

[54] **PILE OF COILS COMBINED TO A
HANDLEABLE UNIT**

[75] Inventor: **Edward O. Morris**, Rome, Ga.

[73] Assignee: **N.V. Bekaert S.A.**, Zvevegem,
Belgium

[22] Filed: **Aug. 27, 1971**

[21] Appl. No.: **175,541**

[30] **Foreign Application Priority Data**

Sept. 1, 1970 Netherlands..... 7012906

[52] U.S. Cl. **214/10.5 R, 206/52 W, 206/59 A,**
206/65 R, 220/97 B

[51] Int. Cl. **B65g 1/14**

[58] Field of Search..... **214/10 SR, DIG. 1,**
214/DIG. 4; 206/65 R, 59 A, 59 B, 52 W;
220/97 B; 105/369 S, 369 B

[56] **References Cited**

UNITED STATES PATENTS

2,007,914	7/1935	Elling.....	214/10.5 R X
2,100,483	11/1937	Jesser.....	220/97 B
1,729,942	10/1929	Hoelt.....	206/65 R X
2,868,370	1/1959	Franks.....	206/65 R

Primary Examiner—Gerald M. Forlenza

Assistant Examiner—Frank E. Werner

Attorney—Edward J. Brenner

[57] **ABSTRACT**

A pile of coils combined into a handleable unit includes a plurality of coils each having a rigid core or a rigid casing which are linked together by a plurality of connecting elements. The connecting elements may be U-shaped or H-shaped in design. The pile may include one or more stacks and/or layers of wire coils.

1 Claim, 4 Drawing Figures

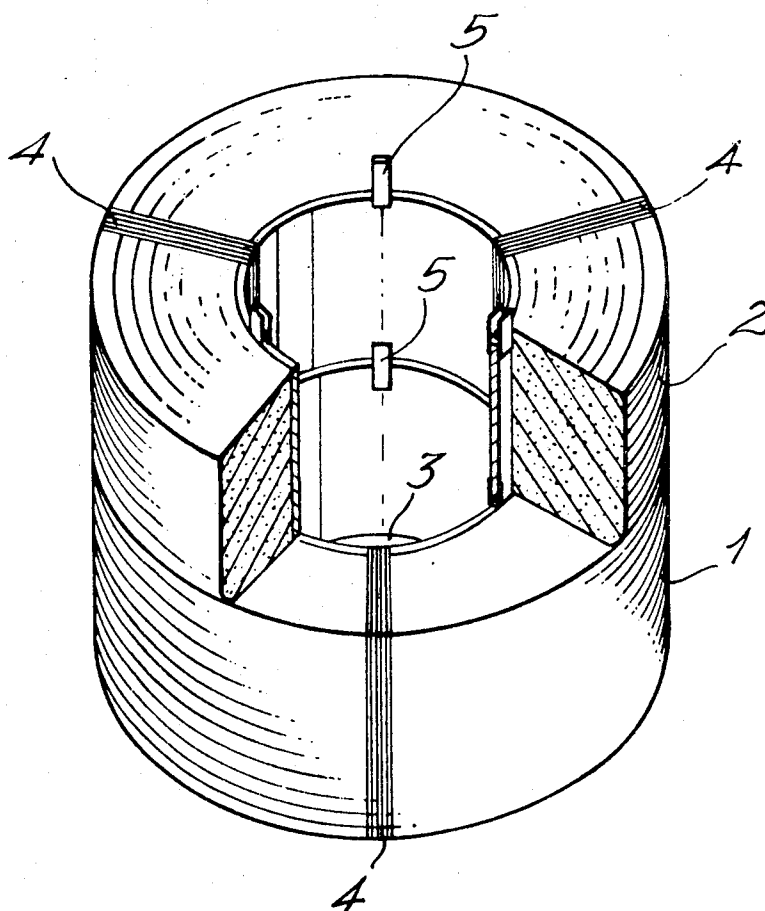


Fig. 1.

