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H. J. MURPHY

2,177,599

SEPARABLE TOP STOP FOR MULTIPLE OPERATED FASTENERS

Original Filed Feb. 27, 1935

Fig. 1

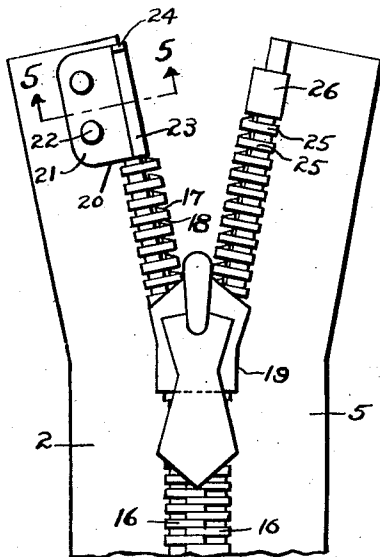


Fig. 2

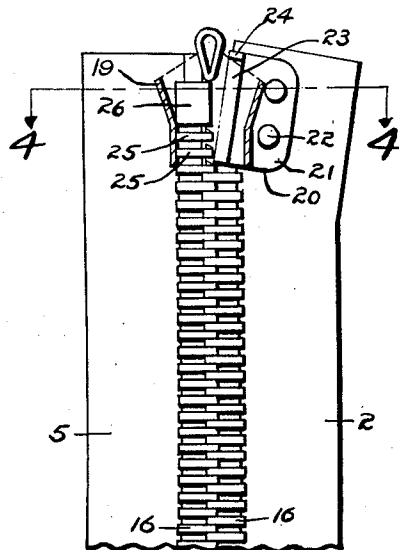


Fig. 3

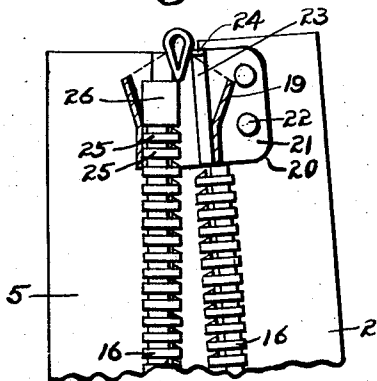


Fig. 4

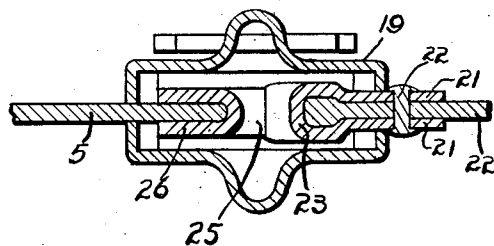
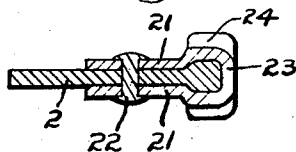


Fig. 5



Inventor:
Howard J. Murphy.
by **Walter J. Ames** *Att'y*

UNITED STATES PATENT OFFICE

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SEPARABLE TOP STOP FOR MULTIPLE
OPERATED FASTENERS

Howard J. Murphy, Greenwood, Mass., assignor
to United-Carr Fastener Corporation, Cam-
bridge, Mass., a corporation of Massachusetts

Original application February 27, 1935, Serial No.
8,538, now Patent No. 2,114,747, dated April 19,
1938. Divided and this application October 30,
1937, Serial No. 172,003

5 Claims. (Cl. 24—205)

My invention relates to improvements in sepa-
rable top stops for slide fasteners.

This application is a division of my co-pend-
ing application, Serial No. 8,538, filed February
27, 1935.

In the drawing, which illustrates a preferred
embodiment of my invention—

Figure 1 is a front elevational view of the
upper portion of a multiple operated fastening
strip showing my invention;

Fig. 2 is a rear elevational view similar to that
of Fig. 1 but showing the slider in full position
to effect complete engagement with the fastener
elements;

Fig. 3 is a rear view similar to that of Fig. 2
showing the manner by which complete dis-
engagement of one of the stringers from the
slider body may be carried out when the fas-
teners have been accidentally disengaged below
the slider;

Fig. 4 is an enlarged section taken along the
line 4—4 of Fig. 2; and

Fig. 5 is an enlarged section taken along the
line 5—5 of Fig. 1.

