Aug. 28, 1928. 1,682,179

O. M. KREMBS

CONTAINER

Filed May 20, 1927 4 Sheets-Sheet 1

Fig. 1.

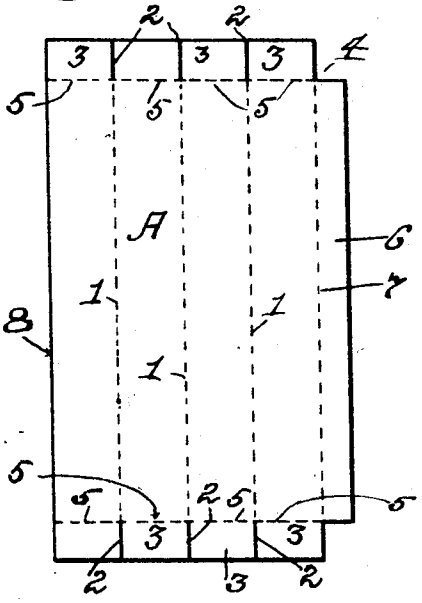


Fig. 2.

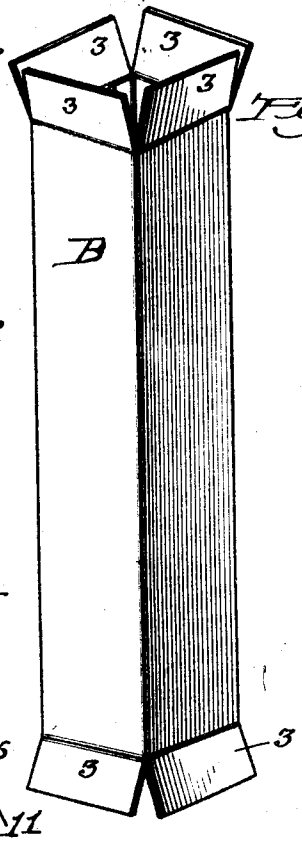


Fig. 3.

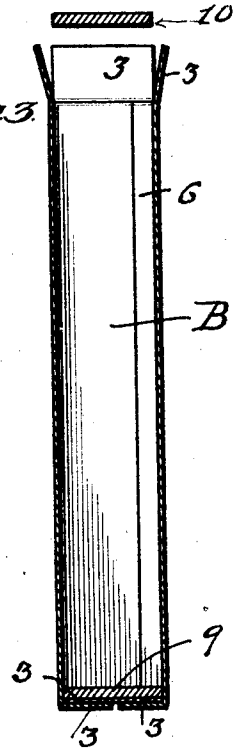


Fig. 4.

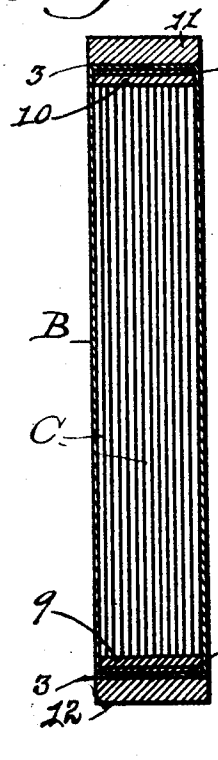


Fig. 5.

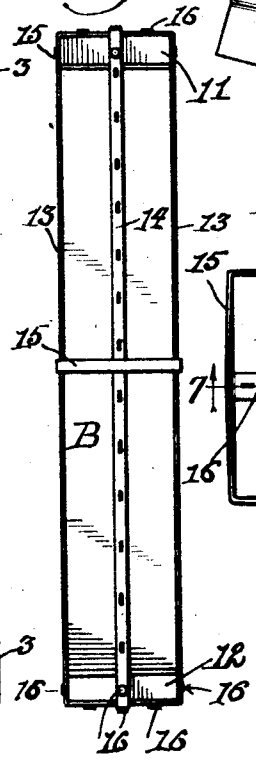


Fig. 6.

