

Sept. 20, 1966

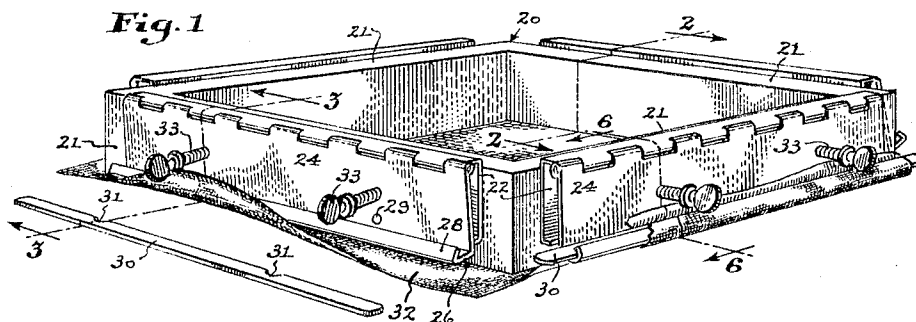
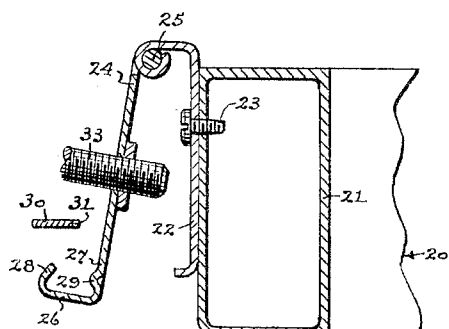
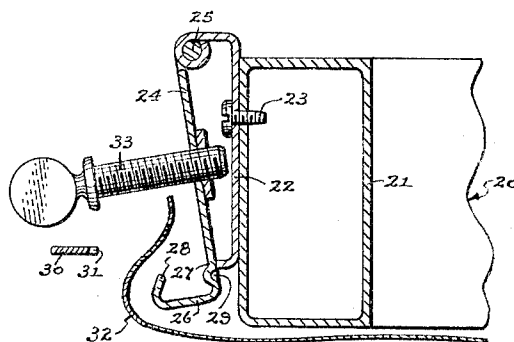
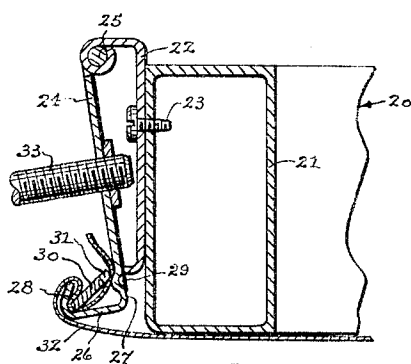
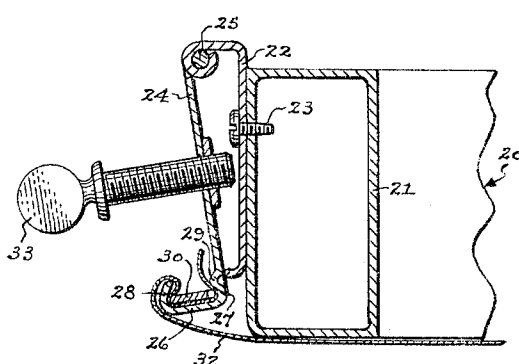
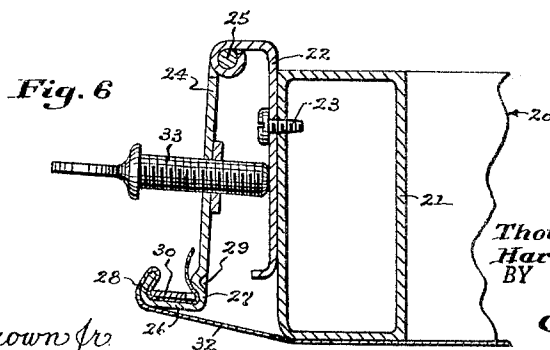
T. J. ROSEMA ET AL

3,273,497

SCREEN STENCIL FRAME

Filed Jan. 23, 1964

2 Sheets-Sheet 1



WITNESS

Harry S. Brown Jr

INVENTORS
 Thomas James Rosema
 Harry Russell Farwell
 BY
 John S. Braddock
 Attorney

