

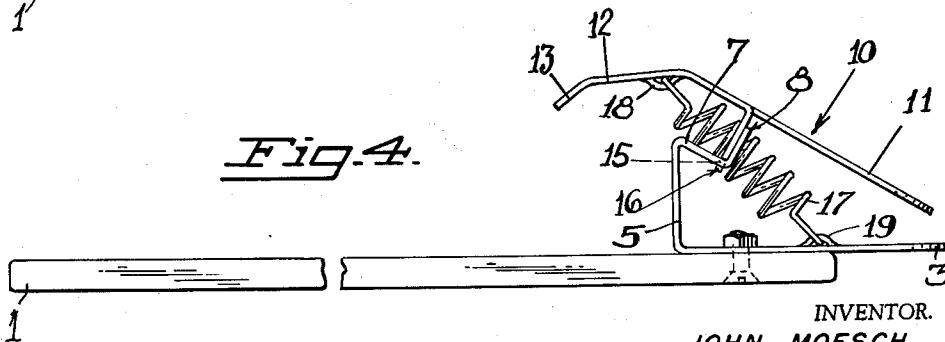
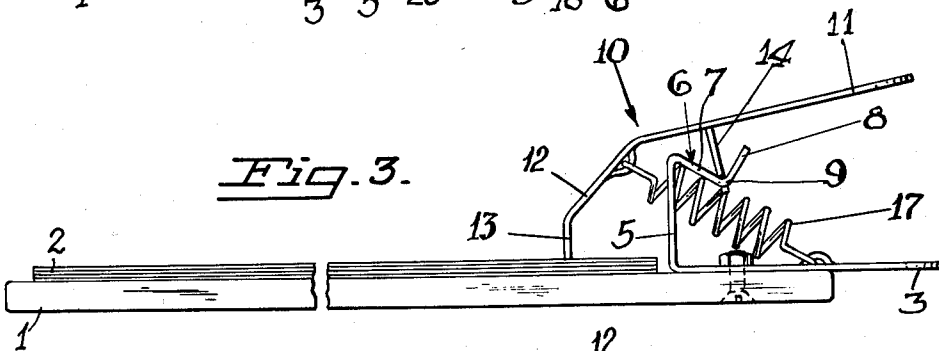
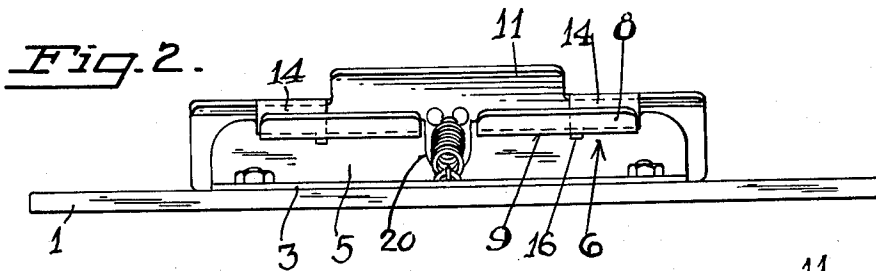
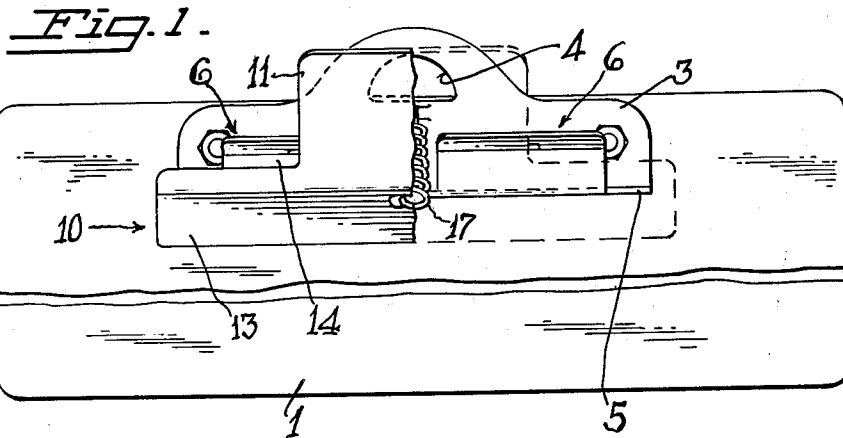
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PAPER CLIP

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1

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PAPER CLIP

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2 Claims. (Cl. 24-66)

This invention relates to paper clips for holding sheets of paper or the like.