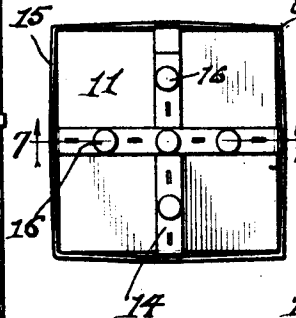
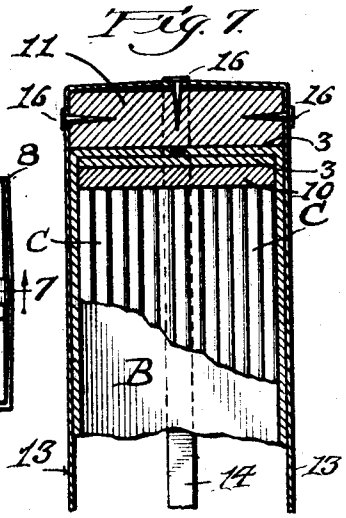


Fig. 7.



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Aug. 28, 1928. 1,682,179

O. M. KREMBS

CONTAINER

Filed May 20, 1927 4 Sheets-Sheet 2

Fig. 8.

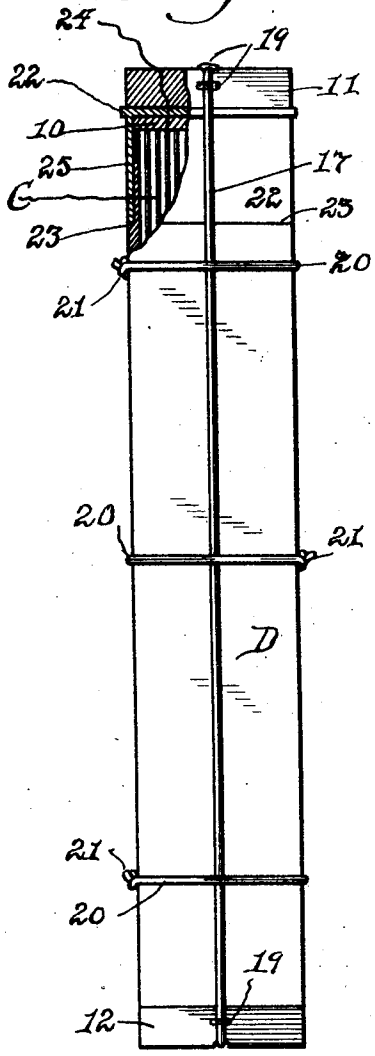


Fig. 9.

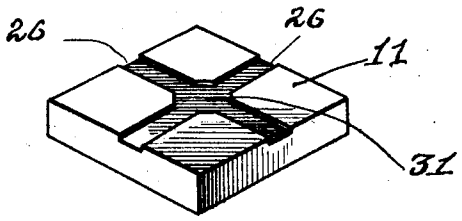


Fig. 10.

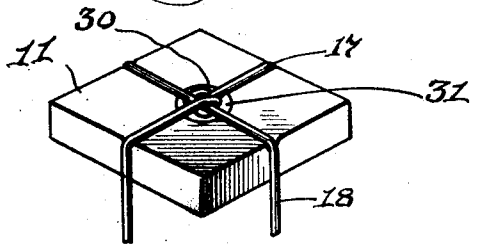


Fig. 11.

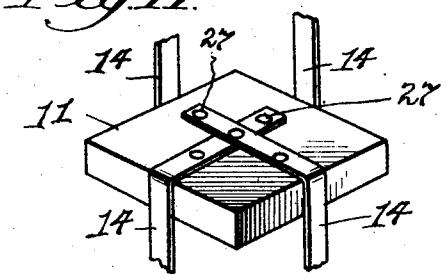


Fig. 12.

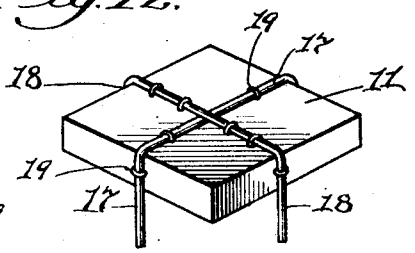
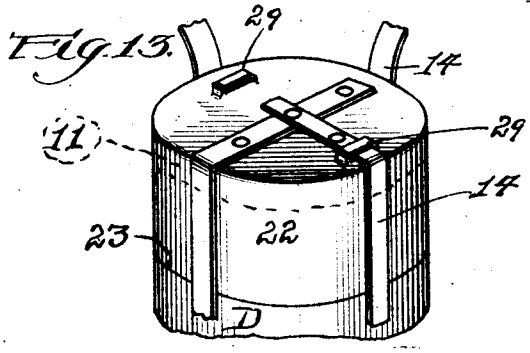


Fig. 13.



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Aug. 28, 1928. 1,682,179

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CONTAINER

Filed May 20, 1927 4 Sheets-Sheet 3

Fig. 14.

