June 27, 1933. M. WURM 1,915,347

EXTENSION TABLE

Filed Sept. 24, 1932

Fig. 1.

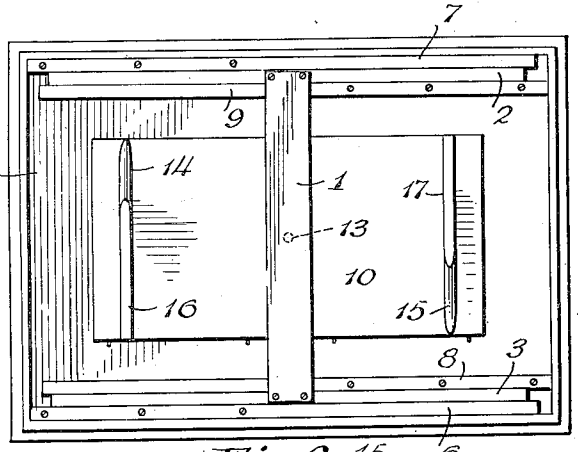


Fig. 5.

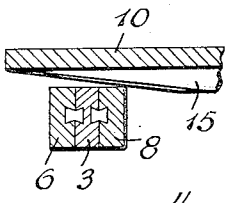


Fig. 8.

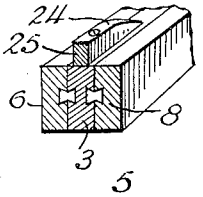


Fig. 2.

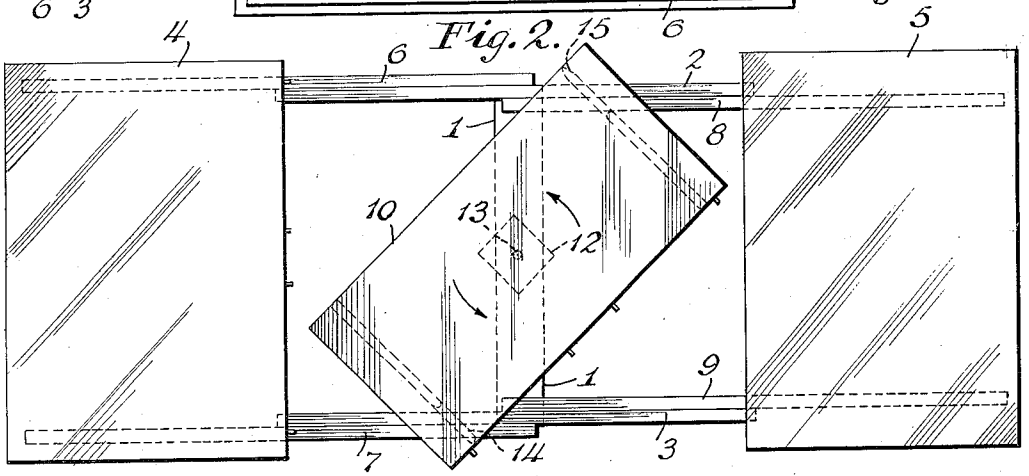


Fig. 3.

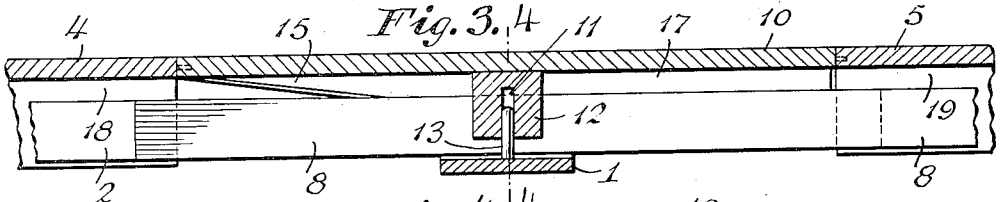


Fig. 4.

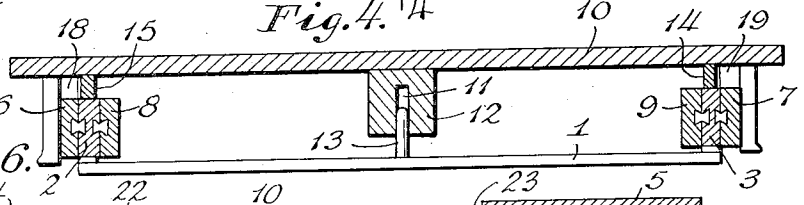


Fig. 6.

