April 1, 1941. A. T. SWIMMER 2,236,807

COMPRESSOR MECHANISM FOR FILING TRAYS OR DRAWERS

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Fig. 1.

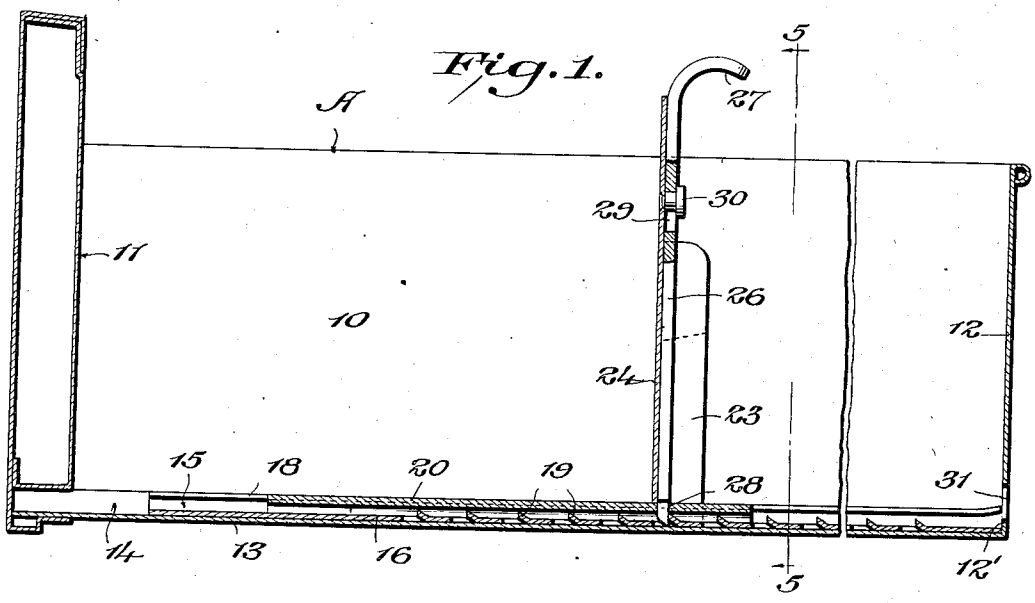


Fig. 2.

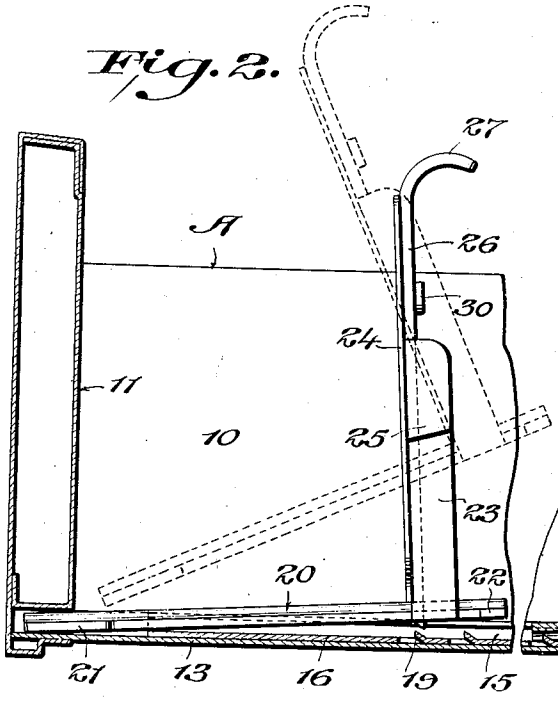
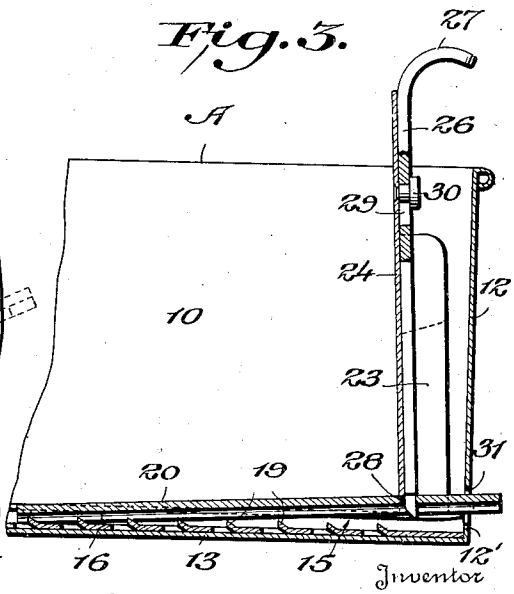


Fig. 3.



