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2,952,884

COUNTER-BALANCE CONNECTOR DEVICE

Filed Sept. 8, 1958

2 Sheets-Sheet 1

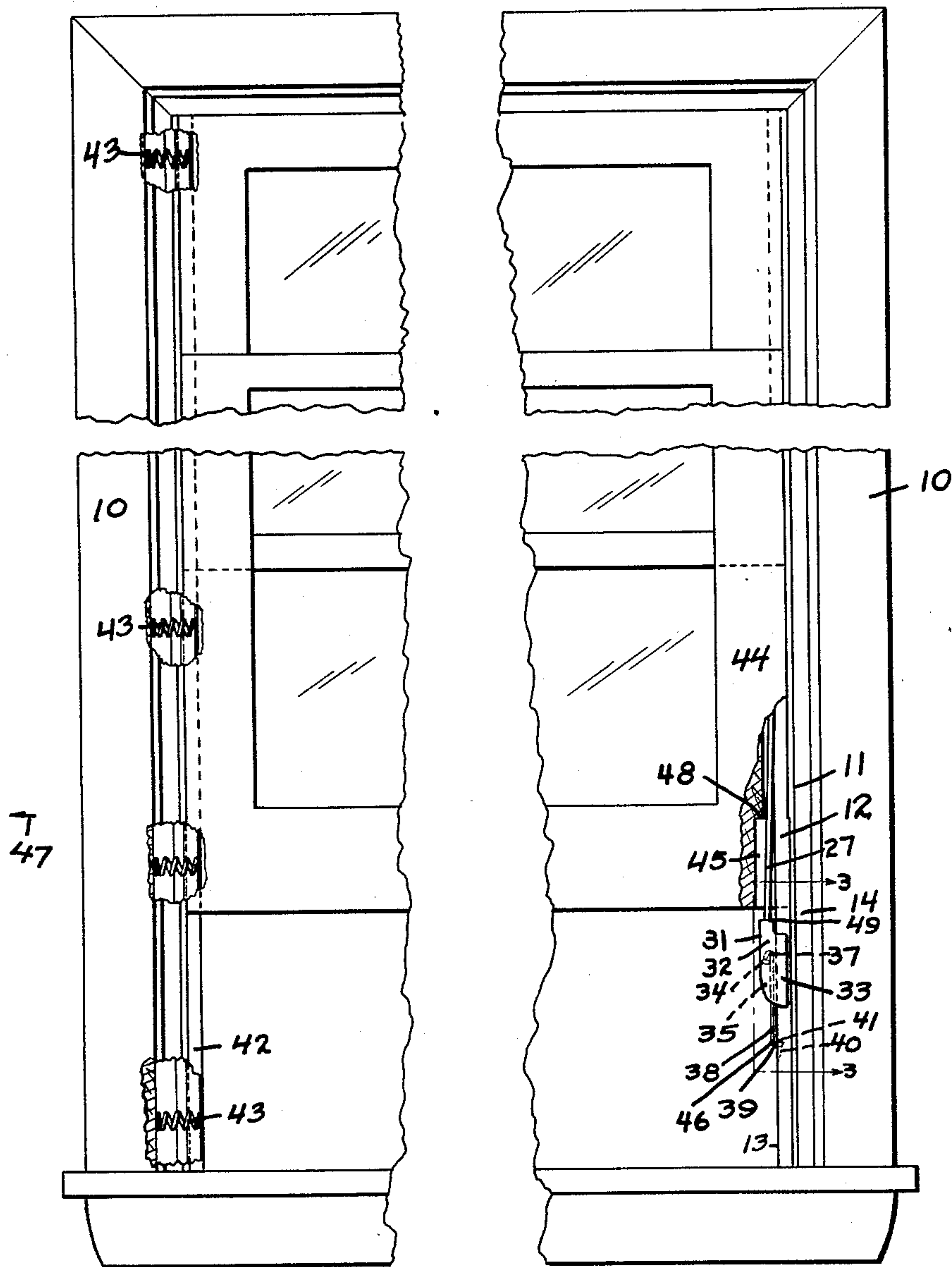


Fig. 1

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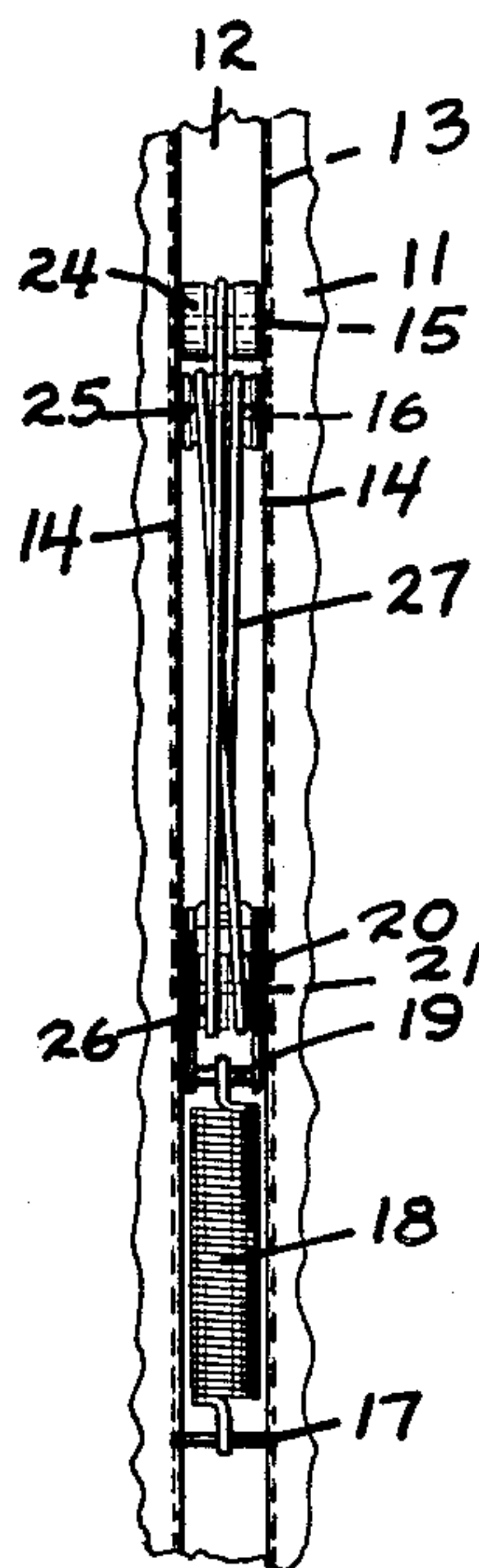