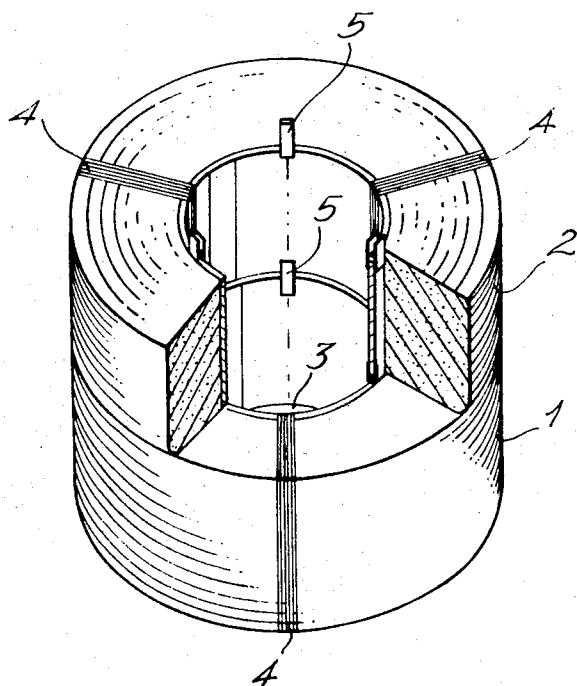


Fig. 2.

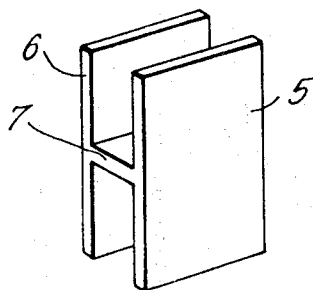


FIG. 3

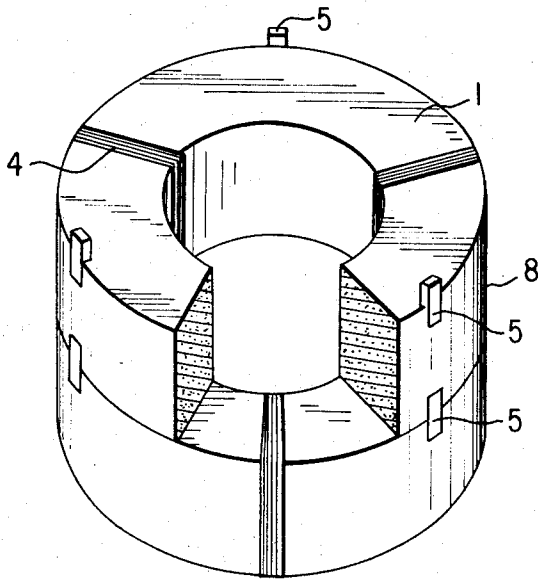
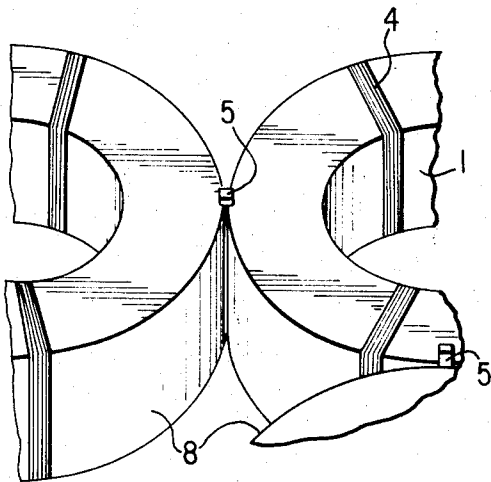


FIG. 4



PILE OF COILS COMBINED TO A HANDLEABLE UNIT

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a pile of coils of metal wire, cable, strip or the like and more particularly to means for combining such coils which have a rigid core and/or rigid casing into a handleable unit.

2. Description of the Prior Art

In Dutch Patent Application No. 66 15837 it has been suggested that a number of coils of metal wire or strip may be combined into a handleable unit by enclosing the pile of coils with axial pressure means and surrounding it by wire mesh. Although this technique is less expensive and produces a lighter packing structure than other prior art techniques employing cases, vessels, and the like for packing, the packaging of a pile of coils as suggested in this patent application is still relatively expensive.

SUMMARY OF THE INVENTION

The present invention is directed to a pile of coils which are combined into a handleable unit wherein a plurality of coils each having at least one rigid side are connected by a plurality of connecting elements linking together the rigid sides of adjacent coils in the pile. The connecting elements may be U-shaped and preferably H-shaped, in design.

An object of the present invention is to provide a simple and inexpensive means to combine a pile of coils into a handleable unit.

A further object of the present invention is to provide a means for forming a pile of coils which may be simply handled and transported, for example on a pallet, without the need for further exterior reinforcements or connections.

