(No Model.) 2 Sheets—Sheet 1.

H. S. REYNOLDS.

COAL HOD.

No. 304,033. Patented Aug. 26, 1884.

Fig. 1.

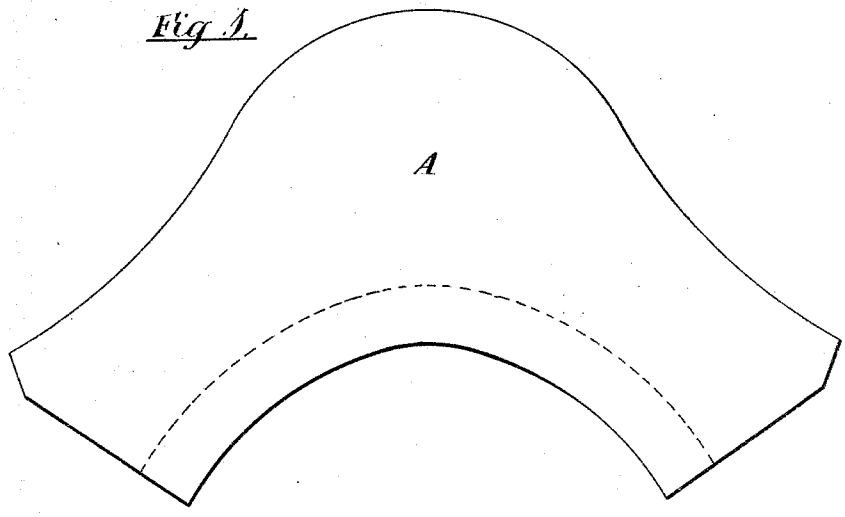


Fig. 2.

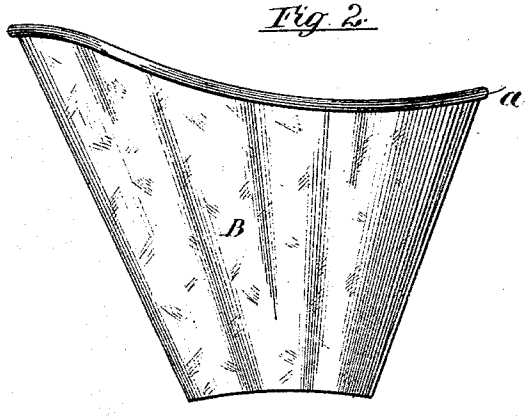
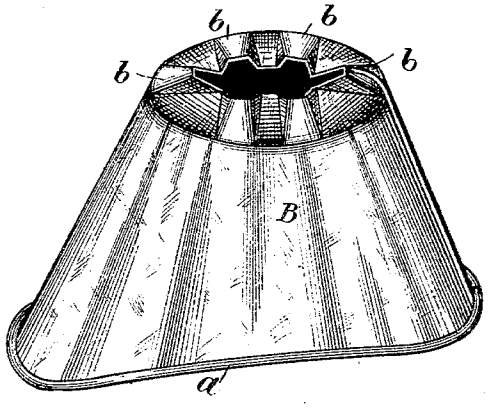


Fig. 3.



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By his Attorney
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(No Model.) 2 Sheets—Sheet 2.

H. S. REYNOLDS.

COAL HOD.

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Fig. 4.

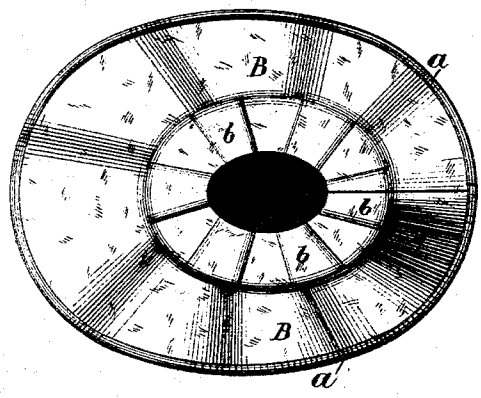


Fig. 5.

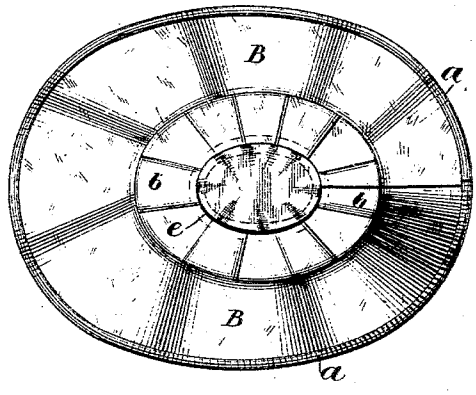


Fig. 7.

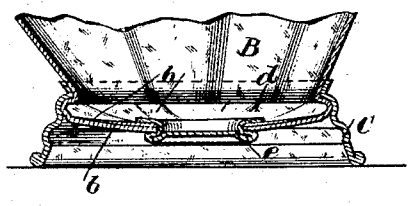


Fig. 8.



Fig. 6.