Referring to the embodiment of my invention
selected for illustration of my improved top stop
device, I have shown a stringer 2 in the form
of a tape having a beaded edge 3 and a stringer
5 having a beaded edge 6. To the bead of each
stringer 2 and 5 I have attached a series of fas-
tening elements 16 which may be of any well
known construction. I prefer, however, to use
fastening elements, each of which has a pro-
jection 17 on one face and a recess 18 on the
other face, as illustrated in Fig. 1. I have also
provided a slider 19 which moves relative to the
fastening elements 16 to engage and disengage
them in the usual manner.

One trouble which has been encountered with
fastening means of the multiple operated type
has resulted from the fact that the fastening
elements 16 sometimes become accidentally dis-
engaged below the slider thereby preventing
downward movement of the slider beyond the
point where the fasteners are disengaged. In
order to make it easy to place the parts in proper
operating positions after such an accident, I
have provided a simple and efficient stop mem-
ber 20 herein illustrated as being secured to the
stringer 2 just beyond the upper end of the
series of fastening elements 16 secured to that
stringer. This stop member, in my preferred
form, is provided with opposed stringer-engag-
ing portions 21—21 secured to opposite sides of
the stringer 2 as by rivets 22 and preferably

connected adjacent to the beaded edge 6 by a
relatively narrow beaded portion 23 adapted for
purposes hereinafter described. I do not wish
to be limited by this particular construction of
the stop member 20 because it will be understood
that means other than the stringer-engaging
portions 21—21 may be employed for securing
the stop member to the stringer. My preferred
stop member 20 has a pair of oppositely-project-
ing ears 24—24 which prevent the slider from
being moved entirely past the stop member. Op-
posite this stop member 20 on the stringer 5
I have provided fastening elements 25 which
are to act as means to prevent that stringer
from pulling through the slider when in its up-
permost position. Any other suitable means for
accomplishing this purpose may be used. It
will be noticed that I have provided two fasten-
ing elements 25 at the uppermost end of the
series of elements 16 on the stringer 5 which
do not engage with elements 16 on the opposed
stringer 2, but instead are adapted merely to
engage a wall of the slider 19 (Fig. 2) so as to
limit lateral movement of the slider relative to
the strip. I have attached to the stringer 5,
beyond the pair of non-engaging fastening ele-
ments 25, a clamping piece 26 which acts mostly
as a protector against displacement of the pair
of elements 25 on that stringer.

When the slider is moved to a position where
it engages the ears 24—24 of the stop member
20 (Fig. 2), the stringers may be separated after
the fastening elements 16 on respective stringers
have become accidentally disengaged below the
slider by merely grasping them and pulling them
apart laterally to disengage the fastener ele-
ments 16 of the respective stringers. As the last
two fastener elements 16 just below the slider
are disengaged, then the non-engaging elements
25 and the clamping piece 26 on the stringers 5
may be moved out of the bottom of the slider
because the width of the bead 23 of the stop
member 20 is sufficiently narrow to permit pas-
sage of the elements 25 and the clamping piece
26 between the outer edge of the bead and the
wall of the slider, as clearly illustrated in Fig. 3.
After the stringer 5 has been pulled entirely
free from the slider 19, then the slider may be
moved to the bottom of the stringer 2 and the
bottom stop fastening means (not shown) may
be engaged and the slider moved upwardly again
properly to engage the fastening elements 16.

Thus by my invention I have provided a simple
and inexpensive means for effectively permitting
separation of the stringers of a multiple operated

device, when there has been an accidental separation below the slider, and thereby have provided a new and useful improvement in the art.

While I have illustrated and described a preferred embodiment of my invention, I do not wish to be limited thereby because the scope of my invention is best defined in the following claims.

I claim:

1. A multiple operated slide fastener comprising, in combination, flexible stringers carrying opposed series of interengageable fastener elements, an actuating slider movable longitudinally of the series for bringing the fastener elements of the opposed series into operative engagement, said slider having a Y passage and spaced wings provided with inwardly-directed edges forming the outer walls of converging guide channels at the upper end of said slider and a single channel at its lower end, a one-piece top stop member secured to one of said stringers having stop means adapted to abut said slider to limit fastener closure movement thereof, said stop member having a portion of such dimensions as to permit it to enter one of said guide channels when said slider abuts said stop means, at least one clamping member adjacent the edge of the other stringer from that to which said top stop member is secured, said clamping member being of such dimensions as to permit it to enter the other of said channels when said slider abuts said stop means and having a thickness greater than the distance between inwardly-directed edges of said wings preventing lateral movement of said stringer through said wings, said interengageable elements terminating outside said slider when said slider abuts said stop means and said stop member and said clamping member having combined widths at points on the bodies thereof which are less than the width of said single channel thereby permitting said stringer having said clamping member to be removed from said slider longitudinally downwardly thereof when said interengaging fastener elements have been disengaged.

