H. S. HALE.

METALLIC SHEATHING.

APPLICATION FILED FEB. 10, 1915.

1,164,643. Patented Dec. 21, 1915.

Fig. 1.

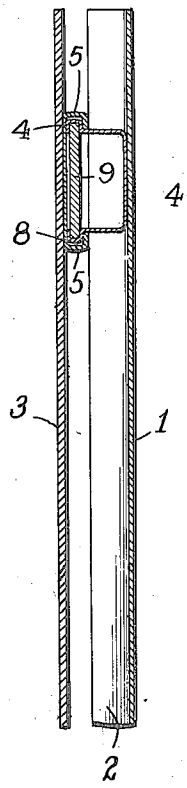


Fig. 2.

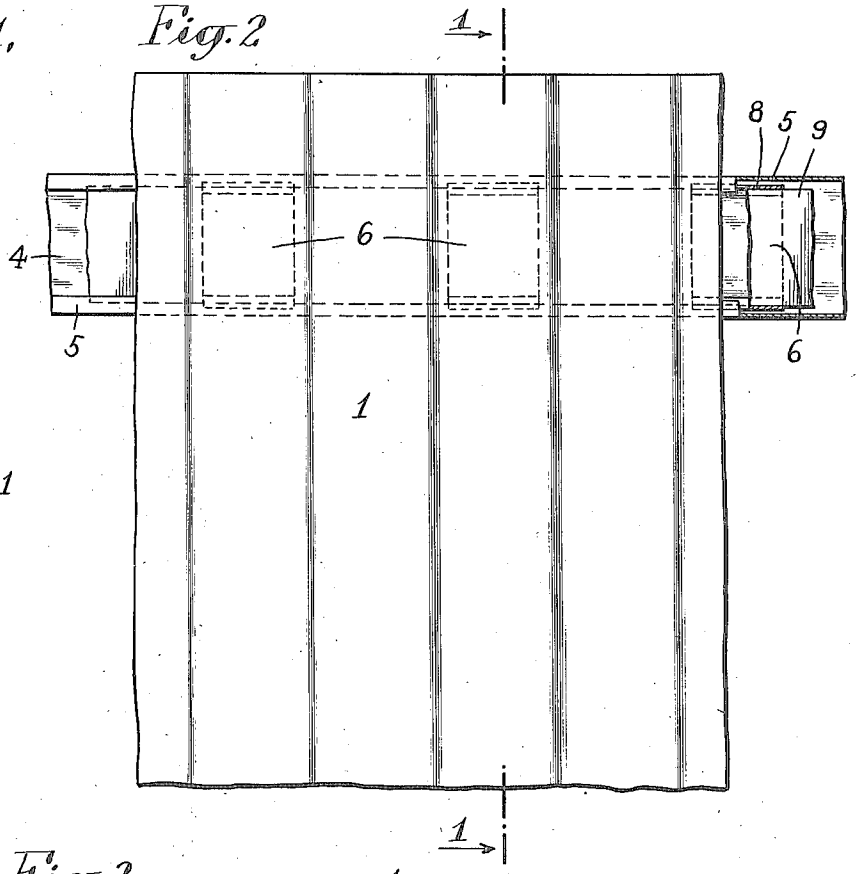


Fig. 3.

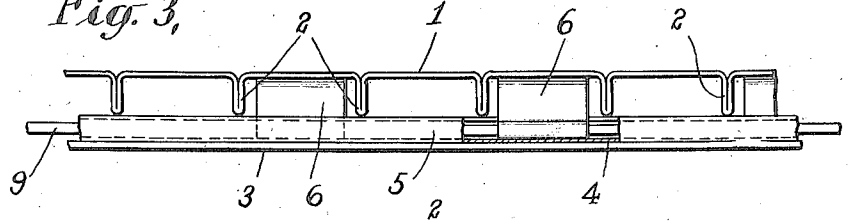
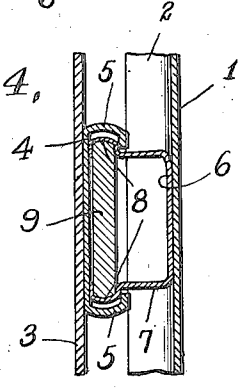


Fig. 4.