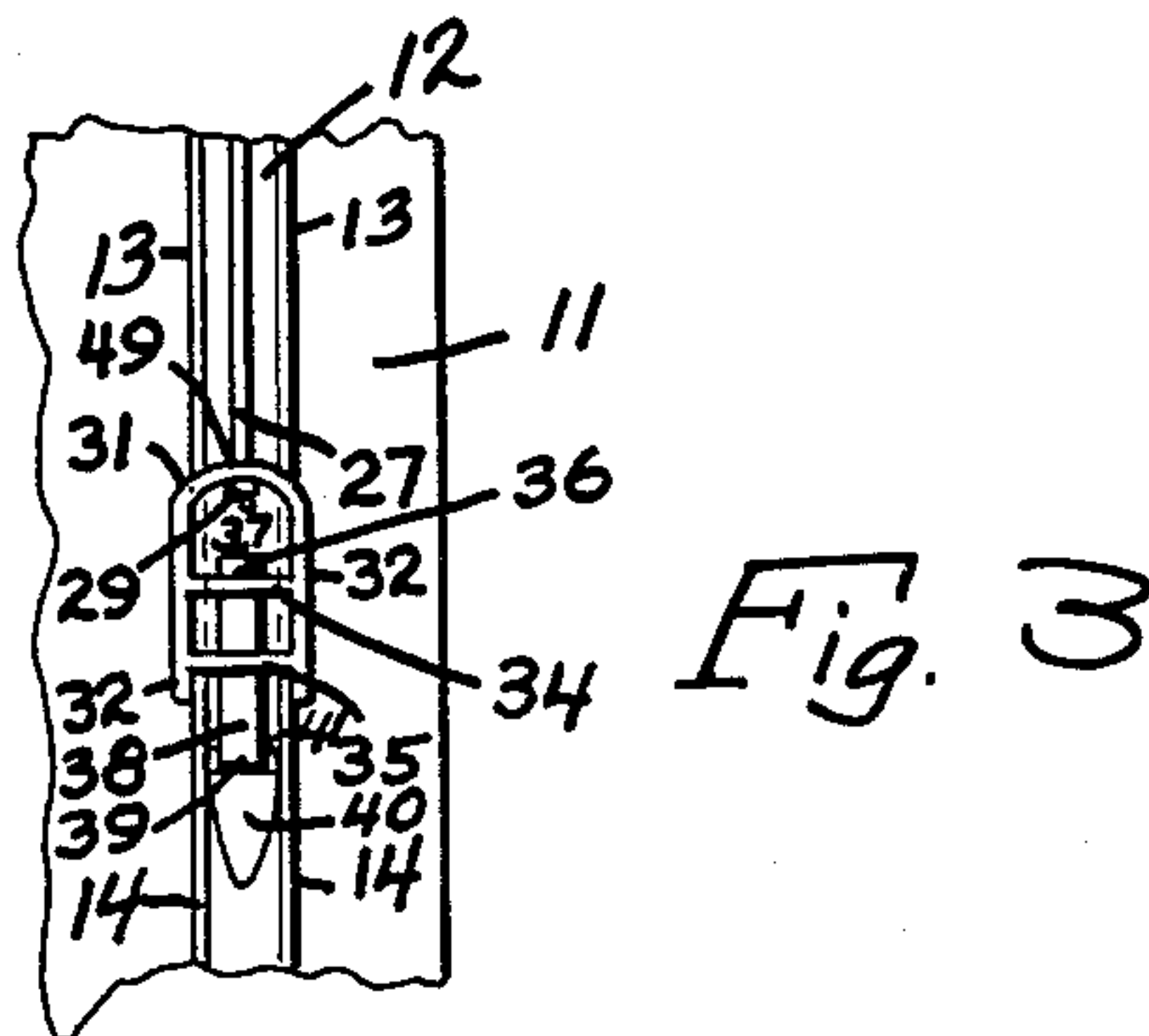
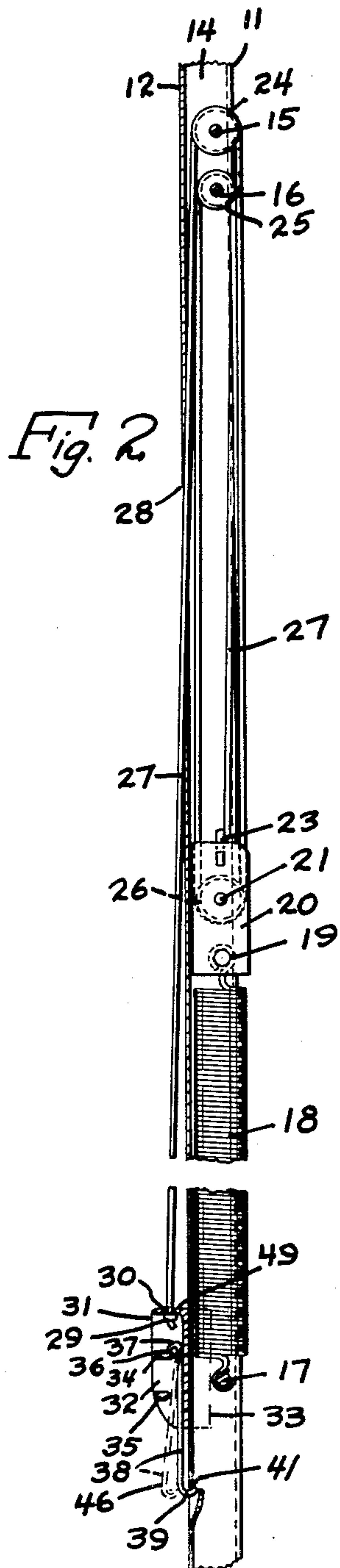
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COUNTER-BALANCE CONNECTOR DEVICE