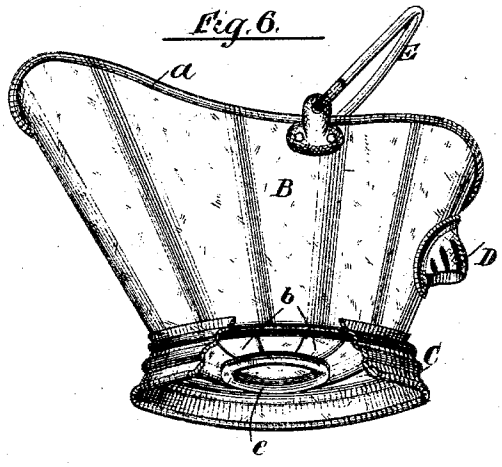


Fig. 9.

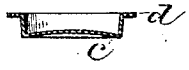


Fig. 10.



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UNITED STATES PATENT OFFICE

HENRY S. REYNOLDS, OF BROOKLYN, ASSIGNOR TO THE IRON CLAD MANUFACTURING COMPANY, OF NEW YORK, N. Y.

COAL-HOD.

SPECIFICATION forming part of Letters Patent No. 304,033, dated August 26, 1884.

Application filed April 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. REYNOLDS, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Coal-Hods, of which the following is a full, clear, and exact description.

This invention relates to improvements in coal-hods, pails, buckets, cans, and many other vessels of a similar character. The principal objects are to increase the strength and durability of the vessel and decrease the cost of production. To accomplish these objects, I propose to partially form the bottom out of the metal forming the body, and to close the aperture and complete the bottom by a cap, all as hereinafter fully described and claimed.

To enable others skilled in the art to make and use my said invention, I will now proceed to describe the same by reference to the accompanying drawings, in which—

Figure 1 is a diagram of a blank designed to form the body of a coal-hod. Fig. 2 is a side elevation of the blank formed up. Fig. 3 is an inverted perspective view of the formed-up blank after the first operation. Fig. 4 is a bottom plan view of the formed-up blank after the second operation. Fig. 5 is a similar view after the third operation. Fig. 6 is a perspective view of the completed coal-hod, a portion of the base or foot being shown broken away. Fig. 7 is a central vertical section of the lower part of a hod embodying my improvements. Fig. 8 is a side elevation of the bottom cap detached. Fig. 9 is a longitudinal vertical section of the same; and Fig. 10 is a similar section of said cap in process of upsetting, to secure it and the bottom together.

Similar letters of reference indicate corresponding parts in all the figures.

The blank A is cut out in the ordinary way, and is then formed up by bending its edges around and uniting them in any suitable manner to form the body B, the upper edge, *a*, of which is wired, as usual. The blank, as now formed up, (see Fig. 2,) is open at both ends, and the body B is ready for the succeeding operations to complete the article. As thus far described, the operations are those ordinarily followed in manufacturing coal-hods and similar vessels, and no particularity of description is necessary to those familiar with this art.

The next operation consists in placing the body B, Fig. 2, preferably in an inverted condition, in a stamping-press of the requisite power, and subjecting it to compression between dies of suitable shape to fold its lower edge (see the dotted line, Fig. 1) inwardly, and form a series of radial ribs, *b*, tapering toward the center. The result of this operation is shown by Fig. 3.

The next operation consists in placing the body B, Fig. 3, preferably in an inverted condition, in a press, and by the action of another set of dies flattening the ribs *b*, as shown by Fig. 4, and thereby partially forming the bottom of the vessel out of a portion and in one piece with the body, the walls of the ribs folding in upon the metal between them, and thus increasing the thickness of metal throughout a portion of the bottom, and consequently increasing the strength and capability of that portion of the bottom to resist strains in use.

To finish the bottom, I employ a cap, Fig. 8, having a recessed body, *c*, and a rim or side flange, *d*. This cap may be punched out of sheet metal, and stamped up in a manner common in working sheet metal. It is inserted in place in the partially-completed bottom, the rim *d* resting upon the inside, and its body *c* projecting through the aperture, and then by the action of dies, or in any other suitable manner, is compressed until the side walls of the recessed body are spread outwardly, as indicated in Fig. 10, and thereafter by the continuation of the operation of upsetting or compression are flattened down, forming a rim or flange, *e*, closing the aperture, binding the ribs, and completing the bottom, as shown by Fig. 5, which illustrates the result of the last stamping operation. The customary base or foot C, handle D, and bail E are now attached, and the hod is complete and ready to be galvanized, which last operation tightly closes all seams.

In the drawings my improvements are shown

only as applied to a coal-hod; but it is obvious that they are equally well applicable to many other vessels.

It is also obvious that a bottom made in the manner described will be very strong and durable, and well adapted to resist the strains incident to its use, and at the same time the cost of producing the finished vessel is considerably lessened, as the blanks to form the body and partially form the bottom can be cut from the sheets with very little waste, and the caps can be in many instances made up from "cuttings."

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A coal-hod or other vessel having its bottom partially formed of radial ribs integral with the body and tapering toward the center, and flattened down to increase the thickness of metal, and completed by a cap having a recessed body, and a rim or side flange closing the aperture and binding the ribs, substantially as described.

2. A vessel comprising a sheet-metal body, B, having its lower edge crimped or folded inwardly, and a cap engaging said crimped edge, and flattened down inside and outside the same, to embrace it to form the bottom of the vessel, substantially as described.

In testimony whereof I have hereunto set my hand this 5th day of April, A. D. 1884.

HENRY S. REYNOLDS.

Witnesses:
ARTHUR C. WEBB,
ERNEST C. WEBB.