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Fig. 4.

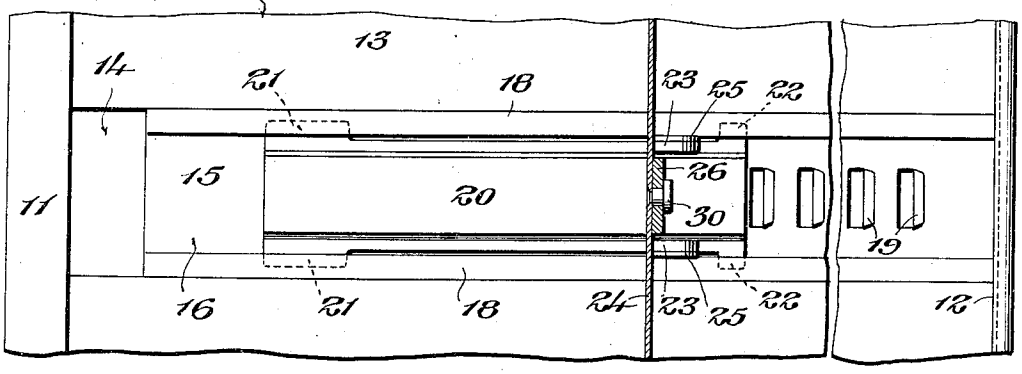


Fig. 6.

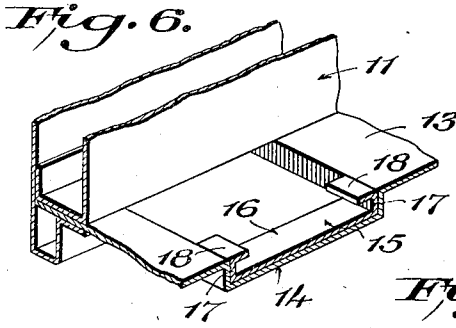


Fig. 7.

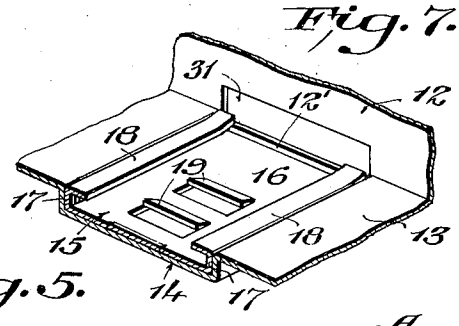
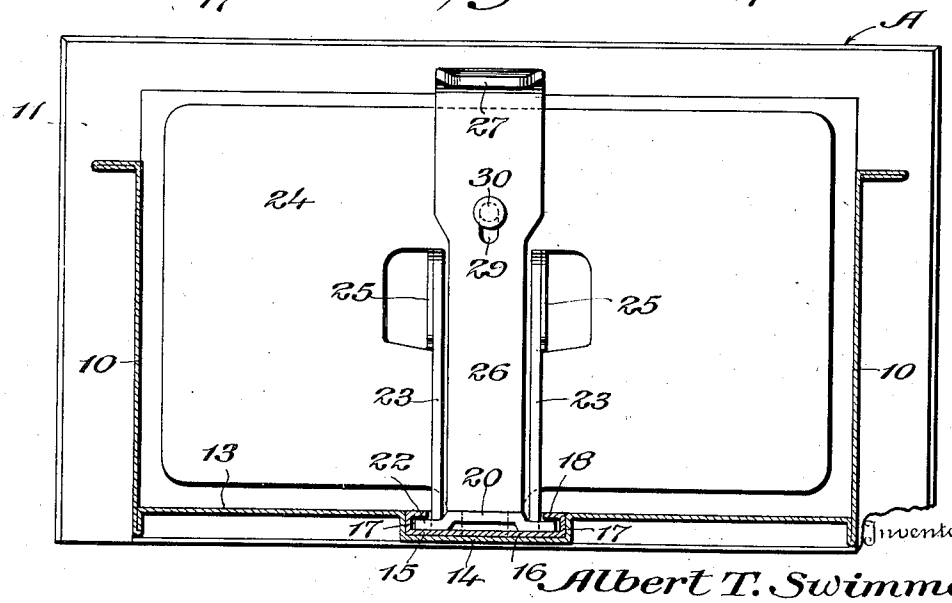


Fig. 5.