2. A multiple operated slide fastener comprising, in combination, flexible stringers carrying opposed series of interengaging fastener elements, an actuating slider movable longitudinally of the series for bringing fastener elements of the opposed series into operative engagement, said slider having a Y passage and spaced wings provided with inwardly-directed edges forming the outer walls of converging guide channels at the upper end of said slider and a single channel at its lower end, a one-piece top stop member secured to one of said stringers having stop means adapted to abut said slider to limit fastener closure movement thereof, said stop member having a portion of such dimensions as to permit it to enter one of said guide channels when said slider abuts said stop means, at least one clamping member adjacent the edge of the other stringers from that to which said top stop member is secured, said clamping member being of such dimensions as to permit it to enter the other of said channels when said slider abuts said stop means and having a thickness greater than the distance between inwardly-directed edges of said wings preventing lateral movement of said stringer through said wings, one of said members having an end portion disposed within said single channel when said slider abuts said stop means and the combined widths of said portion disposed within said single channel and

said other member being less than the width of said single channel thereby permitting said stringer having said clamping member to be removed from said slider longitudinally downwardly thereof when said interengaging fastener elements have been disengaged.

3. A multiple operated slide fastener comprising, in combination, flexible stringers carrying opposed series of interengaging fastener elements, an actuating slider movable longitudinally of the series for bringing fastener elements of the opposed series into operative engagement, said slider having a Y passage and spaced wings provided with inwardly-directed edges forming the outer walls of converging guide channels at the upper end of said slider and a single channel at its lower end, a one-piece top stop member secured to one of said stringers having stop means adapted to abut said slider to limit fastener closure movement thereof, said stop member being of such dimensions as to permit it to enter one of said guide channels to dispose a portion thereof within said single channel when said slider abuts said stop means, at least one clamping member adjacent the edge of the other stringer from that to which said top stop member is secured, said clamping member being of such dimensions as to permit it to enter the other of said channels when said slider abuts said stop means and having a thickness greater than the distance between inwardly-directed edges of said wings preventing lateral movement of said stringer through said wings, said portion of said stop member disposed within said single channel and said clamping member having combined widths which are less than the width of said single channel permitting said stringer having said clamping member to be removed from said slider longitudinally downwardly thereof when said interengaging fastener elements have been disengaged.

4. A multiple operated slide fastener comprising, in combination, flexible stringers carrying opposed series of interengaging elements, an actuating slider movable longitudinally of the series for bringing fastener elements of the opposed series into operative engagement, said slider having a Y passage and spaced wings provided with inwardly-directed edges forming the outer walls of converging guide channels at the upper end of said slider and a single channel at its lower end, a one-piece top stop member secured to one of said stringers having stop means adapted to abut said slider to limit fastening closure movement thereof, said stop member being of such dimensions as to permit it to enter one of said guide channels to dispose a portion thereof substantially through said channel when said slider abuts said stop means, at least one clamping member adjacent the edge of the other stringer from that to which said top stop member is secured, said clamping member being of such dimensions as to permit it to enter the other of said channels and having a thickness greater than the distance between inwardly-directed edges of said wings preventing lateral movement of said stringer through said wings, said interengageable elements terminating adjacent the lower end of said slider and outside the same when said slider abuts said stop means, said portion of said stop member disposed within said single channel and said clamping member having combined widths which are less than the width of said single channel permitting said stringer having said clamping member to be re-

moved from said slider longitudinally downwardly thereof when said interengaging fastener elements have been disengaged.

5 5. A multiple operated slide fastener comprising, in combination, flexible stringers carrying opposed series of interengaging elements, an actuating slider movable longitudinally of the series bringing fastener elements of the opposed series into operative engagement, said slider having a Y passage and spaced wings provided with
10 inwardly-directed edges forming the outer walls of converging guide channels at the upper end of said slider and a single channel at its lower end, a top stop secured immediately adjacent
15 the end of the series of elements on one of said stringers, said top stop member being secured to said stringer adjacent the edge thereof and

having laterally-extending stop means at its upper end adapted to abut the upper end of said slider to limit closure movement thereof, said stop member being of such dimensions as to permit it to enter one of said guide channels
5 to dispose a portion thereof substantially through said channel when said slider abuts said stop means, said portion of said stop member disposed within said single channel and said clamping member having combined widths which are
10 less than the width of said single channel permitting said stringer having said clamping member to be removed from said slider longitudinally downwardly thereof when said interengaging fastener elements have been disengaged. 15

HOWARD J. MURPHY.