WITNESSES

Dyer W Smith

Frank Drahas.

INVENTOR

Henry S. Hale

BY

J. C. Edwards

ATTORNEY

UNITED STATES PATENT OFFICE.

HENRY S. HALE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HALE AND KILBURN COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF DELAWARE.

METALLIC SHEATHING.

1,164,643. Specification of Letters Patent. Patented Dec. 21, 1915.

Original application filed April 6, 1911, Serial No. 619,213. Divided and this application filed February 10, 1915. Serial No. 7,249.

To all whom it may concern:

Be it known that I, HENRY S. HALE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Sheathing, of which the following is a specification.

This invention is directed to the provision of an improved form of sheathing made of sheet-metal and adapted particularly for use as a sheathing for the exterior and interior surfaces of the side walls of railway cars and other structures, and improved means for securing the sheathing in position.

This application is a division of my application entitled metallic sheathing, Serial No. 619,213, filed April 6, 1911, in whcih certain forms of securing devices are claimed.

In the present application another form of securing devices for the sheathing will be claimed characterized by the use of coacting flanged securing devices on the supporting structure and the sheathing together with a strip or strips or wedge pieces inserted within the inner flanges of the coacting devices to spread the same into firm engagement with the outer flanges of the coacting devices.

The objects of the invention are accordingly to provide a sheathing which can be readily manufactured and applied to a wall at low cost, together with means for quickly and efficiently mounting the same in position, in the manner referred to, and so that if one piece of sheathing becomes damaged, it may be removed and another inserted in its place.

In accordance with the invention the sheathing consists of a number of sections sufficient to fill the desired space, each of these sections preferably being formed from a piece of sheet-metal of substantial size pressed to provide therein a plurality of ribs extending parallel to each other and serving to strengthen the sheet so as to prevent distortion thereof, these ribs preferably extending inwardly. These sheets are secured to the wall by means of coacting securing devices in the manner referred to, these securing devices being such as to permit the several plates of the sheathing to be slid into position by a lateral movement thereof and then firmly held in position by the wedge pieces or strips referred to. Preferably the engaging surfaces of the securing devices are of comparatively small area so that the area of the metallic path through the wall of a car is small and therefore the passage of heat through the wall is considerably reduced.

In order that a clearer understanding of my invention may be had, attention is hereby directed to the accompanying drawings forming part of this application and illustrating certain forms of my invention.

In the drawings, Figure 1 is a partial vertical sectional view of the sheathing mounted in position, Fig. 2 is an elevation thereof, Fig. 3 is a horizontal section of the sheathing mounted in position, and Fig. 4 is an enlarged vertical section illustrating the securing devices.

Referring to these drawings, the sheathing consists of a plurality of plates of sheet-metal of substantial size, each of the same preferably being pressed so as to provide therein a plurality of parallel ribs integral with the plate upon the inner side thereof. One of these plates is indicated at 1 and the ribs are shown at 2. In forming these ribs the metal of the plate is pressed inwardly and then the side walls of this inwardly extending portion are brought together so as to lie side by side as shown in Fig. 3. These ribs serve to stiffen the plate so as to prevent distortion thereof and to strengthen it against rupture. The size of the plates may be varied as desired, but preferably they are of substantial area.

The wall to which the sheathing is to be secured is indicated at 3 and the securing devices for the sheathing are fixed to this wall and to the interior surface of the sheathing. These securing devices preferably include two parallel rails 4 secured to the wall in any desired manner and extending horizontally through the length of the wall, one adjacent to the lower edge of the wall and the other near the upper edge thereof, one only of these rails being shown in the drawings. If the wall is of substantial height, one or more

additional rails 4 may be provided between the upper and lower ones. The rails 4 are provided with curved flanges 5 as shown, flanges 5 extending outwardly from the wall.

