The present invention relates to improvements in fastening means for handles or for any other devices which are secured to doors, drawers, or any other articles or structural elements by means of two or more screws or the like.

One object of the present invention is the provision of a device of the character described which is adjustable according to the distance between holes in a door, drawer, or the like, so that it no longer will be necessary to search at length for a handle or the like which fits exactly the screw holes in an article whenever an exchanging of a handle or the like is necessary. According to the present invention, it is possible to use one and the same size of a handle or the like for a pair of holes which are spaced from each other, for instance, at a distance of two to three and three quarters of an inch, or a larger handle or the like for a proportionally larger range of distances between the holes through which are extended fastening screws or the like.

Another object of the present invention is the provision of a device of the character described which can be hidden entirely in one end portion of a handle or the like, so that the outer appearance will not be impaired, and which will allow a fastening at an equal strength as that attained with the hitherto known ordinary means.

A further object of the present invention is the provision of a device of the character described which is provided with a flexible spring arrangement for facilitating the lining up of attachment holes with a series of adjacent holes in a plate of my device.

Yet still another object of the present invention is the provision of a device of the character described which is simple in construction, small in size, light in weight, easy to operate, sturdy, durable, and well adapted for the purpose for which it is intended.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangements of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing a preferred form of the invention has been shown.

In said drawing:

Figure 1 is a side view of a preferred embodiment of my invention;

Fig. 2 is a sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a fractional sectional view on the line 3—3 of Fig. 2; and,

Fig. 4 is a sectional view on the line 4—4 of Fig. 2.

Similar reference characters refer to similar parts throughout the several views.

In the instance shown in the drawing my invention is illustrated in connection with a handle. However, it must be understood that the principle of my invention is not limited to handle but can be employed also on other articles such as latches, locks, door knockers, and many others. One of the end portions 2 of the handle 1 is of ordinary design, adapted for having screwed into it one or two screws 3, which extend through a panel 4 of a door or of a drawer or the like. The other end portion 5 of the handle 1 is partially excavated and has its base portion shaped as a longitudinal channel 7. A pair of grooves 10 are extended through opposite interior portions of the walls of the channel 7, and a plate 11 is slidable in the channel 7 and engages with its edge portions the grooves 10.

The plate 11 is provided with a row of threaded bores 12, each one of which is adapted for engaging the threads of a fastening screw 14. While the bores 12 can be in spaced relation to each other or adjacent each other, I prefer to make them run into each other, so that they form with each other a slot, the sides of which can be of a plurality of threaded arches. This arrangement allows a finer adjustment than if the bores 12 were wider spaced apart from each other. The screw 14, which may be a machine screw, or a sheetmetal screw or the like, preferably has a pointed or taper extremity 15. The bores 12 are threaded or designed according to the type of screw or the like used. When attaching the handle 1 to the member 4 the plate 11 is shifted in the channel 7 to a position in which the plate 11 will not protrude beyond the end portion 5 of the handle 1, and which position also will allow the engaging of one of the bores 12 by the screw 14 that extends through a fixed hole in the member 4. The actual attaching of the end portion 5 preferably is carried out after the end portion 2 has been at least loosely attached by means of one of the screws 3. The screwing of the screw 14 into one of the bores 12 will be facilitated by the pointed or taper end 15, which makes it easy to align the selected bore 12 to the screw 14.

While the construction described so far will be satisfactory in many cases, I prefer to interpose a spring 17 between the plate 11 and the end portion 5 of the handle 1. The end portion 5 of the handle 1 has an excavation 20 for receiving that portion of the screw 14 which protrudes beyond the plate 11 into the handle 1. This excavation 20 preferably has an increased portion 21 for receiving the spring 17, and the plate 11 preferably has one or more notches 22 for receiving the curved upper end 23 of the spring 17.

Thus the plate 11 is held in position by the end 23 of the spring 17 engaging a notch 22. The spring 17, after its end 23 has engaged the notch 22, still allows a limited lengthwise movement of the plate 11; this movement takes place only after a screw 3 is inserted into the end portion 2 of the handle 1, for allowing the pointed end 15 of the screw 14 to find a bore or a pair of opposite threaded arculated portions 12 into which the screw 14 can be screwed. While the spring 17 can be constructed in any suitable manner, I prefer to make it substantially U-shaped (Fig. 4), having a web portion 24, which rests upon the bottom of the increased excavation portion 21, and having a zigzag flange portion 25, the upper end 23 of which engages a notch 22, as previously referred to. The other flange portion of the spring 17 can be made lower than the flange portion 25. This shape and arrangement of the spring 17 in the excavation 20 will prevent a moving of any portion of the spring to the center of the row of bores 12. This can also be achieved by using an ordinary spring member (not shown) and providing between it and the space beneath the bores 12 a wall portion (not shown) in the excavation 20. The arrangement of the spring 17 and the increased excavation portion as shown allow a
free movement of the spring 17 between the excavation wall portions 30 and 31 (Fig. 3), so as to resist the shifting movement of the plate 11 while the spring portion 23 engages the notch 22. This greatly facilitates the lining up of the screw 14 with one of the bores 12.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claim is intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which as a matter of language might be said to fall therebetween.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent is:

An adjustable fastening means for handles and the like comprising a first member adapted to be attached to a second member and having an end portion, a plate mounted in said end portion and laterally shiftable relative thereto, said plate having a longitudinal slot formed of a row of pairs of opposing arcuate threaded portions, resilient means interposed between the plate and said first member to resist the shifting movement of the plate relative to the first member and a screw extending through said second member and being screwed into a pair of said opposite arcuate portions in said plate.

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