

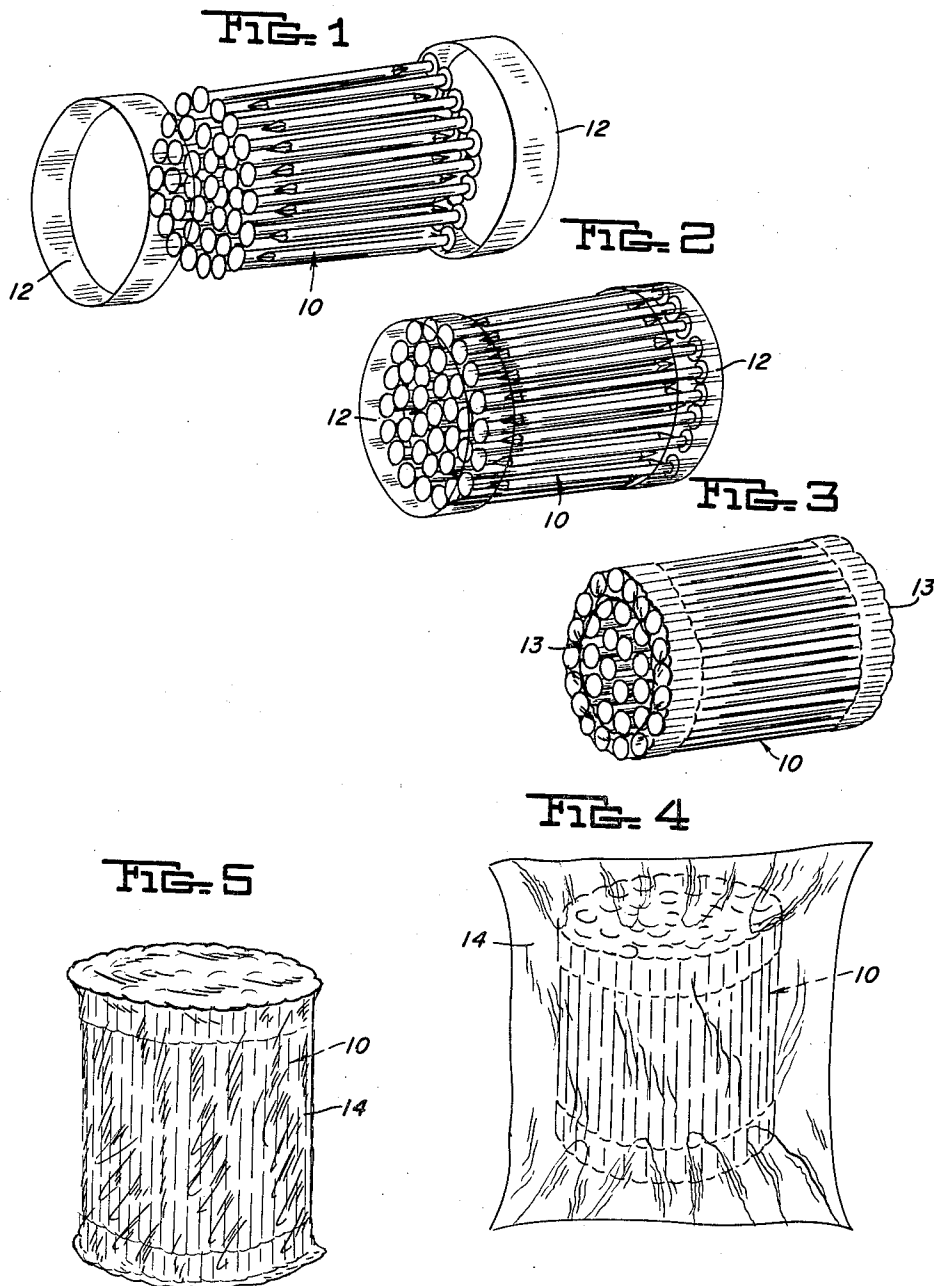
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PACKAGE OF SLENDER ARTICLES AND METHOD OF MAKING IT

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PACKAGE OF SLENDER ARTICLES AND METHOD OF MAKING IT

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2 Claims. (Cl. 206—65)

This invention relates to an improved package of slender articles, such as nails, and to the method of making it.