The present invention provides a novel paper clip having a clamping member which is adapted to be held in a closed clamping position with respect to a sheet supporting clip board or in an open sheet receiving position by the same spring means. Unlike the paper clips of the type requiring the continued application of hand pressure to maintain the paper clamping member in an open position for receiving and removing loose sheets, my improved clip embodies a spring actuated clamping member which is adapted to be held in either a closed or an open position by the same tension spring. The clamping member is easily swung to an open, released position permitting the removal or insertion of loose sheets, and similarly it may be swung in the opposite direction to a closed, clamping position with respect to the inserted sheets.

One of the objects of my invention is to provide a clip that is capable of firmly holding a number of sheets, such clip being capable of being manually controlled with a minimum of effort for both releasing and holding operations.

Another object of my invention is to provide an improved clip which is capable of securely holding one or more sheets, and yet may be easily actuated and automatically held in a released position permitting the insertion of additional sheets or their removal.

Other and further objects of my invention will be pointed out hereinafter or will be indicated in the appended claims or will be obvious to one skilled in the art upon an understanding of the present disclosure. For the purpose of this application, I have elected to show herein certain forms and details of a paper clip which is representative of my invention; it is to be understood, however, that the embodiment herein shown and described is for purposes of illustration only, and therefore it is not to be regarded as exhaustive of the variations of the invention in the art.

In the accompanying drawing:

Fig. 1 is a plan view of a paper clip embodying my invention, showing parts broken away;

Fig. 2 is a rear end elevational view of the clip;

Fig. 3 is a side elevational view of the clip, showing the clamp member in a closed or clamping position with respect to a number of sheets supported on a board; and

Fig. 4 is a similar view showing the clamp member in a released position.

Referring to the drawing, the numeral 1 designates a plate or board, preferably of generally rectangular shape, on which sheets 2 of paper or the like are supported. Secured to the rear end of the board as by bolts and nuts or rivets is a base plate 3 provided with an opening 4 by means of which the device may be hung on a hook or nail when not in use. Secured to and extending upwardly at substantially right angles from the base plate 3 is a supporting element 5 which has two (2) laterally spaced, rearwardly disposed, substantially V-shaped ex-

2

tensions or fulcrum members of the same size and shape at its upper end, each of which is generally designated by the numeral 6, and each comprising a rearwardly declining portion 7 joined to a rearwardly inclined portion 8 at an apex or fulcrum 9. The fulcrum or grooves 9 are transversely aligned. Overlying the upper or rear end portion of the base plate 3 is a clip generally designated by the numeral 10. The clip is provided with a rearwardly disposed finger engageable actuating portion 11, an intermediate portion 12, and a forwardly disposed sheet gripping portion or jaw 13, which is arranged in clamping relationship with the board 1, such gripping member being adapted to engage with the sheets 2 supported on the board 1. It is to be noted from Fig. 2 that the rear portion 11 is slightly inclined, the intermediate portion 12 is sharply inclined, and the jaw 13 is substantially vertical.

Secured to and positioned at substantially right angles to the rear portion 11 of the clip 10 are two downwardly extending flanges or levers 14 of the same length, the lower ends of which rest on the fulcrums 9 of the V-shaped extensions. The fulcrums 9 are each provided with a small slot 15 within which two depending tongues 16, carried by the downwardly extending flanges 14, snugly but movably fit, the tongues and slots being adapted to prevent the lateral as well as the forward or rear displacement of the clip from its operating position.

An inclined, elongated coiled tension spring 17 or its equivalent is connected at its ends to eyes 18 and 19 which are struck from or otherwise attached to the intermediate portion 12 of the clip 10 and the base plate 3, respectively. The upper and lower ends of the spring are preferably adjustably fastened to the eyes 18 and 19, respectively, so as to permit such spring to swing upwardly and downwardly without undue resistance as the clip is rocked rearwardly and forwardly, but this is necessary to the operation of the device, since the spring is flexible substantially along its entire length. The spring 17 extends through a centrally disposed opening 20 in the supporting element 5, such opening being positioned between the V-shaped extensions 6.