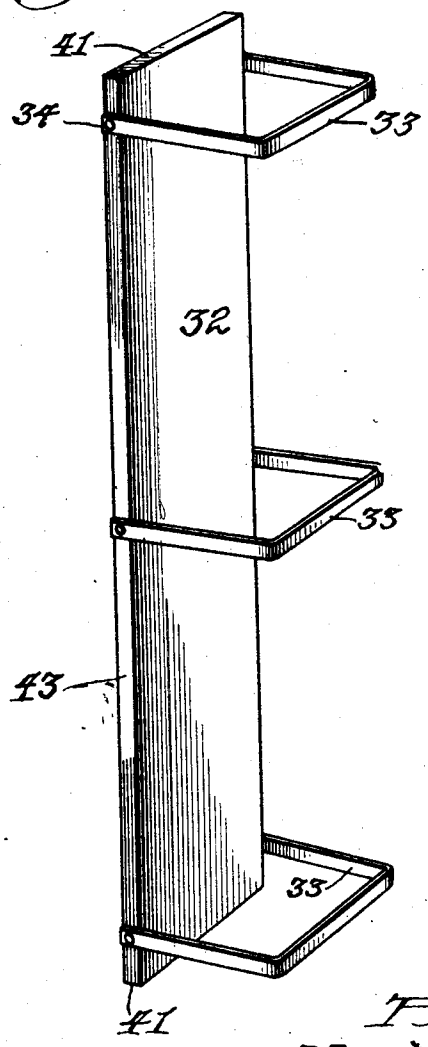


Fig. 15.

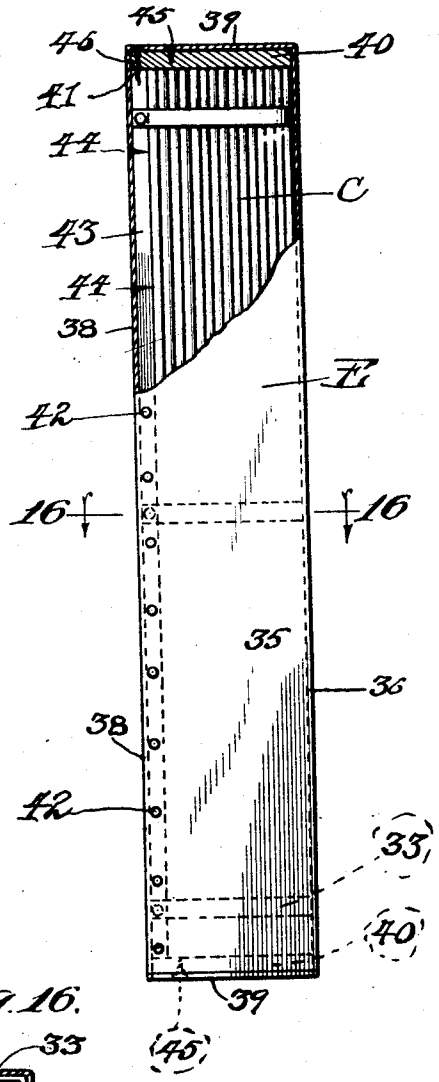
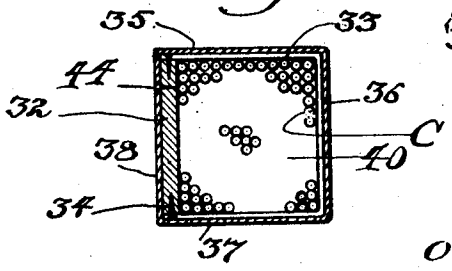


Fig. 16.



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Aug. 28, 1928. 1,682,179

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CONTAINER

Filed May 20, 1927 4 Sheets-Sheet 4

Fig. 17.

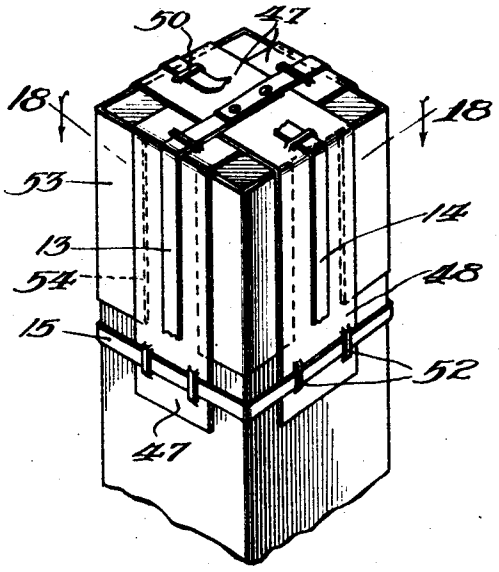


Fig. 19.

