R. McCARTY.

BUNDLING RIBBED OPENWORK METAL AND METHOD OF MAKING THE SAME.

APPLICATION FILED AUG. 28, 1912.

1,133,387. Patented Mar. 30, 1915.

Fig. 1.

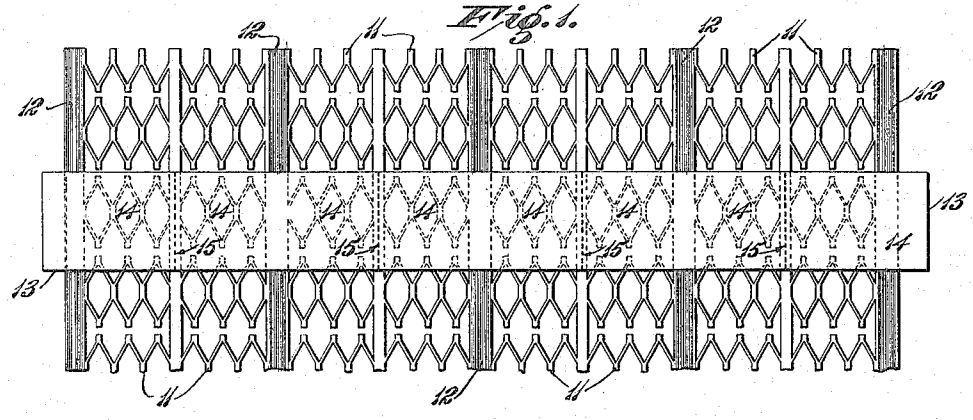


Fig. 2.

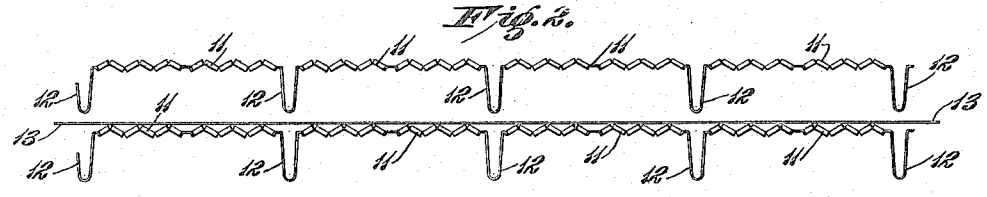


Fig. 3.

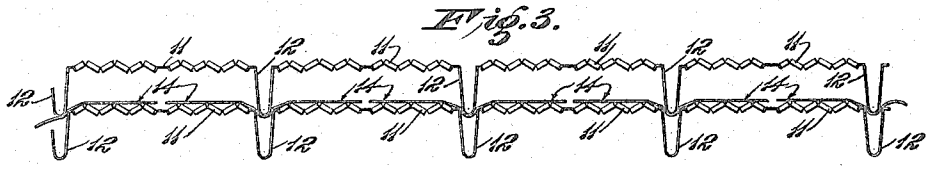


Fig. 4.

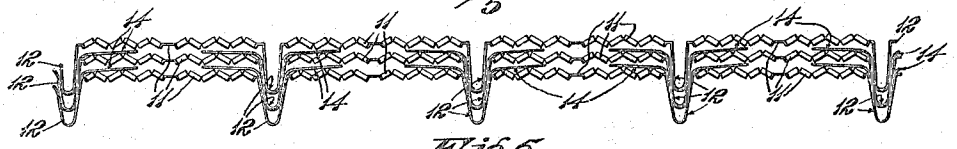


Fig. 5.

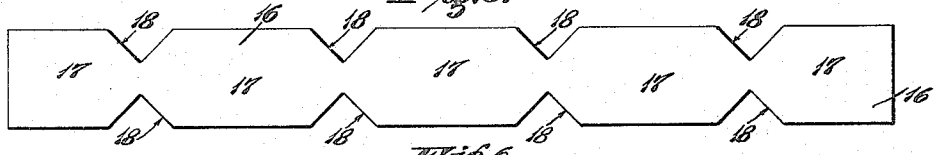


Fig. 6.

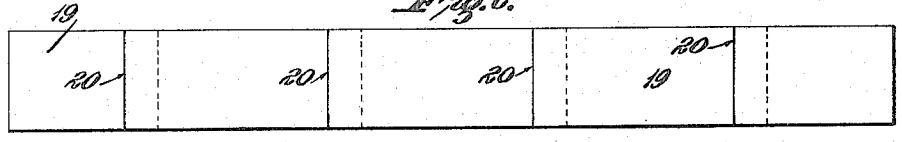


Fig. 7.



Witnesses:
Edgar T. Farmer.
A. Wolcombe.

Inventor:
Ralph McCarty,
By Cornell & Harris Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

RALPH McCARTY, OF HAMBURG, NEW YORK, ASSIGNOR TO CORRUGATED BAR COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

BUNDLING RIBBED OPENWORK METAL AND METHOD OF MAKING THE SAME.

