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TIE BLOCK

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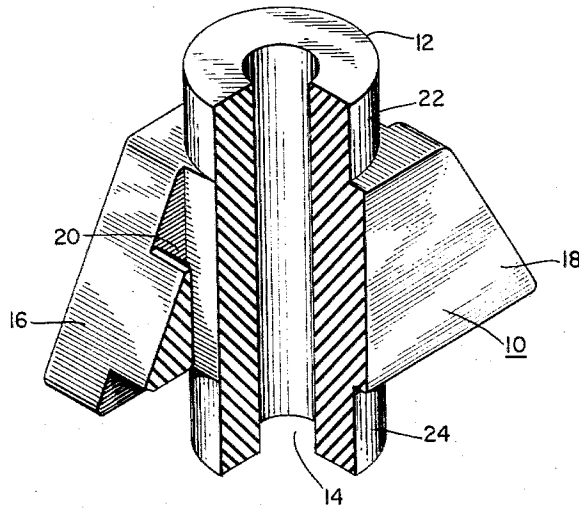


Fig. 1

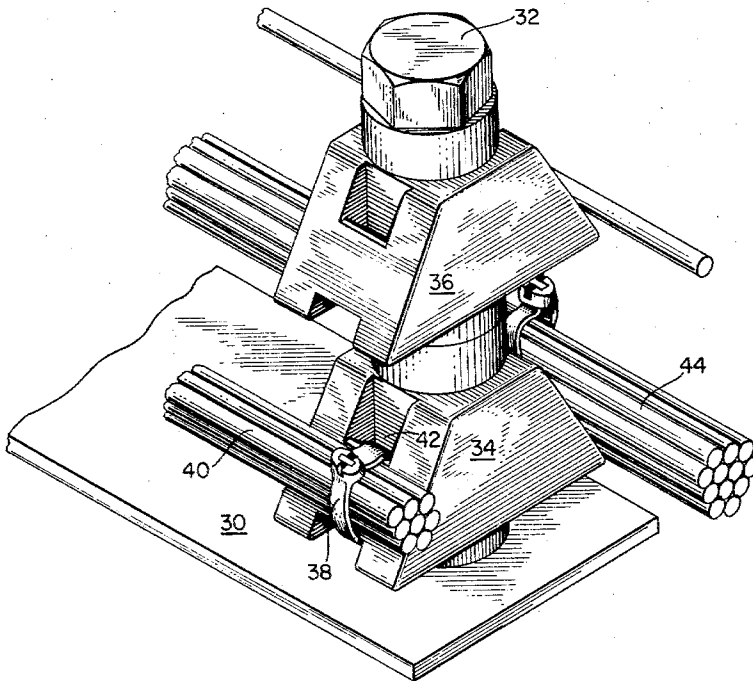


Fig. 2

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TIE BLOCK

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3 Claims. (Cl. 248-49)

This invention relates generally to means for secur-
ing conductors or bundles of conductors to a mounting
plate and more particularly to an improved tie block.

In making the electrical connections in equipment
having complex electronic circuits it is common prac-
tice to bind together conductors into bundles and to
secure these bundles to the frame or wall of the equip-
ment. When the equipment is mobile or may be sub-
ject to vibration or high accelerations, it is imperative
that the conductors be securely fastened.

In the past, straps preformed as split rings, and cur-
rently of some 25 different inside diameters have been
utilized. An extension of the strap having a bolt hole
is used, together with various sized spacers, to secure
three or four of these split ring straps by a bolt to the
equipment. As conductors are led off from a bundle
it is necessary to utilize an appropriately smaller split
ring strap. This arrangement, while providing a suitably
secure mount, requires stocking many parts, and, if a
change in wiring occurs, necessitates new drawings in-
dicating the change in size of the split ring straps.
Moreover, to remove one bundle of conductors, it is
necessary to remove the bolt holding other bundles as
well.

It is therefore an object of this invention to provide
a tie block which can be used for mounting conductor
bundles of many sizes.

