F. G. & W. F. NIEDRINGHAUS.

SHEET-METAL VESSEL-HANDLES.

No. 192,784. Patented July 3, 1877.

FIG. 1.

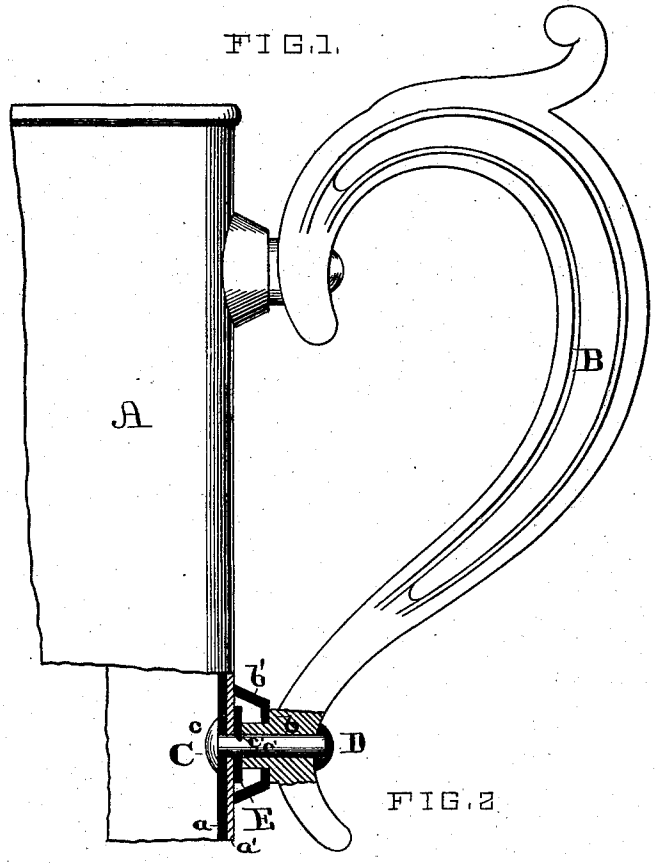
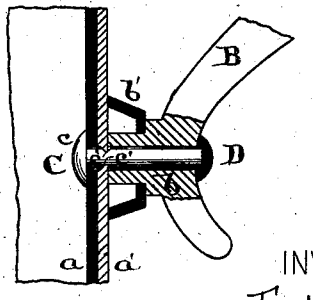


FIG. 2.



ATTEST.

Paul Bakewell

Annie S. Boyd

INVENTORS.

Frederick G. Niedringhaus,
William F. Niedringhaus,
by Chas. D. Moody,
their atty.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FREDERICK G. NIEDRINGHAUS AND WILLIAM F. NIEDRINGHAUS, OF ST. LOUIS, MISSOURI, ASSIGNORS TO ST LOUIS STAMPING COMPANY, OF SAME PLACE.

IMPROVEMENT IN SHEET-METAL-VESSEL HANDLES.

Specification forming part of Letters Patent No. **192,784**, dated July 3, 1877; application filed May 11, 1877.

To all whom it may concern:

Be it known that we, FREDERICK G. NIEDRINGHAUS and WILLIAM F. NIEDRINGHAUS, residents of St. Louis, Missouri, have made a new and useful Improvement in Attaching Handles, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making part of this specification, in which—

Figure 1 is an elevation, partly in section, showing the handle attached; and Fig. 2 a detail, showing a modification of the construction.

Similar letters refer to similar parts.

This improvement relates to a mode of attaching handles to sheet-iron vessels, and more especially to vessels that are finished with a coating of enamel.

In the annexed drawing, A represents a portion of the vessel, and B the handle. Our improvement is adaptable to a variety of handles; but we preferably use the one shown, which is an article of commerce. A rivet, C, in length considerably more than the thickness of the vessel-wall, and having a head, *c*, is passed from the inside of the vessel outward through the wall *a a'* of the vessel, and through and slightly beyond the point *b* of the handle, and at its outer end a head is formed by applying solder D. This serves to fasten the handle in position.

In inserting the rivet care is taken to make the rivet-hole small enough to require to be forced into place. Then, when the "beard" around the rivet-hole is, by a suitable appliance, closed down against the rivet, the latter is fastened quite firmly in the vessel-wall. In this manner a projection is formed upon the body of the vessel, to which any ordinary handle can be readily attached.

It is very important, however, in vessels coated with enamel, to have every portion to which the enamel is applied as rigid as is practicable, as it is part of this improvement to provide means for readily and firmly securing the rivet in the wall of the vessel. To this end the rivet is notched at *c' c'*. Then, after the rivet has been passed through the wall *a a'*, a closely-fitting washer, E, is applied to it in such a way as to spring the washer into the notches, and so as to be interlocked therein, as shown in Fig. 1. The notches are properly located on the rivet to enable the washer, when attached thereto, to bear against the outside of the wall of the vessel, and to draw the rivet-head *c* tightly against the inside of the vessel. This serves to fasten the rivet rigidly in the wall *a a'*, and as a handle is usually attached at the line of the vertical seam in the vessel-wall, the rivet C can thus be made to take the place of one of the ordinary rivets in the seam.

The enamel is applied after the rivet is inserted, and preferably after the washer E is attached. The handle is provided with the usual cup-shaped flange *b'*, serving to cover the washer and give a finish to the construction.

In Fig. 2 is shown a modification of the construction. In place of the washer engaging in the notches *c' c'*, the wall *a'* is made to engage therein. In either case use is made of the beard that is usually formed at the edge of a hole in punching sheet metal, by pressing it into the notches, and thereby forming the lock with the rivet. One or more notches, *c' c'*, can be used, or one notch extending around the rivet.

When the washer is not used the notches are arranged suitably for the wall *a'* to engage therein.

While serviceable in drawing the two parts *a a'* of the wall together, the improvement is valuable as a means whereby a part like the rivet C can be rigidly attached in a wall of but a single thickness.

If desired, a nut may be used in the place of the solder D, and in this case the rivet is suitably threaded.

By means of this projecting rivet it is evident a vessel-body can be readily prepared to be sold as an article of merchandise, to which any suitable handle can be subsequently attached by the purchaser without injury to the enamel, thus adapting it to the present requirements of the trade.

We claim—

1. The vessel A and rivet C, having the

notches c' c', combined substantially as described.

2. The combination of the vessel A, rivet C, having the notches c' c', and the washer E, substantially as described.

3. The combination of the vessel A, notched rivet C, handle B, and solder D, substantially as described.

4. The combination of the vessel A, notched rivet C, handle B, washer E, and solder D, substantially as described.

5. The combination of the enameled vessel A and a rivet, C, the latter passing through and projecting beyond the vessel-wall for a sufficient distance to allow a handle to be attached by it to the vessel without injuring the enamel of the vessel, such rivet being held in position by the friction of the adjoining parts, and by the enamel covering, substantially as shown and specified.

6. The combination of the enameled vessel A, rivet C, and washer E, substantially as described.

F. G. NIEDRINGHAUS.
WM. F. NIEDRINGHAUS.

Witnesses:
CHAS. D. MOODY,
SAML. S. BOYD.