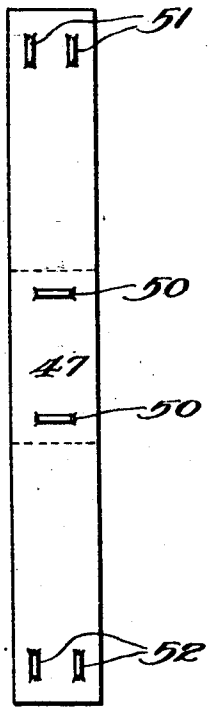


Fig. 18.

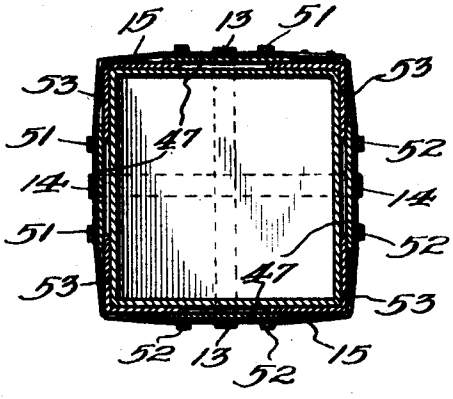
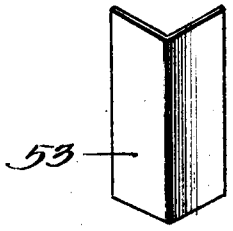


Fig. 20.



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Patented Aug. 28, 1928. 1,682,179

UNITED STATES PATENT OFFICE.

OTTMAR M. KREMBS, OF CHICAGO, ILLINOIS.

CONTAINER.

Application filed May 20, 1927. Serial No. 192,934.

This invention relates to a container of fibre or the like, and to a method to be used in packing, shipping and handling metal products, such as welding rods, for example, which have heretofore required shipping cases of wood or other strong and expensive shipping wrappings.

One of the objects of the invention is to produce a packing container which shall be relatively light in weight and yet be sufficiently strong to withstand rough handling; which will be as cheap as possible; which will be easy to use in packing; which will be available for use as a container for the goods after the shipment reaches its destination, and from which the welding rods or other articles may be readily removed, as required; and which will protect the merchandise, not only from dust and dirt, but also from the deteriorating effects of changing atmospheric conditions.

Welding rods, approximately 36′ in length are usually shipped in a bundle weighing fifty or more pounds and when packed in fibre or perishable cartons are frequently received in bad condition, due to the rough handling in transit; not infrequently the carton ends are broken, the ends of the welding rods protrude, and sometimes the rods are damaged or lost. Such cartons are of no value as containers for handling the rods for sale or for use after reaching destination. Cartons or boxes of wood, while more or less durable, are unduly expensive and increase freight charges on account of their weight. Moreover, after receipt at destination, wooden boxes are not useful as dust-proof containers and do not preserve the coated or uncoated welding rods from the effects of atmospheric changes.

By the present invention, I have obviated the foregoing and other objections; the invention consisting in the means for packing, shipping and handling coated and uncoated welding rods and other metal products, as herein illustrated, described and pointed out in the appended claims.

In the drawings:

Figure 1 is a plan view of a blank from which one form of carton, embodying my invention, may be made.

Figure 2 is a perspective view of the blank folded in carton form, with the ends open.

Figure 3 is a vertical sectional view of the carton with one end closed and the other open.

Figure 4 is a similar view, with rods packed and the carton closed, and protecting block applied to each end.

Figure 5 is an elevation showing the packed carton and baling strip applied, ready for shipment.

Figure 6 is a plan view of one end of the package shown in Figure 5, on an enlarged scale.

Figure 7 is a longitudinal sectional view of one end of the same package, also enlarged, the section being taken in the plane of the dotted line 7—7 of Figure 6.

Figure 8 is a view in elevation, of a modified form of package, partially broken away to show the modification in section.

Figures 9, 10, 11 and 12 are views in perspective showing some modified forms of the protecting blocks used.