It is also an object of this invention to provide a tie
block which eliminates the need for spacers in mount-
ing conductor bundles.

It is a further object of this invention to provide a
tie block which will permit the removal of one bundle
of conductors without disturbing the others.

In a preferred form of the invention, a molded nylon
block having lateral extensions with containing passage-
ways to receive tying wraps is provided. Each lateral
extension carries the conductor bundle on an upwardly
directed face to facilitate mounting.

One or more of these tie blocks may be secured by
a single bolt to an equipment structure, with the inte-
grally molded spacer eliminating the need for separate
spacer elements.

The invention will be better understood from the fol-
lowing description referring to the drawings in which:

FIGURE 1 is an isometric half section of one embodi-
ment of the invention; and

FIGURE 2 is an isometric illustrating the embodi-
ment of FIGURE 1 in a typical application.

Referring to FIGURE 1, tie block 10 is a molded uni-
tary structure having a central vertical shaft 12 with an
axial passage 14 designed to receive a bolt shaft. Wing
elements 16 and 18 extend laterally from opposite sides
of shaft 12, each of which contains a vertical passage-
way such as 20. It should be observed that the outer
walls of wings 16 and 18 are inclined to present an
upwardly directed face. Spacers 22 and 24 on the top
and bottom respectively of tie block 10 are also provided.
These spacers facilitate the securing of bundles of con-
ductors to tie block 10 by elevating the wings above the

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surface on which tie block 10 is mounted, and separat-
ing the wings of one tie block from those of another
stacked above it. Tie block 10 has been fabricated of
nylon, however, other materials of suitable rigidity can
be utilized. In addition, although tie block 10 can be
most readily molded, it could, if desired, be assembled
from separate elements.

The use of the tie block of this invention will now
be described with references made to FIGURE 2.
Mounted on plate 30 by bolt 32 are tie blocks 34 and
36. Secured to tie block 34 by Ty Wrap 38 is a bundle
of conductors 40. Ty Wrap 38 is an item commercially
available from Thomas and Betts Company of Elizabeth,
New Jersey. Ty Wrap 38 is passed through passage
42 and around bundle 40 to achieve a snug fit. Ty
Wraps have an automatically self locking feature which
make them particularly suitable for use with the tie
block of this invention; however, another type of tying
device such as cord can also be used. A second bundle
of conductors 44 is also secured to tie block 34. It
should be noticed that bundles 40 and 44 are of dif-
ferent sizes, demonstrating the flexibility of this in-
vention.

Should it be necessary to remove bundle 40 from tie
block 34, Ty Wrap 38 is merely severed without dis-
turbance either bundle 44 or tie blocks 34 and 36. Both
tie block 34 and tie block 36 are designed to support
bundles of conductors on upwardly directed faces to
facilitate installation.

While a particular embodiment of a tie block has
been shown and described, it will be obvious that changes
and modifications can be made without departing from
the spirit of the invention and the scope of the appended
claims.

What is claimed as new and desired to be secured by
Letters Patent of the United States is:

1. A tie block comprising:

a vertical member having an axial passage extending
therethrough,
wing elements extending laterally from opposite sides
of said vertical member, and
each of said wing elements defining a passageway for
receiving tying means.

2. A tie block comprising:

a central vertical shaft having an axial passage extend-
ing therethrough,
wing elements extending laterally from opposite sides
of said shaft,
each of said wing elements having a wall inclined to
present an upwardly directed face, and
each of said wing elements defining a passageway for
receiving tying means.

3. A tie block comprising:

a central vertical shaft having an axial passage extend-
ing therethrough,
wing elements spaced from at least one end of said
shaft and extending laterally from opposite sides
of said shaft,
each of said wing elements having a wall inclined to
present an upwardly directed face,
each of said wing elements defining a vertical passage-
way for receiving tying means, and
said tie block being an integrally molded nylon
structure.

No references cited.

CLAUDE A. LE ROY, Primary Examiner.