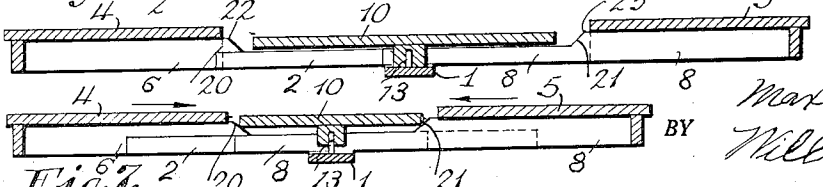


Fig. 7.

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UNITED STATES PATENT OFFICE

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EXTENSION TABLE

Application filed September 24, 1932. Serial No. 634,629.

My invention relates to extension tables in which there is employed a movable table-top and an adjustable filler-leaf constructed and arranged to cooperate with said table-top in such a manner that when the filler-leaf is not in use, it may be stored beneath the plane of the table-top and when it is to be used it may be brought into the plane of the table-top so as to extend the area of the same.

One of the important objects of my improvements is to provide a table of this type with a turnable and vertically adjustable filler-leaf, simple in its form and operation and which raises or lowers itself automatically by the mere turning movement thereof. Another object is to provide a structure of this kind which requires but little hardware in its construction so that the likelihood of its getting out of order is much reduced, and furthermore, the construction and arrangements of the various parts makes it easy to operate in its movements when bringing the filler-leaf into service position with the table-top and also in the reverse movements when placing the filler-leaf in its stored position below the level of the table-top. There are other important advantages to be found in the use of my improvements and which will appear from the detailed description hereinafter given in connection with the illustrations.

I have illustrated types of my invention in the accompanying drawing, wherein:

Figure 1 shows a plan view of the underside of an extension table embodying my invention, the table-top being closed over the filler-leaf stored beneath the same, and with the usual supporting pedestal or table leg omitted, but with the bridge or stretcher shown at the center of the view.

Figure 2 is a top plan view of the upper side of the table shown in Fig. 1, with the table-top members moved outwardly and with the filler-leaf partially turned in its movement to bring it up from its low position shown in Fig. 1, and between the top members to extend the service area thereof.

Figure 3 shows an enlarged central vertical sectional view of the table with the filler-leaf turned and raised and brought into service position with the top members which abut the side edges thereof; the outer end portions of the top members being broken away to condense the view.

Figure 4 shows an enlarged central vertical sectional view of the table, with the filler-leaf in service position in the plane of the top members, the section being taken at right-angles to that in Fig. 3, in which the plane of the section is indicated by the line 4—4.

Figure 5 shows an enlarged detached detail view of one of the lifting members or cams in its sliding movement over one of the top member slides, in raising or lowering the filler-leaf as the same is turned.

Figures 6 and 7 show reduced sized views in central vertical cross-sections, of another form of the invention.

Fig. 8 shows a perspective view of a modified form in which the cam or inclined member is located on the guide for the slides.

Referring to the drawing, in which like numerals of reference indicate like parts throughout, 1 designates the ordinary bridge or stretcher of an extension table, and 2 and 3, are horizontal guides attached to the respective ends of the bridge. 4 and 5, are movable table top members which are alike in size and the member 4, is provided with a pair of ordinary slides 6 and 7, fixed thereto and mounted upon the outer sides of the respective guides 2 and 3, so as to reciprocate horizontally thereon. The top member 5, is likewise provided with a pair of slides 8 and 9, mounted to reciprocate on the inner sides of the guides 2 and 3. This provides for the horizontal movements of the table top members so that they may be slid towards and away from each other in the usual way.