Sept. 20, 1966

T. J. ROSEMA ET AL

3,273,497

SCREEN STENCIL FRAME

Filed Jan. 23, 1964

2 Sheets-Sheet 2

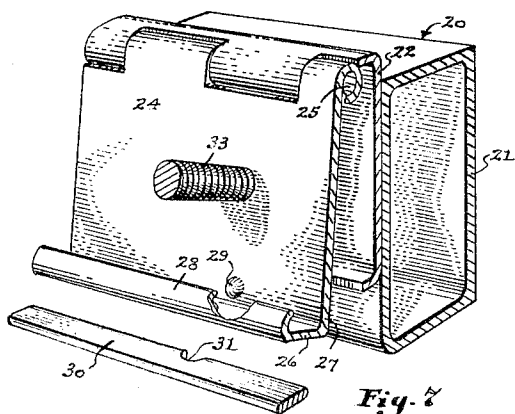


Fig. 7

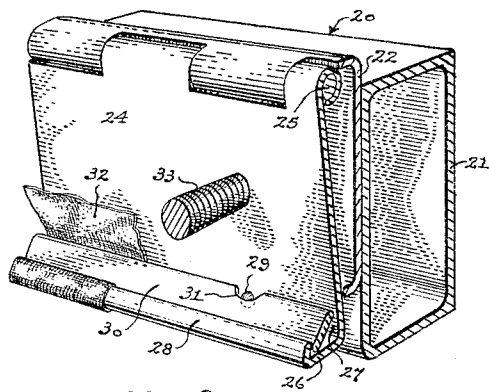


Fig. 8

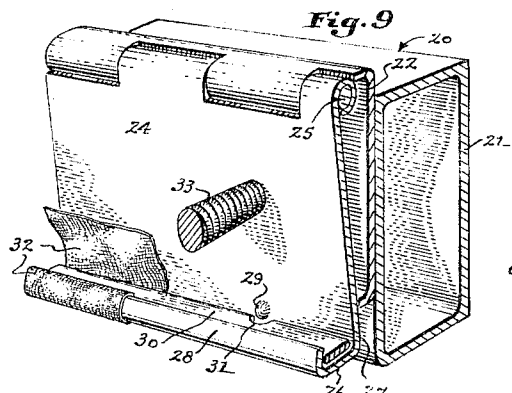


Fig. 9

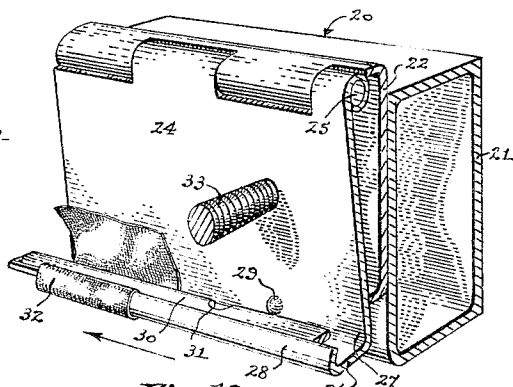


Fig. 10

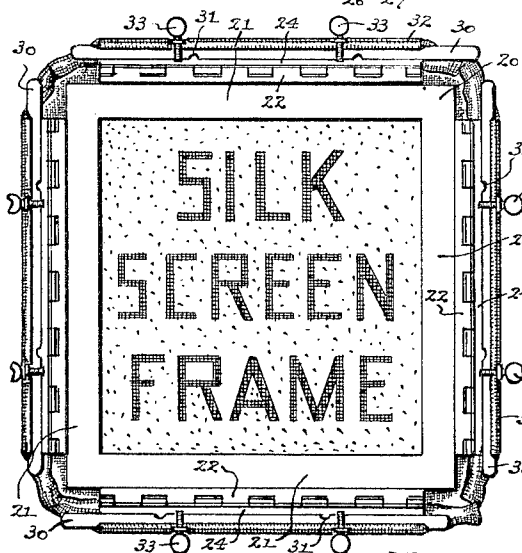


Fig. 12

WITNESS

Harry S Brown Jr.

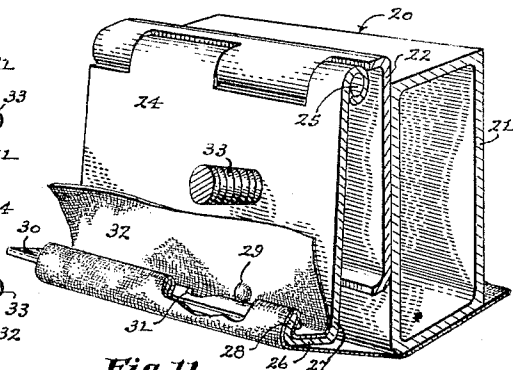


Fig. 11

INVENTORS
Thomas James Rosema
Harry Russell Farwell

BY

John S. Braddock
Attorney

1

2

3,273,497

SCREEN STENCIL FRAME

Thomas James Rosema and Harry Russell Farwell, both
of Grand Rapids, Mich., assignors to James A. Black,
President of General Research, Inc., Grand Rapids,
Mich., a corporation of Michigan

Filed Jan. 23, 1964, Ser. No. 339,736

3 Claims. (Cl. 101—128.1)

The present invention relates to screen stencils for use
in the process of screen stencil printing.

