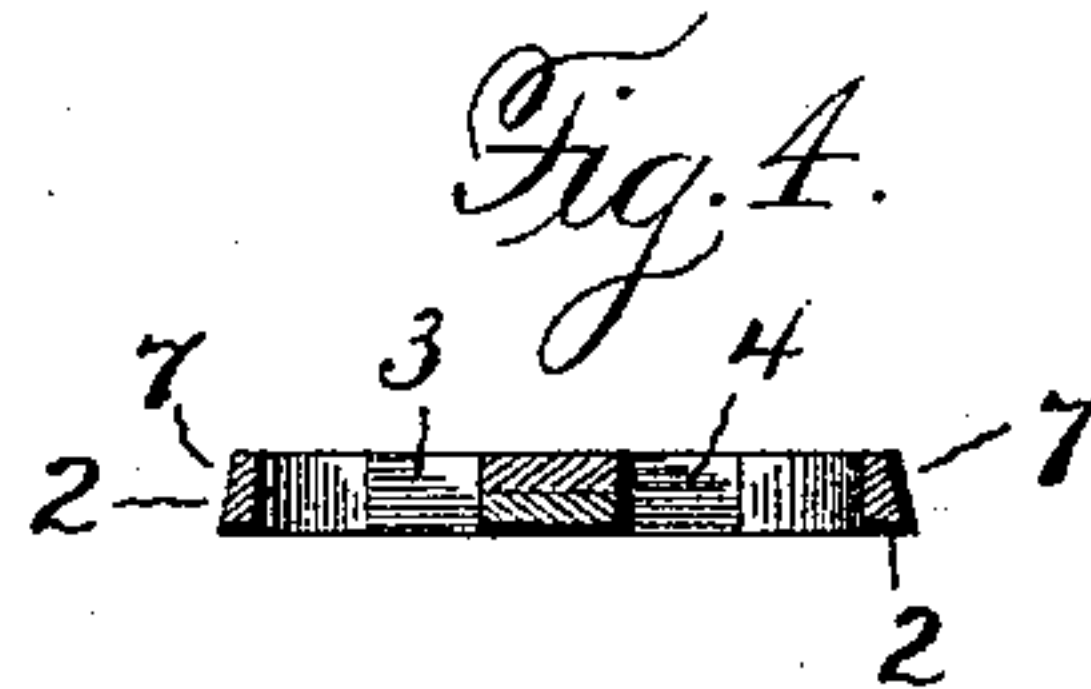
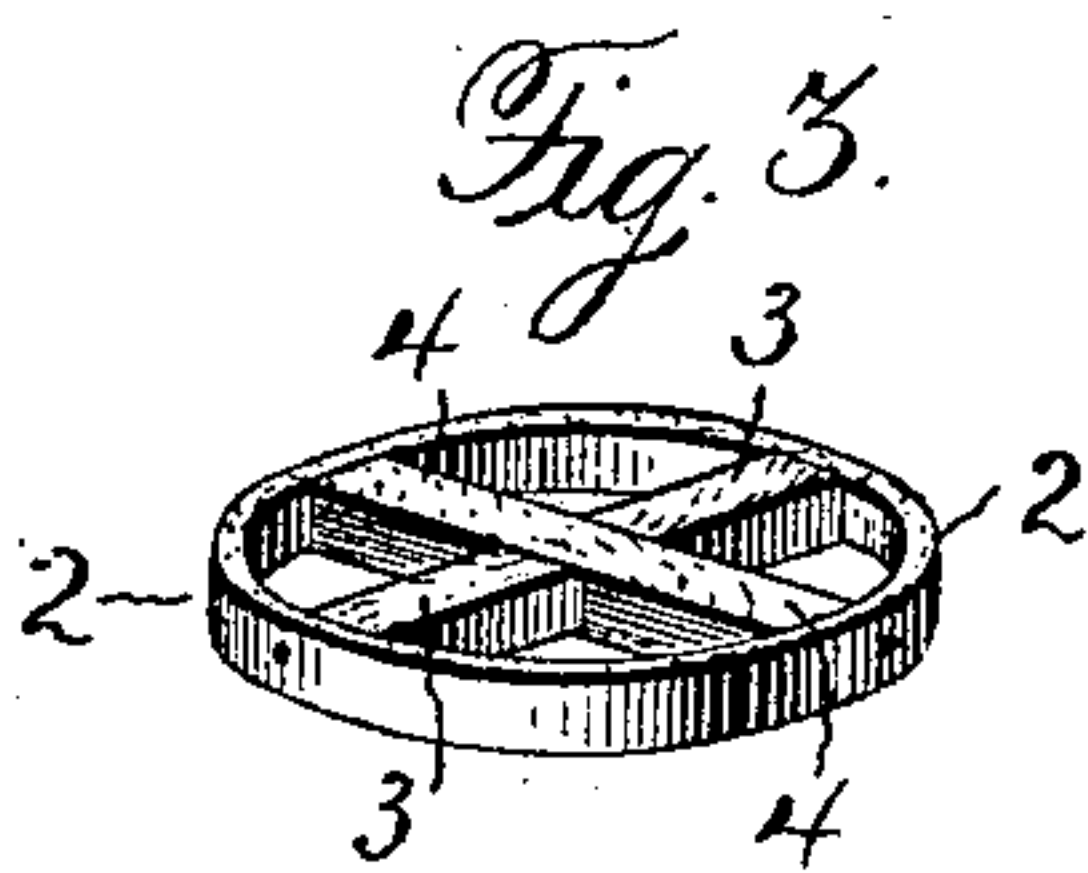