An object of the invention is to provide an improved package which retains a plurality of slender articles securely and rigidly and with maximum compactness.

A further object is to provide an improved package of slender articles in the form of a tightly bound cylinder in which the articles are positively secured against relative movement.

A more specific object is to provide an improved package of slender articles in which the ends of a cylindrical mass of articles are bound with substantially non-stretching plastic bands shrunk into tight engagement, and the whole is wrapped in an envelope, preferably of similar material to the bands.

A further object is to provide an improved method of making a package which has the foregoing characteristics.

In accomplishing these and other objects of the invention, I have provided improved details of structure, a preferred form of which is shown in the accompanying drawing, in which:

FIGURE 1 is an exploded perspective view of a mass of nails and a pair of bands from which my package can be formed;

FIGURE 2 is a perspective view of the nails with the bands placed therearound, one step in forming my package;

FIGURE 3 is a perspective view of my partially formed package with the bands in their final positions;

FIGURE 4 is a perspective view of my partially formed package with the envelope or overwrap positioned to be applied; and

FIGURE 5 is a perspective view of my finished package.

As shown in FIGURE 1, as a preliminary step to forming my package, I gather a group of slender articles in an approximately cylindrical mass 10. The individual articles in the mass are parallel. When opposite ends of the articles are shaped differently, as the head and point of a nail, approximately half are reversed end-to-end from the other half. When the articles are of magnetic material (for example steel nails), conveniently they can be gathered in this fashion in a magnetic device such as illustrated in Otto Patents Nos. 2,581,042, 2,602,942 or 2,899,783. The mass 10 can be held manually or in a suitable jig while the succeeding steps in making the package are performed.

Next I place plastic bands 12 around the respective ends of the mass 10 with the outer ends of the bands overhanging the ends of the mass, as shown in FIGURE 2. The bands are of a plastic which shrinks and sets on

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evaporation of its solvent and/or application of heat. Examples of suitable plastics are cellulose xanthate, polystyrene, or copolymers of vinylidene chloride and vinyl chloride. Next I shrink and set the plastic bands. If the plastic is of a type which requires heating to cause it to shrink and set (for example, polystyrene or copolymers of vinylidene chloride and vinyl chloride), I can conveniently perform the heating step by immersing the mass in boiling water. After shrinking, the end portions of the bands partially cover the end faces of the mass, as indicated at 13 in FIGURE 3. The shrunken bands are substantially non-stretchable and they hold the mass firmly and assure it retains its cylindrical shape with individual articles parallel. Locating the bands at each end positively prevents the articles from flaring outwardly with respect to the mass, a condition commonly referred to as "brooming."

As FIGURE 4 shows, I next wrap the banded mass 10 in an envelope or overwrap 14, preferably of a plastic similar to the bands. Finally I seal the envelope on itself to enclose the articles. The preferred plastic envelope can be sealed by employing the same procedure used in shrinking and setting the plastic bands. As FIGURE 5 shows, my finished package has maximum compactness, and the articles are positively held against relative movement. When a plastic envelope is used, the package is also substantially moisture proof.

While I have shown and described only a single embodiment of my invention, it is apparent that modifications may arise. Therefore, I do not wish to be limited to the disclosure set forth but only by the scope of the appended claims.

I claim:

1. A package comprising a plurality of slender articles arranged in parallel relation and in an approximately cylindrical mass, opposite ends of the articles being shaped differently, approximately half the articles being reversed end-to-end from the other half, individual spaced apart substantially non-stretching plastic bands surrounding each end of said mass and partially covering the end faces of the mass and heat-shrunk into tight engagement therewith to retain the articles against relative movement, and a sealed plastic envelope enclosing the articles and bands.

2. A package comprising a plurality of nails arranged in parallel relation and in an approximately cylindrical mass, approximately half the nails being reversed end-to-end from the other half, individual spaced apart substantially non-stretching plastic bands surrounding each end of said mass and partially covering the end faces of the mass and heat-shrunk into tight engagement therewith to retain the nails against relative movement, and a sealed plastic envelope enclosing the nails and bands.

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