The primary objects of the invention are to provide
an improved screen stencil frame of the same general type
as that disclosed in Patent No. 2,566,919 issued Septem-
ber 4, 1951 to James A. Black et al.; to provide such a
frame on which a screen stencil fabric of silk, nylon,
steel wire mesh or the like can quickly and easily be
mounted; to provide such an improved screen stencil
frame in the use of which no stitching or hemming of
the stencil fabric is required; to provide such a stencil
frame which is so constructed that a stencil fabric can
quickly be mounted thereon without the use of tacks,
staples, cement or sealing tape; to provide such a stencil
frame from which a screen stencil may quickly and easily
be removed for replacement with another stencil; and in
general to provide such a screen stencil frame which is
rugged and sturdy in construction and reasonably eco-
nomical in manufacture.

An illustrative embodiment of the invention is shown
in the accompanying drawings, wherein:

FIGURE 1 is a perspective view of a stencil frame with
parts embodying the invention associated therewith;

FIGURE 2 is a fragmentary vertical sectional view of
parts of said frame taken on line 2—2 of FIGURE 1,
certain parts thereof being shown in disassembled rela-
tion;

FIGURE 3 is a similar vertical sectional view, taken
on line 3—3 of FIGURE 1 and showing the several parts
of the frame in positions which they occupy just prior to
assembly of the stencil fabric to the frame;

FIGURE 4 is a similar vertical sectional view showing
the parts of the frame in positions which they occupy
during assembly of the stencil fabric to the frame;

FIGURE 5 is a similar vertical sectional view show-
ing the stencil fabric fully assembled to the frame;

FIGURE 6 is a similar vertical sectional view, taken
on line 6—6 of FIGURE 1, and illustrating the manner
in which the stencil fabric is drawn taut across the bottom
of the stencil frame;

FIGURE 7 is a fragmentary perspective view showing
the parts of the frame in disassembled relation;

FIGURE 8 is a similar perspective view showing the
parts of the frame in certain positions which they occupy
during assembly of the stencil fabric to the frame;

FIGURE 9 is a similar perspective view showing the
parts in certain other positions which they occupy during
assembly of the stencil fabric to the frame;

FIGURE 10 is a similar perspective view showing the
stencil fabric fully assembled to the frame;

FIGURE 11 is a similar perspective view illustrating
the manner in which the stencil fabric is drawn taut across
the bottom of the frame; and

FIGURE 12 is a top plan view of the fully assembled
stencil fabric and frame.

Referring now in detail to these drawings, the stencil
frame there shown generally comprises a rectangular base
frame 20 having side rails 21 fabricated of cross-section-
ally rectangular tubular metal. A hinge plate 22 is shown
attached to the outer surface of each of said side rails 21
by means of screws 23, each hinge plate extending sub-
stantially the length of the side rail to which it is attached.

A hinge leaf 24 is hingedly connected to and depends
from the upper longitudinal edge of each hinge plate 22,
the hinge connections being of the piano hinge type with
a pin 25 passing through and interlocking the curled
flanges on the hinge plate and hinge leaf. Each hinge
leaf 24 terminates slightly above the bottom of the adja-
cent side rail 21 of the base frame in an outwardly ex-
tending and upwardly opening longitudinal channel hav-
ing a bottom web 26, an inner wall 27 and an outer wall
28 inclined upwardly-inwardly toward the inner wall.
The inner wall 27 has a plurality of projections 29 formed
therein which extend outwardly toward the outer wall 28.

An elongated flat metal plate or bar 30 is provided for
the channel at the lower end of each hinge leaf 24, each
bar 30 being substantially coextensive in length with its
channel. Each bar 30 has on its inner edge notches 31
which are adapted to register with the projections 29 on
the inner wall 27 of the channel.

