the drawing. The continuation of the movement of the handle 26 across the strap 22 works the cam 21 against the adjacent edge of the lip 14 and forces the lip outwardly away from the lever to spread apart or open the sections 10 and 11. It will be noted from Fig. 2, that the cam edge 21 is of sufficent length to spread the sections 10 and 11 apart a sufficient distance to clear the dowels 12 from the mortises in the opposite table section. Thus, the opening movement of the sections is effected by the cam action of the device, and by the employment of a lever with a relatively long working arm, so that the sticking and binding of the sections 10 and 11 will be easily overcome by a relatively slight lateral pressure upon the handle 26.

In closing the sections 10 and 11, the same are pushed together in the usual manner, and when the lip 14 strikes the cam 27 of the nose 19, the nose is deflected laterally to swing the combined latch and opening lever to admit the lip 14 to the recess or space between the fingers 18 and 20, and beyond the nose 19. As soon as the lip 14 passes the nose 19, the spring 23 draws the lever back into normal position, and swings the nose 19 against the inner side of the lip 14 to rigidly secure the sections 10 and 11 together.

From the above description, taken in connection with the illustration set forth in the accompanying drawing, it will be seen that the present invention comprehends a device, which may be made from sheet or strip metal, or may be cast or otherwise suitably formed, and produces a device which is economically made in any method of manufacture, and which may be very easily applied to practically any type of extension table.

It is, of course, understood that various modifications and changes may be made in the detail construction of the present device, the changes and modifications being limited only by the scope of the following claims.

What is claimed is:—

1. In an extension table having opposed sections, a keeper on one of the sections, a lever hinged to the other section and provided with a latch hook adapted to engage the keeper, and said lever having a cam in spaced relation to the hook and in position to engage the keeper, and a spring connected to the lever for normally holding the latter in position to bring the hook into engagement with the keeper when the table sections are closed, said lever having a handle extension for the manipulation of the lever to release the hook from the keeper and engage the cam against the keeper to force the table sections apart.

2. In an extension table provided with opposed sections, a keeper on one section, and a lever on the other section having a limited swinging movement, said lever having a hook at the end toward the keeper with a rounded extremity to constitute a latch and also provided with a cam portion adjacent to the hook, and a spring tending at all times to move the hook into the path of the keeper, the cam and hook being rela-

tively positioned to release the hook from the keeper and engage the cam against the latter to force the table sections apart, and the spring holding the hook in the path of the keeper, whereby the keeper will snap into engagement with the hook when the table sections are brought together.

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

OSCAR HERRMANN.

Witnesses:

OTTO GREENBERGER,

GEORGE VON STAMCOITE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."