The spring 17 and the eyes 18 and 19 joining it to the intermediate portion 12 of the clip 10 and the base plate 3 are so arranged with respect to the fulcrums 9 that the spring 17 will normally exert a downward and rearward pull on the clamping jaw 13, thereby causing the jaw to engage firmly with or grip the board 1 or the sheet or sheets 2 supported thereon, as shown in Fig. 3. When the jaw is in gripping relationship with the board 1, the longitudinal axis of the spring 17 is positioned well below the level of the fulcrums 9, as shown in Fig. 3, but when the rear portion 11 of the clip is manually depressed and the latter rocks in a clockwise direction about the fulcrums 9, the spring swings upwardly, first to a position in which its axis intersects a horizontal line passing through the fulcrums and then to a position wherein its axis is well above the level of the fulcrums as shown in Fig. 4. When the clip 10 is rocked in a clockwise direction (Fig. 4) sufficiently to carry the spring 17 to a position wherein its axis is just above the level of the fulcrums 16, the spring takes over and continues automatically to rock the clip sufficiently to bring the latter into a position wherein its gripping jaw 13 is in a raised position with respect to the board 1 as shown in Fig. 4, and the spring continues to hold the clip in such an open position until the forward end portion thereof is again manually depressed. The rearwardly inclined portions 8 of the V-shaped extensions 6 are positioned to intercept and hold the downwardly extending flanges 14 against further rearward movement when the clip rocks in a clockwise direction (Fig. 4). It is also to be noted that when the clip is manually rocked toward its closed

3

position in a counterclockwise direction (Fig. 4), the spring 17 takes over automatically at a certain point in such movement and automatically snaps the jaw down against the papers supported on the board 1.

Since the spring 17 holds the clip 10 in an open position with its clamping jaw 13 raised above the board, a person using the device is free to employ both of his hands to arrange sheets suitably on the board or to remove them. In arranging sheets on the board for subsequent clamping engagement by the clip, the upstanding supporting element 5 provides an abutment which assists in positioning the sheets in corresponding superimposed positions.

It is to be noted with respect to the clip 10 that the so-called intermediate portion 12 which is positioned in an angular position with respect to the rear portion 11 may carry a board engaging jaw at its forward edge, which jaw may be in the plane of the intermediate portion, rather than at an angle with respect thereto.

What I claim is:

1. In a paper clip, a sheet supporting board, a base plate secured to the board, an upstanding supporting member secured to the base plate, laterally spaced fulcrum flanges secured to and extending rearwardly of the supporting member, the fulcrum flanges having laterally spaced and transversely aligned V-shaped grooves, the sides of the grooves being in intersecting planes, and the fulcrum flanges having slots at the juncture of the sides of the grooves, a clip overlying the base plate and fulcrum flanges and arranged for forward and rearward rocking movement, the clip having a forward jaw engageable with the board, laterally spaced depending flange elements secured to the clip, the flange elements resting on fulcrum flanges and having depending tongues extending into the slots, the flange elements being arranged for forward and rearward rocking movement and being engageable with the sides of the grooves when at their ex-

4

treme rearward positions, and an inclined coil tension spring connected to and interposed between the clip and the base plate.

2. In a paper clip, a sheet supporting board, a base plate secured to the board, an upstanding supporting member secured to the base plate, laterally spaced fulcrum flanges extending rearwardly of the supporting member and each having similarly positioned and shaped downwardly converging connected sides forming transversely aligned fulcrum means, a clip overlying the base plate and the fulcrum flanges and arranged for forward and rearward rocking movement, depending laterally spaced flange elements secured to the clip and arranged with their lower ends resting on the fulcrums, the flange elements being arranged for forward and rearward rocking movement and being engageable with the rearwardly disposed sides of the fulcrum flanges and a forwardly inclined coil tension spring connected at its ends to the clip and the base plate, the spring extending between the fulcrum flanges and such spring being adapted to swing downwardly when the clip is rocked forwardly to a position in which the longitudinal axis of such spring extends below the level of the fulcrums and such spring being arranged to swing upwardly when the clip is rocked rearwardly to a position in which the longitudinal axis of such spring extends above the level of the fulcrums.

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