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UNITED STATES PATENT OFFICE

2,236,807

COMPRESSOR MECHANISM FOR FILING TRAYS OR DRAWERS

Albert Theodore Swimmer, Youngstown, Ohio, assignor to The General Fireproofing Co., Youngstown, Ohio, a corporation of Ohio

Application October 23, 1940, Serial No. 362,450

4 Claims. (Cl. 129—28)

This invention relates to trays or drawers for the vertical filing of index cards, letters and the like, and has particular reference to improvements in compressor mechanisms for varying the effective length of such trays or drawers.

Generally speaking, the object of the invention is to provide a thoroughly practical and satisfactory compressor mechanism which may be produced easily and economically and which is strong, durable and thoroughly reliable and efficient in use. On the other hand, a more particular and special object of the invention is to provide a compressor mechanism which serves effectively to maintain the compressor unit normally in operative assembly with the tray or drawer and which, at the same time, permits quick and easy removal of the compressor unit from the tray or drawer and its equally quick and easy replacement therein, simply and solely by manipulation of the compressor unit and without disturbing the tray or drawer-carried parts of the mechanism or the assembled relationship of the parts comprising the compressor unit.

With the foregoing and other objects in view, which will become more fully apparent as the nature of the invention is better understood, the same consists in the novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and defined in the appended claims.

In the accompanying drawings, wherein like characters of reference denote corresponding parts in the different views:

Figure 1 is a longitudinal section through a tray or drawer equipped with the present compressor mechanism and showing the compressor unit operatively assembled with the tray or drawer.

Figure 2 is a fragmentary view similar to Fig. 1, illustrating the manner in which the compressor unit initially is manipulated in order to effect its assembly with the tray or drawer.

Figure 3 is a fragmentary view similar to Fig. 1 illustrating a subsequent step in the manipulation of the compressor unit in order to effect its assembly with the tray or drawer.

Figure 4 is a fragmentary top plan view of the structure shown in Fig. 1.

Figure 5 is a transverse section on the line 5—5 of Fig. 1.

Figure 6 is a fragmentary perspective view of a front end portion of the tray or drawer; and

Figure 7 is a fragmentary perspective view of a rear end portion of the tray or drawer.

Referring to the drawings in detail, A designates generally, a tray or drawer which may be of any preferred construction but which preferably is formed from sheet metal and which includes, as usual, side walls 10, 10, front and rear walls 11 and 12, respectively, and a bottom wall 13.

In accordance with one practical embodiment of the invention and as illustrated in the present instance, the tray or drawer bottom wall 13 is provided midway between the side walls 10, 10 thereof with a depression 14 which extends longitudinally of the tray or drawer from end to end thereof and which has suitably fixed therein, as by welding, riveting or in any other suitable manner, a track element 15. By providing the depression 14 in the bottom wall 13 to accommodate the track element 15 the top of said track element may be disposed flush with said bottom wall. However, this is not essential, as the bottom wall 13 may be flat and the track element 15 may project thereabove. In any event, since the track element is fixed to said bottom wall it therefore constitutes to all intents and purposes a part of the tray or drawer, more particularly a part of the bottom wall thereof.

The track element 15 comprises a bottom wall 16, upstanding side walls 17, 17 and lateral flanges 18, 18 extending inwardly from the tops of said side walls 17, 17 above the bottom wall 16 and having their inner or adjacent edges spaced apart. Moreover, ratchet teeth 19 of lesser width than the bottom wall 16, are struck upwardly from said bottom along the central portion thereof at points spaced longitudinally therealong for a purpose which will presently appear.

The compressor unit comprises a sheet metal base 20 which may be of any suitable length and the body portion of which is of slightly lesser width than the space between the inner edges of the track element flanges 18, 18, whereby it may readily pass between said flanges. Projecting laterally from said base adjacent to the front end thereof and from opposite sides thereof, respectively, are tongues 21, 21, and projecting laterally from said base adjacent to the rear end thereof and from opposite sides thereof, respectively, are other tongues 22, 22.

Normally the base 20 is disposed in the track element 15 with its tongues 21, 22 underlying the track element flanges 18, 18, whereby it is retained in said track element for sliding movement therealong. In this connection and in order to

provide clearance space at the underside of the base 20 to accommodate the teeth 19, said base is transversely arched as illustrated in Fig. 5 of the drawings.

Extending upwardly from opposite sides of the base 20 near the rear end thereof are arms 23, 23, to which a compressor plate 24 is fastened in any suitable manner, as for example, through the instrumentality of tongues 25 bent therefrom and disposed against the arms 23, 23 and welded to said arms.