Other objects and advantages of the present invention will become apparent from the following description taken in conjunction with the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view in partial cross-section of a unit constructed in accordance with the present invention consisting of two piled-up coils of wire with rigid cores linked together by connecting elements; and

FIG. 2 is an enlarged perspective view of a connecting element of the type shown in FIG. 1.

FIG. 3 is a perspective view in partial cross-section of a unit constructed in accordance with the present invention consisting of two pile-up coils of wire with rigid casings hooked together by connecting elements; and

FIG. 4 is a perspective view in part of a unit constructed in accordance with the present invention consisting of three coils with rigid casings in a layer linked together by connecting elements.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

A unit constructed in accordance with the present invention, as shown in FIG. 1, includes at least two piled-up or stacked coils of metal wire 1 and 2 each having the same diameter. In the case of each coil, the wire is wound on a rigid core 3 of thin cardboard and is fastened by means of three strips 4 to the core 3. The strips may also be made of metal wire.

In accordance with the present invention, both cores 3 of the piled-up coils are linked to each other by three connecting elements 5, which are uniformly spread over the circumference of the cores 3. As shown in FIG. 2, the connecting elements are H-shaped units provided with four flanges 6 and a body 7. The distance between both flanges 6 located at one side of the body 7 is equal to the thickness of a core 3, so that the small block 5 can be slipped in a clamping position on the cores 3, keeping both piled-up cores together. Both coils thus form a handleable unit, in which none of the coils can shift, thus causing deterioration, during handling.

On the upper coil as shown in FIG. 1 three connecting elements 5 may be provided, so that still another coil may be placed on top of it. The pile of coils can, without further exterior reinforcements or connections, be handled or transported, e.g. on a pallet.

The technique of connecting coils in accordance with the present invention may also be applied when the coils involved are provided with a rigid exterior casing. In such cases the piled-up casings can be linked together by means of a similar connecting element. Thus, in the case of wire coils having exterior rigid casings, the coils may be placed next to each other and the connecting elements may then be fixed over two adjacent casings. In this arrangement the distance between the flanges of the connecting element for linking two adjacent casings should be equal to twice the thickness of a casing. This particular embodiment of the invention is shown in detail in FIGS. 3 and 4 wherein each coil has a rigid exterior casing 8. If only one layer of wire coils with rigid casings is put next to each other, then the elements may also be U-shaped. On the other hand, if more than one layer of wire coils are to be connected together then H-shaped connecting elements will be employed.

In the application of the present invention, the fact that coils of metal wire or strips are either generally wound on a rigid core made of cardboard, metal, or similar material, or are packed in a rigid casing, is made use of, so that the rigid core or rigid casing is linked, by means of simple, inexpensive connecting elements, with the adjacent cores or casings to form a rigid unit. This offers the whole pile sufficient rigidity to prevent the coils from shifting with respect to each other during transportation or handling.

Also, in accordance with the present invention, the connecting elements preferably consist of small blocks, which are provided at both sides with a slot which may be fitted around the edges of the sides of the objects to be combined. The small blocks are preferably H-shaped.

The present invention may be utilized to form a handleable pile of coils, each having a rigid inner core, where the coils are stacked one on top of another utilizing H-shaped connecting members. The present invention may also be utilized to form a handleable pile of coils, each having a rigid outer casing, where the coils are arranged in one layer utilizing U-shaped connecting members. The present invention may also be utilized where more than one layer of coils, each having a rigid outer casing, are stacked together by utilizing H-shaped connecting members.

Inasmuch as the present invention is subject to many modifications, variations and changes in detail, it is intended that all matter contained in the foregoing de-

3

4

scription or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. What is claimed is:

1. A pile of wire coils combined into a handleable unit which comprises
a plurality of wire coils arranged into a pile, each of
said wire coils having a rigid exterior casing member, said wire coils being arranged in said pile in layers of coils one on top of another, and
a plurality of H-shaped connecting elements having flanges adapted to link together two adjacent casing members and spaced apart by a distance equal

to about twice the thickness of a casing member, each of said H-shaped connecting elements linking together the top edge of the rigid exterior casing member of one wire coil and the bottom edge of the rigid exterior casing member of an adjacent wire coil in the pile and also linking together the edge of the rigid exterior casing member of one wire coil and the edge of the rigid exterior casing member of an adjacent wire coil in the same layer in the pile.

* * * * *

15

20

25

30

35

40

45

50

55

60

65