Figure 13 is a perspective view, enlarged, of a modified form of package cap or cover.

Figure 14 is a view in perspective, of a package board which may be employed in practicing the invention.

Figure 15 is a view in elevation, of a package, partially broken away to show the rods in place in the board illustrated in Figure 14.

Figure 16 is a transverse, sectional view of the same, the section being taken in the plane of the horizontal line 16—16 of Figure 15.

Figure 17 is a perspective view of a modification.

Figure 18 is a transverse, sectional view taken on the line 18—18 of Figure 17.

Figures 19 and 20 are plan and perspective views, respectively, of details.

In practicing my invention, I prefer to make the container of paper, fibre or other foldable or relatively strong material, in the form of the blank A, shown in Fig. 1. This blank is preferably scored as indicated at 1 and slit as at 2 to form end flaps 3, and preferably also notched at two of its edges, as shown at 4. Scoring at 5 permits the end flaps 3 to be folded to close the container ends, and where an edge flap 6 is desired, the blank will be longitudinally scored at 7. The scoring referred to is not essential; it being sufficient if the container material is capable of being folded closely about the articles to be packed so as to engage the sides and ends thereof.

The container B may be formed by bending the blank A along the longitudinal score lines 1 into the tubular, four sided package shown in Figure 2, the flap 6 being secured to cover the margin 8, by mucilage or other suitable

means. The flaps 3 of one end are then folded in superposed relation to close one end of the package and these flaps 3 may or may not be secured together by mucilage. The inside of this initially closed end may be lined with a lining plate of relatively thin wood 9.

C indicates a metal product to be enclosed for shipment in the package container B, welding rods being shown in the drawings. These rods are packed within the package B by being entered longitudinally, with their lower ends resting upon the thin lining plate 9. A similar, second lining plate 10 is placed upon the top ends of the welding rods, the flaps 3, 3 at the open end of the package are then folded over in superposed relation to close the package as shown in Figure 4.

11 and 12 are blocks used upon the top and bottom respectively, of the package B. They are of wood and sufficiently thick to protect the package during shipment. These blocks are not initially connected to the container A, but are loose and adapted to be placed closely against the ends of the metal product, regardless of the length of said product. They may be used either with or without lining plates 10 and 11. It is important to note that these blocks 11 and 12 are not originally connected with the container material A, because if so connected, the container would be of a predetermined length not adaptable to welding rods of different lengths, and the blocks 11 and 12 would not be capable of closely engaging the ends of the rods or of being drawn toward each other in the finishing of the packing operation.

Baling strips 13, 14, preferably of flat, thin metal, are then placed around the ends and sides of the package and one or more similar strips 15 are then placed around the package outside the strips 13, 14, as clearly shown in Figures 5, 6 and 7. These strips 13 and 14 are secured by brads or nails 16 driven into the shipping blocks 11 and 12.

The package is now ready for shipment. The thin packing or lining plates 9 and 10 act to prevent the ends of the rods C from indenting or breaking the folded flaps 3 and prevent injury to the rod ends. The thick end blocks 11 and 12 take all undue end thrust. The package and the bundle of rods are securely bound into a unitary structure for shipping, without the possibility of the rods shifting during shipment or handling in transit, and to these results the end protective blocks 11 and 12 largely contribute.

In the modification shown in Figures 8 and 12, it will be noted that flat baling strips 13, 14 and 15 are omitted and wire strips 17 and 18 are similarly used longitudinally of the container B and about the protective blocks 11 and 12. These wires may be secured by staples 19. The flat transverse strip 15 is also omitted and one or more binding wires 20 are used, the ends of each wire being twisted or otherwise secured together as indicated at 21. The carton D, in this instance, will be made from a blank similar to that shown in Figure 1, with the score lines 1, 1 and the four top flaps 3, 3 omitted, and the blank folded into tubular form as shown in Figures 8 and 9. The body of the round carton D is provided on its top end with an ordinary, removable cup shaped cap 22 which not only surrounds the top portion of the body but closes its open end. Usually the wall of the top portion of the carton body D will be of reduced thickness to provide an annular circumferential shoulder 23 against which the edge of the cap 22 rests, thus making the exterior surface of the cap flush with the outer surface of the carton D. And it will be further noted that the body of the carton D will be shorter than the length of the welding rods C, C, so that the top ends 24 of the latter will project above the margin 25 of the carton D, which arrangement provides easy access to the rods and wtihdrawal of one or more for sale or for use when the cap 22 is removed. The carton D, being shorter than the rods C, permits the cap 22 to be seated so as to engage the ends of the rods C, and consequently the end blocks 11 and 12 may closely engage the ends of said covered rods, as heretofore explained. It will of course be understood that the use of the cap 22 excludes dust and dirt form the carton and excludes moisture and other deteriorating agencies therefrom.