1,133,387. Specification of Letters Patent. Patented Mar. 30, 1915.

Application filed August 28, 1912. Serial No. 717,442.

To all whom it may concern:

Be it known that I, RALPH MCCARTY, a citizen of the United States, and a resident of the city of Hamburg, in the county of Erie and State of New York, have invented a new and useful Improvement in Bundling Ribbed Openwork Metal and Methods of Making the Same, of which the following is a specification.

Ribbed openwork or reticulated metal lathing is manufactured in sheets from eight to twelve feet in length, and usually from one to three feet in width. It is made of thin sheet metal, which is first cut or slashed along parallel lines and then pulled out laterally to open the slashes into meshes, portions of the sheet being left uncut and formed up during the expanding operation into stiffening ribs. The finished product is bulky and jagged and lacks rigidity, so that it is awkward to handle and takes up much space in proportion to its weight.

The object of my invention is the packaging or bundling of sheets of ribbed reticulated metal lathing and similar material in such manner that it may be handled without being damaged, and without danger of injury to those handling it.

As freight rates are based on the bulk as well as on the weight of the commodity, it is desirable to pack bulky light-weight articles into the smallest possible space, and a further object of my invention is the expeditious assembling of sheets of ribbed reticulated metal lathing and similar material into packages containing large areas of reticulated metal in comparatively small volume.

Further objects of my invention will appear in connection with the description thereof, and the details of my improvements will be fully pointed out in the appended claims.

In describing my invention reference is had to the accompanying drawings, in which like characters are used to designate like parts in the several views, and in which—

Figure 1 is a plan view of a portion of an end sheet of ribbed reticulated metal with one of my packing strips laid across it, ready for another sheet of ribbed reticulated metal to be placed thereon; Fig. 2 is an end view of the same, showing a second sheet of reticulated metal impending above the first sheet; Fig. 3 is a view similar to Fig. 2 except that the second sheet has been lowered part way into its final place in the package; Fig. 4 is an end view of a package containing three sheets with separator strips between them bundled together for shipment; Fig. 5 is a plan view of a modified form of separator strip; Fig. 6 is a plan view of another modified form of separator strip; and Fig. 7 is a side view of the separator strip shown in Fig. 6.

Referring to Figs. 1 to 4 of the drawings, the ribbed reticulated metal sheets, the bundling of which is the object of this invention, comprise sections of mesh work 11 joined by hollow V-shaped ribs 12 projecting all on the same side of the general plane of the mesh work and running lengthwise of the sheets. It has been the practice to assemble sheets of material of this sort by placing two sheets together with the ribs facing in opposite directions and on the inside of the package; but one pair of sheets placed together this way does not make a heavy enough bundle for economical handling, and several pairs of sheets bundled together take up too large a space for economy of space in transportation. If the sheets are assembled with the ribs all facing the same way and with the ribs of one projecting into the hollow spaces inside the ribs of the next, they become jammed together and, on account of their lack of rigidity cannot be separated without getting badly distorted or even torn.

My invention comprises the placing of strips 13 of paper or other suitable material between the metal sheets crosswise of the ribs. As shown in Figs. 1 to 4 of the drawing said strips are divided off into sections 14 of a length about equal to the distance between the ribs of the sheet, the lines of division being indicated by marginal notches, or by rows of perforation or scoring extending crosswise of this strip and designed to weaken the same. These strips are slightly longer than the width of the sheets measured transversely of the ribs, and are laid on the plane side of the sheets crossing the hollow ribs at distances of one to three feet apart throughout the entire length of the sheet, the lines of perforations or grooves 15 being arranged between the ribs. Then another sheet is laid down on the first on top of the separator strips, with its ribs in line with and facing the same way as those of the first sheet. The ribs of

the second sheet will slip down into the hollows inside the ribs of the first sheet, carrying the intervening portions or sections of the separator strips before them. These intervening portions of the strips serve to prevent the ribs from jamming together along their whole length. When the metal ribs of one sheet are pressed into the hollows of the ribs of another sheet, the separator strips are torn along the lines where they are weakened by notches, perforations or otherwise. A third sheet may be assembled on top of the first two in the same manner as just described, and then a fourth sheet, and so on until the desired number of sheets shall have been nested and bundled together. Fig. 4 shows a bundle of three sheets nested together, but evidently as many sheets as may be desired may be assembled in this way to form a compact bundle.

In Fig. 5 there is shown a separator strip 16 which is divided off into sections 17 by means of notches 18 in its two edges positioned opposite each other.

In Figs. 6 and 7 there is shown a separator strip 19 which is divided off into sections by creases formed by doubling the strip back upon itself in loops or folds 20, spaced apart at distances equal to those separating the ribs 12. The length of material doubled up in these folds is sufficient to allow portions of the strip to be carried into the hollow ribs in the under sheet by the ribs of the upper sheet without tearing the strips.