10 is an adjustable filler-leaf preferably of a one-piece construction, which is mounted on the bridge 1, so that it may be raised and lowered and also be turned in its own plane. A pivot and socket joint is provided between the filler-leaf and bridge, a vertical socket 11, being formed in a block or boss 12, secured to the center of the underside of the filler-leaf, the socket receiving loosely a pin 13, mounted in the center of the bridge 1, so that the filler-leaf may be freely turned in its

own plane and also raised and lowered vertically. Various means may be employed for effecting the vertical movement of the filler-leaf by turning it, such for example, as inclined members or cams which may be located in any one of several different places, such as on the bridge, or on the guides or slides, or on the filler-leaf itself as herein shown. In thus functioning, it is preferable to have the lifting or raising action of the filler-leaf, substantially simultaneous with the turning movement thereof, although this is not essential as the lifting may lag somewhat after the initial turning.

Upon the underside of the filler-leaf 10, near its ends, are secured transversely arranged inclined lifting and lowering members 14 and 15, respectively, which I term cams, whose faces slope upwardly and inwardly from the side edges of the filler-leaf and are of sufficient length to effect the desired raising and lowering thereof, the length herein shown being about one-third of the transverse dimension of the filler-leaf. The low-part of the respective cams, starts from opposite side-edges of the filler-leaf, so that when it is turned in the direction indicated by the arrows in Fig. 1, with the low part leading, the cams will act upon subjacent parts and serve to raise the filler-leaf into the desired elevation and into the plane of the table top. By turning the filler-leaf in the opposite direction, the same means will serve to lower it to its storage level. Thus the turning movement of the filler-leaf automatically raises the filler-leaf or lowers it according to the direction in which it is turned on a vertical axis. In the present construction, I utilize the guide 3, for coacting with cam 14, and the slide 8, for coacting with the cam 15, as will be understood from Fig. 2, wherein the top members are shown as moved apart with the filler-leaf being turned in the direction of the arrows thereon, in order to lift it so that when its side edges are parallel with the inner edges of the top members, the filler leaf may be brought into the plane of the top members and the latter closed against the filler leaf, as shown in Fig. 3.

It will be noted that at is low point of vertical movement and when in position of storage, the level of the filler-leaf is such that it clears the slides and guides at each side of the table and has an unobstructed path to turn in until the cams come into action. This is an important feature of the structure and avoids the necessity of first raising the filler-leaf before it can be turned so that it is ready to be turned as soon as the top member is moved aside.

This clearance for the turning filler-leaf is provided for by spacing pieces 18, interposed between the underside of top-member 4, and its slides 6 and 7, and pieces 19, likewise interposed between top-member 5, and its slides 8 and 9, see Figs. 3 and 4. The spacing pieces are preferably made integral with the guides by making the same of greater depth under the top-members, than the remainder of the slides which project inwardly beyond the inner edges of the top-members. With this arrangement, the filler-leaf in its low and stored position lies in a plane between the underside of the top members and the level of the guides and slides where they project beyond the inner edges of the top-members, when opened.

I prefer to elongate the cams 14 and 15, as at 16 and 17, respectively, in order to provide bar like members which extend across the filler-leaf to the opposite edges thereof, which thereby act as reinforce members for the filler-leaf so as to strengthen the same and prevent warping. In Fig. 5, is shown the cooperating relation between cam 15, of the filler-leaf and the adjacent slide 8, during the turning movement of the filler-leaf.

In Figures 6 and 7, I show a modified form of the structure in which the lifting or cam members are transferred from the filler-leaf and a pair of each 20, 20, and 21, 21, are arranged beneath the level of the table top members 4 and 5, and are so mounted that they move in response to the movements of said members of the table top. These cams 20 and 21, are disposed with their sloping cam-faces projecting inwardly towards the center of the table with their low-points at their inner ends. When the top-members are slid away from each other and the filler-leaf is turned into position with its long axis cross-wise of the table, and then the top-members are slid inwardly they will force the cams under the opposite side edges of the filler-leaf and with a wedging action act to raise it into the plane of the top-members as they are finally pushed into abutting relation with said side-edges of the filler-leaf. In Fig. 6, the top-members are shown as slid away from each other in full open position with the filler-leaf 10, in stored position. In Fig. 7, the filler-leaf is shown as turned into the position with its long axis cross-wise of the table, and with the top-members pushed part way inwardly and the cams 20, 21, acting upon the opposite side edges of the filler-leaf so as to raise or lower it. The cams 20, have a flat ledge 22, and cams 21, a similar flat ledge 23, upon which the respective side edges of the filler-leaf rest when it is in raised position in the plane of the top members, thereby serving as firm supports for the filler-leaf while in service position.