I may notch or channel the outer faces of the blocks 11 and 12 as shown at 26 in Figure 9, so that the flat strips 14 will lie in the channels flush with the surface of the blocks and have no projecting edges to catch, or I may overlap the edges of the strips 14 and secure them to the blocks by a plurality of short nails 27 or tacks, as shown in Figure 11.

Where the block 11 is inclosed within the cap 22 as indicated in dotted lines 28 in Figure 13, I prefer to stamp out or otherwise form on the cap 22 a pair of loops 29 and to lace the ends of the flat strips 14 therethrough. The ends of the strips 14 will be secured by nails or tacks 29 driven through the flat strip, the cap 22 and into the block 11, as shown in Figures 11 and 13.

I may also notch the top and bottom blocks 11 and 12 sufficiently to receive the wires 17 and 18 and may tie or unite the wires by twisting the ends together as shown at 30, the notches being enlarged at their intersection 31 to receive the knotted or twisted ends, as illustrated in Figure 10.

In some cases, I find it very convenient to first assemble the merchandise to be shipped, and particularly welding rods, in a compact bundle, before their insertion in the container. One arrangement for so doing is illustrated in Figures 14, 15 and 16, where 32 is a relatively strong wooden board of the same length as the welding rods C, and which is

provided with a plurality of shaped, flat metal bands 33 suitably secured at their ends to the side margins of the board 32, as indicated at 34.

The rods C are held upon the board 32 in non-shifting relation by the bands 33 and the bundle of rods and board placed, as a unit, within the shipping carton E, having four sides, 35, 36, 37 and 38, and two ends 39, 39. The carton E is provided interiorly at top and bottom with wooden blocks 40 of sufficient thickness to withstand rough usage in transit. The blocks 40, it will be understood, are positioned intermediate the ends 39 and the ends of the rods C and also contact with the end margins 41 of the board 32. The side 35 of the carton E is secured by tacks 42 to the side edge 43 of the board 32, as is also the side 38 by tacks 44. The ends 39 are tacked to the interior blocks 40 by brads or tacks 45, some of the latter being sufficiently long to pass through the blocks 40 and unite it to the board 32, as indicated at 46.

When the carton D is rectangular in cross section and the removable cap 22 is of the same material as the body of the carton, and the block 11 enclosed within the cap, as before explained, it may be desirable to protect one or both ends of the carton in the manner indicated in Figures 17 and 18, where a strip of thin metal, 47, is bent between its ends transversely, as indicated by the dotted line 48, and laid over the end and down two sides of the package, and a similar strip 49 similarly laid, but transversely of the strip 47. The strips 47 and 49 will be provided with pressed up loops 50 similar to the loops 29 of Figure 13, and bale strips 13, 14, positioned as shown in Figure 17, are laced through the loops 50. The transverse bailing strips 15 join the ends of the strips 47 and 49 by being passed around the package and through the end loops 51, 52, as clearly shown in Figure 17, and draw the end blocks 11 and 12 closely against the ends of the rods or other articles to be packed.

In some instances, it may be desirable to further protect the corners of the cap 22 by thin strips of sheet metal 53, which, being angular, may be positioned to cover the corners and extend on two adjacent sides of the cap and be held in position by the overlying margins of the strips 47 and 49 as indicated by the dotted lines 54.

It will be understood of course that the body of the carton or package is of relatively thin material, and if of paper or fibre, may have a plain or fluted surface.

It will be seen from the foregoing description that the package and its contents are securely bound together and capable of withstanding rough usage in transit. It will also be understood that after arrival at destination, the package having been opened and part of the contents removed, the package may be readily closed so as to remain substantially dust and air proof and the contents be protected against unfavorable atmospheric conditions.

The efficiency of this package is due to the cooperation of the package, its contents, the end blocks and the longitudinal and transverse bailing strips forming a practically solid, unshiftable unitary structure, with no opportunity for relative movement between the parts.