The marginal edges of the screen stencil fabric 32 are
assembled to the respective side rails 21 of the stencil
frame by wrapping each of said marginal edges under and
around a bar 30, and then rolling the bar 30 into its
channel with the notches 31 in registry with the projec-
tions 29 so as to clear said projections, as illustrated in
FIGURES 4, 8 and 9. After each bar 30 has been fully
inserted within its channel thus to clamp the marginal
edge of the stencil fabric 32 between the bar and the
walls of the channel, the bar 30 is then slid longitudinally
to a position of non-registry of the notches 31 with the
projections 29, as best illustrated in FIGURES 10 and 11.
Thus the bar and the marginal edge of the stencil fabric
are retained within the channel beneath said projections
and said upwardly-inwardly extending outer wall of the
channel. If desired, and in order to more securely attach
the stencil fabric to the frame, two of the bars 30 may be
applied to each marginal edge of the fabric instead of
only one as shown.

After the marginal edges of the stencil fabric 32 have
been fully assembled to the stencil frame as above de-
scribed, the fabric 32 is drawn taut across the bottom
of the base frame 20 by means of screws 33 threaded
through the hinge leaves 24 and having their inner ends
abutting the hinge plates 22. These screws 33 are pro-
gressively tightened to swing the hinge leaves 24 out-
wardly and thus draw the stencil fabric to drum-tautness
across the bottom of the frame. The screen stencil is
then ready for stencil printing, either in a manual or a
machine stencilling operation.

It will thus be seen that the invention provides a novel
and efficient screen stencil frame in the use of which a
screen stencil fabric may quickly and easily be mounted
on or removed from the frame.

While but one specific embodiment of the invention
has been herein shown and described, it will be under-
stood that numerous details thereof may be altered or
omitted without departing from the spirit of the invention
as defined by the following claims.

We claim:

1. A device for securing a marginal edge of a stencil
fabric to a side rail of a stencil frame, comprising: a
hinge plate adapted for attachment to the outer surface
of said side rail and extending substantially the length of
said rail; a hinge leaf hingedly connected to the upper
longitudinal edge of said hinge plate and depending there-
from, said hinge leaf terminating slightly above the bot-
tom of said side rail in a channel having an open longi-
tudinal surface, spaced side walls, one of said walls being
inclined toward the other wall, said other wall having a
plurality of projections extending therefrom toward the
first of said walls; and a bar substantially coextensive in
length with said channel, said bar having a width approxi-

3

mately equal to the width of said channel and having on one of its edges notches adapted to register with said projections, said bar being insertable in said channel through said open longitudinal surface with the marginal edge of the stencil fabric clamped between the bar and the walls of the channel and with the notches in the bar clearing said projections during such insertion, said bar being longitudinally slidable after such insertion to a position of non-registry of said notches with said projections whereby the bar and the marginal edge of the stencil fabric are retained within the channel behind said projections and said inclined wall.

2. A device for securing a marginal edge of a stencil fabric to a side rail of a stencil frame, comprising: a hinge plate adapted for attachment to the outer surface of said side rail and extending substantially the length of said rail; a hinge leaf hingedly connected to the upper longitudinal edge of said hinge plate and depending therefrom, said hinge leaf terminating slightly above the bottom of said side rail in an outwardly extending and upwardly opening longitudinal channel with an open longitudinal surface having its outer wall inclined upwardly-inwardly toward its inner wall, said inner wall having a plurality of projections extending outwardly therefrom toward said outer wall; and a bar substantially coextensive in length with said channel said bar having a width approximately equal to the width of said channel and

4

having on its inner edge notches adapted to register with said projections, said bar being insertable in said channel through said open longitudinal surface with the marginal edge of the stencil fabric clamped between the bar and the walls of the channel and with the notches in the bar clearing said projections during such insertion, and said bar being longitudinally slidable after such insertion to a position of non-registry of said notches with said projections whereby the bar and the marginal edge of the stencil fabric are retained within the channel beneath said projections and said upwardly-inwardly extending outer wall of the channel.

3. A device according to claim 2 in which a plurality of screws is threaded inwardly through said hinge leaf and adapted to abut against said hinge plate whereby tightening of said screws swings the hinge leaf outwardly to tauten said stencil fabric.

References Cited by the Examiner

UNITED STATES PATENTS

1,042,521	10/1912	Andruskewicz	-----	24—243.11
2,245,961	6/1941	Clay	-----	160—395
2,566,919	9/1951	Black et al.	-----	101—129.1 X

ROBERT E. PULFREY, *Primary Examiner*.

H. P. EWELL, *Assistant Examiner*.