Against the rear face of the compressor plate 24, between the arms 23, 23, is slidably mounted for vertical movement a latch element 26 which, at its upper end, is provided with a suitable handle 27 and which, at its lower end, extends through an opening 28 in the base 20 for cooperation with the teeth 19. At its lower end said latch element is held against the compressor plate 24 and is guided for vertical movement by the walls defining the opening 28, while near its upper end said latch element is provided with a vertical slot 29 through which extends a headed pin 30 carried by the compressor plate 24 whereby its upper end portion is retained against said plate and is guided for vertical movement. By lifting said latch element to dispose its lower end above the teeth 19 the compressor unit is free to be slid along the track element 15, while by releasing said latch element and permitting it to gravitate to a lowered position, its lower end will cooperate with one or another of the teeth 19 to hold the compressor unit as an entirety against rearward movement relative to the drawer. Preferably the upper faces of the teeth 19 and the lower end of the latch element 26 are inclined downwardly and rearwardly in ratchet form so compressor unit is freely slidable forwardly without any necessity of manually manipulating the latch element.

The front wall 11 of the tray or drawer A is relatively thick and the depression 14 extends into said wall. On the other hand, the front end of the track element 15 is spaced rearwardly from the inner face of the front wall 11 by an amount slightly less than the length of the tongues 21. Therefore, when the base 20 is disposed in its normal position in the track element 15 with its tongues 21, 22 underlying the flanges 18 of said track element, it is not possible, by shifting the compressor unit to a forward position until its tongues 21 are alined with the space between the front end of the track element 15 and the inner face of the tray or drawer front wall 11, to lift the front end of the base 20 from said track element, since said space is, as stated, of slightly lesser length than said tongues 21. Consequently, there is no danger of the front end of the base 20 being tilted upwardly when, during the ordinary operation of the compressor unit, same is moved to any forward position in the drawer A. On the other hand, if the tongues 22 at the rear end of the base 20 are disposed above instead of beneath the flanges 18, 18, so that the rear end of said base may be lifted, it then is possible, by shifting said base forwardly until the rear ends of the tongues 21 clear the front ends of the flanges 18, 18, to remove the compressor unit from the track element 15 by upward tilting movement of the rear end of the base 20 combined with a rearward movement of said base to cause the tongues 21 to pass through the clearance space between the front ends of the flanges 18, 18 and the inner face of the tray or drawer front wall 11, as indicated by dotted lines in Fig. 2 of the drawings.

The track element 15 extends to the rear wall of the drawer A so that as long as the rear end of the base 20 is disposed within the drawer and its tongues 22 underlie the flanges 18, 18 it is not possible to lift the rear end of the compressor unit from the track element 15. In this connection it will be noted that an opening 31 is formed in the rear wall 12 of the tray or drawer in alinement with the track element 15 and that the bottom of said opening is disposed above the plane of the upper face of the bottom wall 16 of the track element 15 and below the plane of the under faces of the flanges 18 of said track by an amount slightly less than the thickness of the tongues 22. Therefore, the portion 12' of the end wall 12 below said opening 31 constitutes a stop engageable by the rear end of the base 20 to limit rearward sliding movement of said base and to maintain same entirely within the drawer during course of normal operation of the compressor. Also in this connection it is pointed out that the rear end portion of the track element 15 is not fastened rigidly to the bottom wall 13 of the drawer A, but is free to be sprung upwardly relative to said bottom an amount sufficient to permit the tongues 22 to be moved rearwardly through the opening 31 across the top of the stop wall 12'. Accordingly, by first shifting the base 20 rearwardly until its rear end contacts the stop 12' and by then lifting its rear end above said stop and in alinement with the opening 31, during which operation the rear end of the track element 15 is sprung upwardly, the rear end of the base 20 then is free to be moved further rearwardly through the opening 31. By then shifting said base rearwardly until the tongues 22 are disposed rearwardly of the rear ends of the flanges 18 and by then further lifting the rear end of said base until the tongues 22 are disposed above the plane of the tops of said flanges 18, as illustrated in Fig. 3, and by then moving said base forwardly the tongues 22 will become disposed in overlying relationship to the flanges 18 (see Fig. 2). By then shifting the base 20 to a forward position in which its front pair of tongues 21 are disposed forwardly of the front ends of the flanges 18, 18, as illustrated by full lines in Fig. 2, and by then lifting the rear end of said base and, at the same time, moving said base rearwardly, the compressor unit may be completely disengaged from the track element A, as illustrated by dotted lines in Fig. 2. To reassemble the compressor unit with the trackway, the operations recounted are, of course, simply reversed, the rear end portions of the flanges 18 being flared slightly upwardly if desired to facilitate engagement of the tongues 22 therebeneath. It will be apparent, therefore, that while the present mechanism insures retention of the compressor unit in operative assembly with the drawer under all ordinary and normal conditions, it nevertheless provides for quick and easy removal of the compressor unit from the drawer and its equally quick and easy replacement therein, whenever and for any reason desired, simply by manipulation of the compressor unit.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without depart-

ing from the spirit of the invention and scope of the appended claims.