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1 Claim. (Cl. 20—52.2)

My invention relates to a device which will transfer the spring or other energy of a sash balance from the sash itself to the stationary jamb.

An object of my invention is to provide a very simple device which is incorporated in a window arrangement, in such a manner that the energy of the sash balance can be transferred from the window sash to the jamb, thereby disconnecting the sash balance, so that the window can then be readily removed, so that the said window can then be washed on both sides, etc. if such is desired.

A further object of my invention is to provide a simple arrangement whereby the energy can be transferred, or replaced by a simple manual operation.

A further object of my invention is to provide a spring counter-balance arrangement which is an integral part of the window weatherstripping.

With these and other objects in view, my invention consists in the construction, arrangement, and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which:

Figure 1 is a forward elevation of a window structure using my device, with fragmentary sections,

Figure 2 is a sectional view taken longitudinally of the weatherstripping containing the sash counter-balance,

Figure 3 is an enlarged view of Figure 1 taken along the line 3—3 thereof,

Figure 4 is an end view of the integral counterbalance.

I have used the character 10 to designate the window frame or jamb portion, which includes on one side the weatherstripping 11 including the channel portion 12 having the slightly raised ribs 13. The character 14 indicates the sides of the channel 12, and attached to these sides 14 are the various pins, or shafts 15, 16 and 17, a helical spring 18 being attached to the pin 17, and being attached to a further pin 19 which is secured to a movable carriage 20, in which carriage is attached a small shaft 21. A length of cable is attached at 23 to the carriage 20 and passes over the various pulleys 24, 25 and 26 in a manner approximately similar to that discussed in Patent No. 2,262,990 issued November 18, 1941, to George C. Cross and Dawson J. Dinsmore, with the exception that fewer rollers are employed herein, the principle however being substantially the same as discussed in the afore-said patent, except that in the present instance it will be noted that this counter-balance arrangement is formed integrally with the weatherstripping instead of employing a separate casing; which is an important feature inasmuch as it provides for a simpler structure and includes other advantages as well. The cable itself is indicated by the character 27 and passes through the lengthened opening 28 in the channel member 12, the cable thence terminating in a knot 29 which is positioned beneath the opening 30 in a small plastic connector device 31, having the side walls 32, and the further extending sidewall portions 33, which portions 33 are adapted to slide against the channel side walls 14.

The member 31 also includes the transverse ribs 34 and 35 and resting upon the transverse rib 34 at 36 is the end of a downwardly bent lip 37 which is formed from the metal strip 38, the strip 38 terminating in a further lower upwardly bent lip 39.

Formed in the end wall of the channel 12 is a small pocket 40 allowing engagement at 41 of the lip 39.

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The other side of the window frame includes somewhat similar weatherstripping 42, and behind this weatherstripping are the springs 43 which bear against the window frame portions.

The device operates in the following manner. Normally, the small strip 38 will occupy the dotted position shown in Figure 2, since due to the lip structures 37 and 39 the tendency will be for the strip to balance in this position, and during this position the counter-balance is always engaged with the member 31, and similarly with the window sash 44 itself so that when the window is raised or lowered the counter-balance will be constantly functioning. The sash includes a hollow pocket at 45 for normally receiving the member 31.

When it is desired to release the window sash from the counter-balance, the window is first lowered to practically its lowest position, and then slightly raised, and next the finger of the hand is laid generally at approximately 46 (see Figure 2) against the lip portion 41, and by then raising the window sash a little further the lip 39 will then engage at 41, which will thereby transfer the energy from the counter-balance to the jamb or frame itself, and the window can then be raised slightly further, and by pressing the window in the direction of the arrow 47 (see Figure 1) against the spring pressure 43, the groove in the sash will be cleared of the channel 12, and the window can then be taken out into the room for washing, painting, etc., and afterward the window can be re-inserted by the reverse process and by then merely forcing the window downwardly again, and pushing it downwardly sufficiently, the upwardly bent lip 39 will automatically re-occupy the position shown by the dotted line in Figure 2, or as soon as the ledge 48 abuts against the top 49 of the member 31.

It should be understood that any type of counter-balancing structure could be used in the integral formation as shown without departing from the spirit of my invention.

Some changes may be made in the construction and arrangement of the parts of my invention without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claim any modified forms of structure or use of mechanical equivalents which may be reasonably included within its scope.

I claim as my invention:

In combination with a window frame and a window sash operating in said frame, and a counter-balance in said frame, a connector member attached to said frame and connected to said counter-balance, means for releasing said connector member whereby said counter-balance will function with said sash, said connector member including an upper transverse flange and a lower transverse flange, said flanges having slots therein, said means including a strip element having an upper downwardly bent lip and a lower upwardly bent lip, an abutment portion on a weather stripping channel in said frame for engaging said lower upwardly bent lip when said lower lip is forced inwardly, said strip element being placed so that said lower lip will be in disengaged position with said abutment portion when hanging normally, a cable attached to said counter-balance being attached to said connector member, said upper downwardly bent lip normally resting upon said upper transverse flange.

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