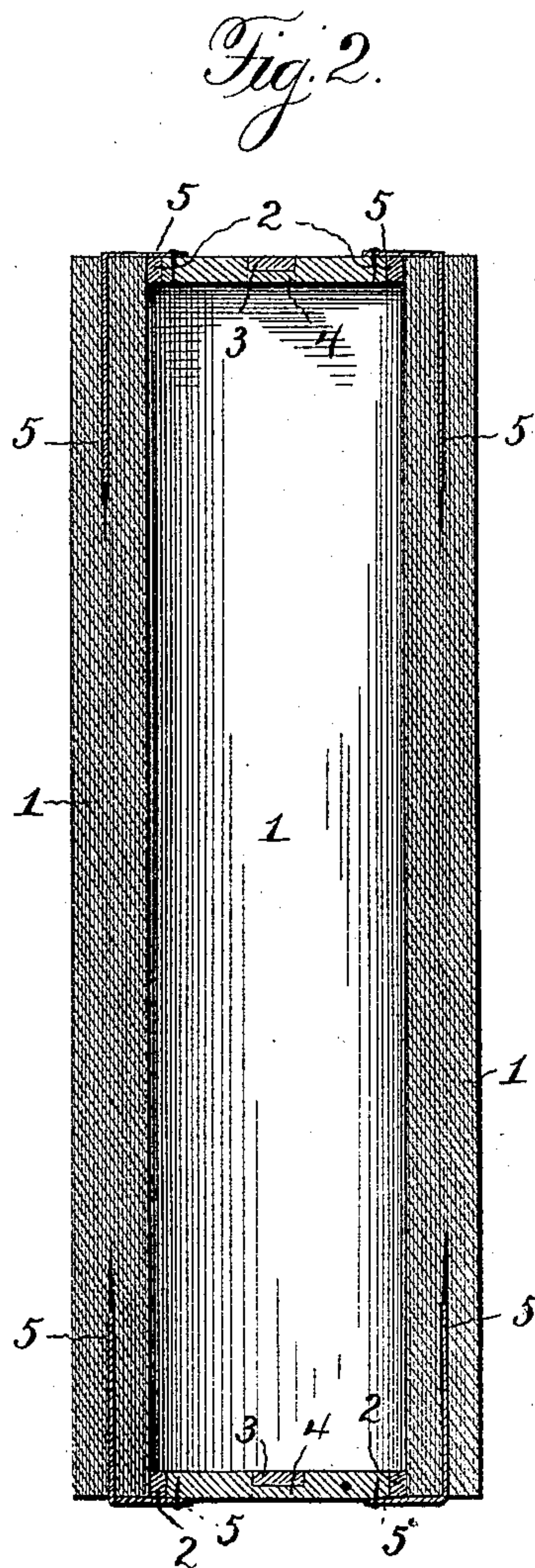
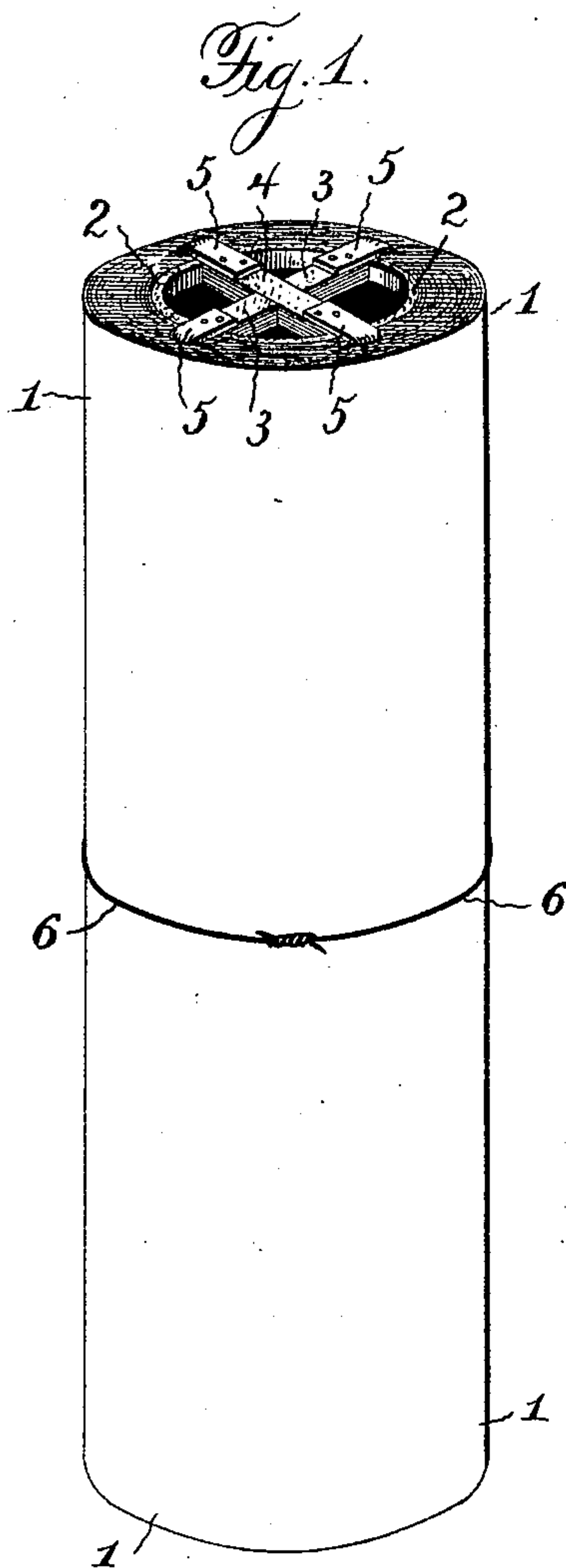