I claim:

1. A filing tray or drawer having in its bottom a trackway extending longitudinally thereof and comprising a bottom wall, side walls and flanges extending inwardly from said side walls, said flanges being spaced above said bottom wall and also being spaced from each other, a compressor unit including a base of lesser width than the space between said flanges disposed in said trackway for sliding movement therealong, a first pair of tongues adjacent to the front end of said base extending from opposite sides thereof, respectively, into underlying relationship to said flanges, respectively, and a second pair of tongues adjacent to the rear end of said base also extending from opposite sides thereof, respectively, into underlying relationship to said flanges, respectively, whereby said base normally is retained in said trackway, means to retain said compressor unit in different positions of adjustment along said trackway, said drawer having front and rear clearance spaces with which said front and rear pairs of tongues may be alined and through which they may be lifted, respectively, to positions above said flanges to permit removal of said compressor unit from said trackway.

2. A filing tray or drawer including front and rear walls and having in its bottom a trackway extending longitudinally thereof and comprising a bottom wall, side walls and flanges extending inwardly from said side walls, said flanges being spaced above said bottom wall and also being spaced from each other, a compressor unit including a base of lesser width than the space between said flanges disposed in said trackway for sliding movement therealong, a first pair of tongues adjacent to the front end of said base extending from opposite sides thereof, respectively, into underlying relationship to said flanges, respectively, and a second pair of tongues adjacent to the rear end of said base also extending from opposite sides thereof, respectively, into underlying relationship to said flanges, respectively, whereby said base normally is retained in said trackway, means to retain said compressor unit in different positions of adjustment along said trackway, the front ends of said flanges being spaced rearwardly from the front wall of the drawer to provide a clearance space with which the front pair of said tongues may be alined and through which they may be lifted to positions above said flanges, and said drawer having a rear clearance space with which the rear pair of said tongues may be alined and through which they may be lifted to positions above said flanges, thereby to provide for removal of said compressor unit from said trackway.

3. A filing tray or drawer including front and rear walls and having in its bottom a trackway extending longitudinally thereof and comprising a bottom wall, side walls and flanges extending inwardly from said side walls, said flanges being spaced above said bottom wall and also being spaced from each other, a compressor unit including a base of lesser width than the space between said flanges disposed in said trackway for sliding movement therealong, a first pair of tongues adjacent to the front end of said base extending from opposite sides thereof, respectively, into underlying relationship to said flanges, respectively, and a second pair of tongues adjacent to the rear end of said base also extending from opposite sides thereof, respectively, into underlying relationship to said flanges, respectively, whereby said base normally is retained in said trackway, means to retain said compressor unit in different positions of adjustment along said trackway, the rear wall of said drawer having an opening therein affording a clearance space through which the rear end portion of said base may be slid to dispose the rear pair of tongues beyond the rear ends of said flanges and through which the rear end portion of said base may be lifted to position said rear pair of tongues above said flanges, said drawer having a front clearance space with which the front pair of said tongues may be alined and through which they may be lifted to positions above said flanges, thereby to provide for removal of said compressor unit from said trackway.

4. A filing tray or drawer including side walls, front and rear walls and a bottom wall, said bottom wall having a depression therein extending longitudinally thereof, a track element fixed in said depression, said track element including a bottom wall, side walls and flanges extending inwardly from its side walls and spaced above its bottom wall, said flanges being spaced from each other, a compressor unit including a base of lesser width than the space between said flanges disposed in said track element for sliding movement therealong, a first pair of tongues adjacent to the front end of said base extending from opposite sides thereof, respectively, into underlying relationship to said flanges, respectively, and a second pair of tongues adjacent to the rear end of said base also extending from opposite sides thereof, respectively, into underlying relationship to said flanges, respectively, whereby said base normally is retained in said track element, means to retain said compressor unit in different positions of adjustment along said trackway, the front ends of said flanges being spaced rearwardly from the front wall of the drawer to provide a clearance space with which the front pair of tongues may be alined and through which they may be lifted to positions above said flanges, and the rear wall of said drawer having an opening therein alined with said track element and affording a clearance space through which the rear end portion of said base may be slid to dispose the rear pair of tongues beyond the rear ends of said flanges and through which the rear portion of said base may be lifted to position said rear pair of tongues above said flanges, thereby to provide for removal of said compressor unit from said track element.

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