Applicant has packed together sixteen sheets into a space of four and one quarter inches and separated them again without difficulty by the use of this method; whereas sixteen sheets packed in pairs of two sheets arranged back to back cannot be gotten into a space less than seven and one half inches, which is equivalent to over 86% greater volume than is required for the same number of sheets bundled in accordance with my invention. Moreover, the bundle of sheets packed according to this invention is less liable to injury from rough handling than that which is not so solidly packed.

Having described my invention and the way in which it is preferably practised by me, I do not wish to be limited to the precise manner of performance or sequence of operations described, or to the particular form of separator strip illustrated.

What I claim and desire to secure by Letters Patent is:

1. The method of bundling sheets having hollow ribs which consists in arranging separator strips at intervals crosswise of said hollow ribs, said strips having portions which are adapted for movement with respect to each other in the direction of their length arranged across said ribs, and placing another sheet with its ribs nesting with the ribs of the first sheet and spaced therefrom by said separator strips, whereby said sheets may be readily separated.

2. The method of bundling sheets of meshed metal having spaced hollow ribs thereon which consists in arranging separator strips comprising integral sections at intervals crosswise of said ribs between the sheets and then nesting the sheets with ribs of one sheet inside the ribs of the next adjacent sheet, whereby said integral sections are pulled into the bottoms of the spaces between said nested ribs.

3. The method of bundling sheets of meshed metal having spaced hollow ribs which consists in arranging separator strips between the sheets and crosswise of said ribs, and then nesting the sheets with ribs of one sheet inside the ribs of the next adjacent sheet, the portions of said separator strips near the ribs being flexible, and the intermediate portions of the strips being adapted for endwise movement, whereby the nesting together of the sheets will draw successive portions of the strips into the spaces between the ribs.

4. The method of bundling sheets of meshed metal having spaced hollow ribs which consists in arranging separator strips having spaced longitudinal portions conformable to said ribs between the sheets and crosswise of said ribs, and then nesting the sheets with ribs of one sheet inside the ribs of the next adjacent sheet, and spaced therefrom by said strips.

5. The method of bundling sheets of meshed metal having spaced hollow ribs which consists in arranging separator strips between the sheets and crosswise of said ribs, and then nesting the sheets with ribs of one sheet inside the ribs of the next adjacent sheet, said separator strips having sections arranged between said ribs so as to be free to move relatively, said freedom of movement being at points intermediate the ribs and spaced lengthwise of the strip at distances conforming to the spacing apart of said hollow ribs, whereby the respective sections may move apart at these points under stress and pull into the bottoms of the spaces between said nested ribs.

6. The method of bundling sheets of meshed metal having spaced hollow ribs thereon which consists in arranging separator strips having division lines such as loops corresponding to the number of said ribs crosswise of said ribs between the sheets and then nesting the sheets with ribs of one sheet inside the ribs of the next adjacent sheet, said separator strips being arranged with their intervening portions between said division lines corresponding to the spacing of said ribs, whereby said strip is adapted to conform to the configuration of

said ribs and may be inserted between said sheets without being torn at the ribs during the bundling thereof.

7. A bundle of sheets of ribbed openwork metal wherein the ribs of one sheet are nested in the hollows of the ribs of another sheet with thin separators comprising portions conforming to said ribs intervening, whereby the open-work portions of one sheet and the sheets adjacent thereto are spaced farther apart than said ribs.

8. A bundle of sheets of ribbed openwork metal wherein the ribs of one sheet are nested in the hollows of the ribs of another sheet with thin separators comprising sections conforming to said ribs intervening at intervals, whereby the open-work portions of one sheet and the sheets adjacent thereto are spaced farther apart than said ribs.

9. A bundle of sheets of metal, each sheet having longitudinal hollow ribs and slit and expanded portions between said ribs, the ribs of one sheet being nested in the ribs of the next sheet with integrally formed sectional strips of paper or equivalent material between and spacing them apart, whereby the slit and expanded portions of one sheet and the sheets adjacent thereto are spaced farther apart than said ribs.

10. The method of bundling sheets of meshed metal having spaced hollow ribs which consists in arranging separator strips between the sheets and crosswise of said ribs, and then nesting the sheets with ribs of one sheet inside the ribs of the next adjacent sheet, the portions of said separator strips near the ribs being flexible, and the intermediate portions of the strips being adapted for endwise movement as by looping, whereby the nesting together of the sheets will draw successive portions of the strips into the spaces between the ribs.

11. The method of bundling sheets of meshed metal having spaced hollow ribs which consist in arranging separator strips between the sheets and crosswise of said ribs, and then nesting the sheets with ribs of one sheet inside the ribs of the next adjacent sheet, said separator strips having sections arranged between said ribs so as to be free to move relatively, as by being looped at points spaced lengthwise of the strip at distances conforming to the spacing apart of said hollow ribs, whereby the respective sections may move apart at these points under stress and pull into the bottoms of the spaces between said nested ribs.

Signed at Blasdell, New York, this 23 day of August, 1912.

RALPH McCARTY.

Witnesses:
F. H. STEBBINS,
CHAS. SPANGENBERG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."