These cams 20 and 21, may be secured to the underside of the top-members or to any parts which move in response to the to and fro movements of the top members. In the present construction, I show these cams as attached to the respective slides 6 and 7, and

8 and 9, so as to project inwardly beyond the inner edges of said members in positions to engage the under side of the filler-leaf at its opposite side edges. These cams may be separate from the slides or made integral therewith and with the spacing pieces 18 and 19, as I here show them.

Fig. 8, is a detail view showing a modified form of structure, in which the lifting members or cams 24, are secured on the guides 2 and 3, longitudinally thereof, instead of being attached to the filler-leaf. In this form, after the initial turning movement of the filler-leaf, the leading edges thereof encounter the cams 24, which then act to lift the filler-leaf, and the reverse turning movement lowers the filler-leaf on the cams. The elongation 25, of these cams, serve as supports for the filler-leaf when turned into service position.

This application is in part a continuation of my pending application for patent of the United States, filed July 7, 1930, Serial No. 466,162, for Extension tables.

I wish to be understood as not limiting my invention to the specific constructions of the various different parts thereof as herein shown, as it is manifest that modifications may be made in the same, without, however, departing from the spirit of my invention.

The form shown in Figures 6 and 7, for lifting and lowering the filler leaf by means of the cams 20 and 21, is not claimed herein, but it is claimed in my copending application filed May 24th, 1933, Serial No. 672,570.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. An extension table having a table-top movable so as to cooperate with an adjustable filler-leaf, a vertically adjustable filler-leaf adapted to be raised or lowered with respect to the plane of said table-top and to be turned in its own plane, and means whereby the turning of said filler-leaf causes it to be raised or lowered.

2. An extension table having a table-top movable so as to cooperate with an adjustable filler-leaf, a vertically adjustable filler-leaf adapted to be raised and brought into the plane of said table-top and to be turned in its own plane, and means providing intermediate connections between said filler-leaf and another part serving to raise said filler-leaf by its turning movement.

3. An extension table having a table-top movable so as to cooperate with an adjustable filler-leaf, a vertically adjustable filler-leaf adapted to be turned in its own plane in one direction or the other and to be raised or lowered with respect to the plane of said table-top, and means providing connections intermediate between said filler-leaf and another part serving to raise said filler-leaf when it is turned in one direction or to lower it when it is turned in the other direction.

4. An extension table having a table-top movable so as to cooperate with an adjustable filler-leaf, a vertically adjustable filler-leaf adapted to be raised or lowered with respect to the plane of said table-top and to be turned in its own plane, said filler-leaf when lowered being at a level such that it is unobstructed in its path of rotary movement at such level at the beginning of such turning movement, whereby it may be freely turned in its lowered position, and means for raising said filler-leaf as it is turned.

5. An extension table having a table-top movable so as to cooperate with an adjustable filler-leaf, a vertically adjustable filler-leaf mounted to be raised or lowered with respect to the plane of said table-top and to be turned in its own plane while in its lowered position, and means whereby the turning movement of said filler-leaf causes it to be raised or lowered.

6. An extension table having a table-top movable so as to cooperate with an adjustable filler-leaf and provided with slides and guides therefor, a vertically adjustable filler-leaf mounted to be raised or lowered with respect to the plane of said table-top and to be turned in its own plane clear of said slides and guides while in its lowered position at the beginning of its turning movement, and means for raising or lowering said filler-leaf as it is turned.

7. An extension table having a table-top movable so as to cooperate with an adjustable filler-leaf, a vertically adjustable filler-leaf mounted to be turned in its own plane and provided with means for raising or lowering it, said means including inclined members or cams and parts cooperating therewith which are brought into operation by the turning movement of said filler-leaf so as to raise and lower it.

8. An extension table having a table-top movable so as to cooperate with an adjustable filler-leaf, a vertically adjustable filler-leaf mounted to be raised or lowered with respect to the plane of said table-top and to be turned in its own plane, said filler-leaf being provided with one or more inclined members or cams, and means coacting with said members or cams and serving to raise and lower said filler-leaf by its turning movement.