I claim as my invention:

1. A package consisting of a container member of relatively light material, adapted to receive merchandise of relatively heavy weight to be closely fitted therein, movable protecting blocks at each end of the package, binding means extending longitudinally and across the ends, whereby the end blocks are drawn toward each other and against the ends of the merchandise to be packed, and a circumferentially arranged tie strip, whereby a solid, unitary structure of package and contents is produced.

2. A carton of fibre or other relatively thin material, provided with ends of the same material, a movable protecting block of wood at each end, binding strips placed lengthwise of the carton and in crossed relation to each other over said end blocks, whereby the end blocks are drawn toward each other and against the ends of the merchandise to be packed, a tie strip about the outside of the carton and over the binding strips, and a relatively thin wood block on the inside of the carton at each end and between the merchandise to be shipped and the inner surfaces of the carton ends.

3. A container for the shipment of heavy merchandise, comprising a box like structure of paper or similar relatively fragile material and of a predetermined size to be substantially completely filled when the merchandise to be handled is inserted therein, a movable relatively thick block of wood at each end of the container, a binding strip extending longitudinally over the container body and over the two end blocks, a second binding strip similarly positioned but crossing the first binding strip over the blocks, whereby the end blocks are drawn toward each other and against the ends of the merchandise to be packed, means for securing the strips to the wood blocks, and a third strip extending transversely about the container body and over both of the other binding strips to bind the end blocks, the container and the merchandise therein into one solid, compact shipping package.

4. A container for the shipment of heavy merchandise, comprising a box like structure of paper or similar relatively fragile material and of a predetermined size to be substantially completely filled when the merchandise to be handled is inserted therein, a movable relatively thick block of wood at each end of the

container, a binding strip extending longitudinally over the container body and over the two end blocks, a second binding strip similarly positioned but crossing the first binding strip over the blocks, whereby the end blocks are drawn toward each other and against the ends of the merchandise to be packed, means for securing the strips to the wood blocks, a third strip extending transversely about the container body and over both of the other binding strips to bind the end blocks, the container and the merchandise therein into one solid, compact shipping package, and a relatively thin wood filler insert within the container between the merchandise and each end of the container.

5. A container for the shipment of heavy merchandise, comprising a box like structure of paper or similar relatively fragile material and of a predetermined size to be substantially completely filled when the merchandise to be handled is inserted therein, a movable relatively thick block of wood at each end of the container, a binding strip extending longitudinally over the container body and over the two end blocks, a second binding strip similarly positioned but crossing the first binding strip over the blocks, whereby the end blocks are drawn toward each other and against the ends of the merchandise to be packed, means for securing the strips to the wood blocks, and a third strip extending transversely about the container body and over both of the other binding strips to bind the end blocks, the container and the merchandise therein into one solid, compact shipping package, and a relatively thin wood filler insert within the container between the merchandise and each end of the container, the container having a removable cap at one end.

6. A container for the shipment of heavy merchandise, comprising a box like structure of paper or similar relatively fragile material and of a predetermined size to be substantially completely filled when the merchandise to be handled is inserted therein, a movable relatively thick block of wood at each end of the container, a binding strip extending longitudinally over the container body and over the two end blocks, a second binding strip similarly positioned but crossing the first binding strip over the blocks, whereby the end blocks are drawn toward each other and against the ends of the merchandise to be packed, means for securing the strips to the wood blocks, and a third strip extending transversely about the container body and over both of the other binding strips to bind the end blocks, the container and the merchandise therein into one solid, compact shipping package, the blocks of wood at the ends being provided with crossed recesses to receive the crossed binding strips.

7. A container for the shipment of heavy merchandise, comprising an enveloping material adapted to be folded about the merchandise to be packed, a pair of movable, relatively heavy end blocks initially loose and located closely adjacent the ends of the merchandise, flat metal bands arranged over said end blocks and the sides of the container and having slots cut therein to provide looped portions, and a plurality of longitudinally and transversely extending ties passed through said looped portions of the bands and around the sides and ends of the container, whereby the end blocks are drawn toward each other, to form the merchandise and packing into a unitary structure.

8. A method of packing relatively heavy merchandise, which consists in enclosing the merchandise in a wrapping of relatively light foldable material, arranging a pair of end blocks closely against the ends thereof, drawing the end blocks toward each other by means of longitudinal ties, and forming the merchandise and packing into a unitary structure by longitudinally and transversely extending ties.

In testimony that I claim the foregoing as my invention I affix my signature this 17th day of May, 1927.

OTTMAR M. KREMBS.