(No Model.)

F. G. CALDWELL.  
CYLINDRICAL SHEET METAL PACKAGE.

No. 539,348.

Patented May 14, 1895.



Witnesses:  
Jas. E. Hutchinson.  
Thos. A. Green

Inventor.  
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By James L. Norris.  
att'y.



# UNITED STATES PATENT OFFICE.

FRANK G. CALDWELL, OF WHEELING, WEST VIRGINIA.

## CYLINDRICAL SHEET-METAL PACKAGE.

SPECIFICATION forming part of Letters Patent No. 539,348, dated May 14, 1895.

Application filed October 26, 1894. Serial No. 527,037. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK G. CALDWELL, a citizen of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented new and useful Improvements in Cylindrical Sheet-Metal Packages, of which the following is a specification.

This invention relates to sheet-metal roofing packages, wherein plates of metal are convoluted or rolled into cylindrical form, and are designed to contain within them the fixtures, such as caps, cleats, and tools necessary to apply the plates to roofs.

The objects of my present invention are to provide novel, simple, efficient, and economical supporting heads on which the roofing plates are rolled, the construction being such as to facilitate handling the packages; to provide novel means for binding the convolutions of the rolled plates to the supporting heads for the purpose of retaining the package in proper cylindrical form; and to provide a new and improved construction of supporting heads whereby the roofing plates can be evenly and smoothly rolled into cylindrical packages while affording convenient means for grasping the ends of the packages in handling the same.