9. An extension table having a table-top movable so as to cooperate with an adjustable filler-leaf, a vertically adjustable filler-leaf mounted to be raised or lowered with respect to the plane of said table-top and to be turned in its own plane, said filler-leaf being provided with transversely arranged inclined members or cams, and means engaged by said members or cams as the filler-leaf is turned for effecting the raising or lowering thereof.

10. An extension table having a top-mem-

ber movable for cooperation with an adjustable filler-leaf, a vertically adjustable filler-leaf mounted to be raised or lowered with respect to the plane of said table-top and to be turned in its own plane, said filler leaf being provided upon its underside with transversely arranged inclined members or cams elongated so as to extend substantially across the width of said filler-leaf to reinforce the same, and means engaged by said members or cams as the filler-leaf is turned for effecting its raising or lowering.

11. An extension table having a top-member movable so as to cooperate with an adjustable filler-leaf and provided with slides and guides therefor, a vertically adjustable filler-leaf adapted to be raised or lowered with respect to the plane of said table-top and to be turned in its own plane, said filler-leaf being provided with an inclined member or cam acting to engage an adjacent slide and ride over the same as the filler-leaf is turned and thereby raise or lower said filler-leaf.

12. An extension table having a table-top movable so as to cooperate with an adjustable filler-leaf and provided with slides and guides therefor, a vertically adjustable filler-leaf mounted to be raised or lowered with respect to the plane of said table-top and to be turned in its own plane, said filler-leaf being provided with an inclined member or cam acting to engage an adjacent guide and move over the same as the filler-leaf is turned and thereby raise or lower said filler-leaf.

13. An extension table having a table-top movable so as to cooperate with an adjustable filler-leaf and provided with slides and guides therefor, a vertically adjustable filler-leaf mounted to be raised or lowered with respect to the plane of said table-top and to be turned in its own plane, said filler-leaf being provided with inclined members or cams one of which engages an adjacent slide and another engages an adjacent guide as the filler-leaf is turned and serving to raise or lower it.

14. An extension table having a main top section movable so as to cooperate with an adjustable filler-leaf, a filler-leaf mounted to turn on a vertical axis, and means causing said turning motion of the filler-leaf to bring it into and out of a common plane with said main top section.

15. An extension table having a main top section provided with slides and movable so as to cooperate with an adjustable filler-leaf, each slide carried by the top section extending inward to underlie the same at all times, a space within which said filler-leaf lies in its lowermost position, means carried by said slides for spacing said main top section above the level of said slides, a filler-leaf mounted to turn on a vertical axis and adapted to be raised and lowered to bring it into and out of a common plane with said top section, the longitudinal or long axis of said leaf when the leaf is raised being disposed parallel with the transverse axis of said top section and when lowered and stored being disposed at right angles to said transverse axis of the top section and substantially in the plane of said spacing means and substantially parallel therewith.

16. An extension-table comprising a frame with side bars and having a main top section movable so as to cooperate with an adjustable filler-leaf, a filler-leaf mounted to turn on a vertical axis, means causing said turning movement of the leaf to bring it into and out of a common plane with said top section, said means comprising one or more inclined members or cams disposed so as to be brought into and out of operable engagement with said side bars as the filler-leaf is turned in one direction or the other.

17. An extension table having a main top section movable so as to cooperate with an adjustable filler-leaf, a vertically adjustable filler-leaf mounted to turn on a vertical axis, means causing said turning movement of said leaf to bring it into and out of a common plane with said top section, said means including one or more inclined members or cams, and a resting part corresponding to each cam serving as a stable support for said leaf when it is moved into service position in abutting relation with said top section.

18. An extension table having a main top section movable so as to cooperate with an adjustable filler-leaf, a vertically adjustable filler-leaf mounted to turn on a vertical axis, means causing said turning movement of said leaf to bring it into and out of a common plane with said top section, said top section being provided with slides having guides therefor, the said means comprising an inclined member or cam mounted upon a guide and constructed and arranged to cooperate with said leaf in its turning movement.

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