The invention consists in a cylindrical package of convolved roofing metal having supporting heads within its ends, each of which is composed of an annulus or hoop and crossed wooden strips secured at the ends to the inside of the annulus or hoop, and strips convolved with the roofing metal, extending parallel with the axis of the package, projecting from the ends thereof and fastened to said crossed strips.

The invention is illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of a cylindrical sheet-metal-roofing package constructed according to my invention. Fig. 2 is a longitudinal central sectional view of the same. Fig. 3 is a detail perspective view of one of the supporting-heads; and Fig. 4 is a sectional view of a supporting-head, showing a modification of the invention.

In order to enable those skilled in the art to make and use my invention, I will now

describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates a sheet metal roofing-plate, and 2 an annulus or hoop preferably composed of wood, and provided with two crossed wooden strips 3 and 4, mortised together centrally between their ends and secured at their extremities to the inside of the annulus or hoop by nails or other suitable fastening devices.

The sheet-metal roofing plate is designed to be convoluted or rolled into the form of a hollow cylinder, so that it may contain within its central chamber the fixtures, such as caps, cleats, and tools required to apply the roofing plate to a roof.

According to one method of producing the cylindrical package, the crossed wooden strips of two hoops are engaged with suitable rotating devices, so that the hoops are rotated. The sheet-metal roofing is nailed to the two hoops, and the rotation of the latter winds the metal plate into cylindrical form. During the rolling or winding of the plate into cylindrical form, I introduce at intervals thin metal strips 5, which are convolved with the metal roofing-plate, so that when the roofing-plate has been wound into a cylinder, the end portions of the metal strips 5 project from the ends of the package and are susceptible of being bent down upon and nailed, or otherwise fastened, to the crossed wooden strips 3 and 4 of the hoops 2. The inserted metal strips 5, when applied and fastened in the manner explained, serve to retain the greater portions of the convolutions of the roofing plate in proper form, and materially contribute to the production of a cylindrical package which can be handled or manipulated without liability of becoming broken apart or disarranged. After the sheet-metal roofing-plate has been convoluted or rolled into cylindrical form, a wire 6 is tied around the periphery of the cylindrical package, for the purpose of retaining the free end of the roofing plate in proper position.

While I prefer to provide a wire or wires, as at 6, to secure the free end of the roofing-plate, I may employ some other contrivance to secure the same result.

It is possible to wind the sheet-metal roofing-plate into cylindrical form, and subse-



quently insert the hoops 2 with their crossed strips 3 and 4 into the ends of the cylindrical package. If this method is adopted I prefer to construct the hoops with beveled or inclined peripheries, as at 7, Fig. 4, to facilitate driving the hoops into the hollow end portions of the convoluted or rolled roofing-plate. I prefer, however, to employ the method first explained, wherein the supporting heads, composed of the hoops 2 and crossed strips 3 and 4, are engaged with rotary devices for the purpose of rolling or winding the sheet-metal roofing-plate into cylindrical form.

The improved construction of supporting head, composed of an annulus or hoop and crossed wooden strips, provides a self-bracing structure which is very desirable and efficient, and serves to properly support the ends of the cylindrical package, and to retain within the center thereof the fixtures requisite to apply the roofing plates to roofs. The annulus or hoop also serves as a foundation for evenly and uniformly rolling or winding the sheet-metal roofing-plate into the form of a cylinder while the crossed strips brace the annulus or hoop, and are so relatively disposed as to admit between them the fingers or hands, for the purpose of handling or manipulating the package.

In the drawings the strips 5 are shown as short independent pieces, and in practice each

one is about four inches in length and about one inch in width. The strips are held sufficiently tight by the winding of the roofing plate into a roll to accomplish the purpose of retaining the supporting heads in position and holding the greater portions of the convolutions of the roofing plate in proper form. The independent short strips 5 are more economical than if each strip extended the full length of the cylindrical package and projected from each end thereof.

Having thus described my invention, what I claim is—

A cylindrical package of convolved roofing metal having supporting heads within its ends, each of which is composed of an annulus or hoop and crossed wooden strips secured at the ends to the inside of the annulus or hoop, and strips convolved with the roofing metal, extending parallel with the axis of the package, projecting from the ends of the package and fastened to the said crossed strips, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

FRANK G. CALDWELL. [L. S.]

Witnesses:

W. C. BROWN,  
R. BOND.