Upon the inner sides of each of the plates 1 are mounted a plurality of securing devices 6 in position to coact with the rails 4, these securing devices lying between the adjacent ribs 2 of the sheathing and being secured to the plates 1 in any suitable manner but preferably by welding them thereto. The securing devices 6 are formed of sheet-metal pieces and have their lateral edges outwardly turned from the body portions thereof as shown at 7 and flanges 8 are provided upon the ends of these outwardly extending portions, the flanges 8 coacting with the flanges 5 of the rails 4 to secure the sheathing to the wall 3. Preferably the securing devices 6 are tempered so as to give them a good spring action, the flanges 8 being arranged to enter between the flanges 5 on rails 4. In mounting the plates 1 of the sheathing in position, the flanges 8 may be engaged within the flanges 5 and the plate 1 moved relatively until it reaches a desired position. After one or more of the plates of the sheathing have been properly positioned, strips or wedge pieces 9 may be inserted between the flanges of the securing pieces 6 so as to spread the flanges 8 thereof and hold them in firm engagement with the flanges 5 on rails 4. This engagement of the strip or strips 9 with the coacting flanges ensures a firm engagement of the sheathing and prevents any rattling which might otherwise take place. The form of the spring metal securing devices also permits the sheet 1 to be positioned by moving it bodily toward the wall, the flanges 7 of the securing devices 6 being moved inwardly until the same have passed within the flanges 5 of rails 4, when the sheathing is in proper position, whereupon the flanges of the securing devices will spring into position within flanges 5 after which the wedge pieces 9 may be inserted in position.

Another advantage of the construction herein described is that the sheathing is spaced apart slightly from the wall and the metallic parts connecting the sheathing plates and the wall are of comparatively small cross-section, as a result of which the transmission of heat through the metal of the wall takes place to only a slight extent, and the spaces between the sheathing and the wall form dead-air spaces through which heat is transmitted but poorly.

I wish it to be understood that my invention is not limited strictly to the exact construction illustrated in the drawings, but that it includes reasonable equivalents therefor, and generally speaking, is as broad as is indicated by the accompanying claims.

Having described my invention what I claim as new therein and desire to secure by Letters Patent of the United States is:

1. In sheathing construction, the combination of a supporting structure, a pair of rails secured thereto, having flanges, a sheet-metal sheathing, and a plurality of spring-metal securing devices fixed to said sheathing at distributed points along lines corresponding to said rails, said securing devices having flanges thereon coacting with the flanges on the rails to secure the sheathing in position, with the flanges of one of each pair of coacting members within the flanges of the other, and strips positioned between the inner flanges of each pair to spread the latter into firm engagement with the outer flanges, substantially as set forth.

2. In sheathing construction, the combination of a supporting structure, a rail secured thereto having flanges, a sheet-metal sheathing consisting of a sheet-metal plate having a plurality of integral parallel ribs therein substantially perpendicular to the general plane of the sheathing and on the inner side thereof, and a plurality of spring metal securing devices fixed to said sheathing at distributed points along lines corresponding to said rail between said ribs, said securing devices having flanges thereon coacting with the flanges on the rails to secure the sheathing in position with the flanges of one of each pair of coacting members within the flanges of the other and strips positioned between the inner flanges of each pair to spread the latter into firm engagement with the outer flanges, substantially as set forth.

3. In sheathing construction, the combination of a supporting structure, a sheet-metal sheathing, and coacting flanged securing devices comprising elements fixed to said structure and sheathing respectively, one of which comprises a flanged rail and the other a group of coacting flanged devices, one element of said devices being of sheet-metal, and the flanges of said element being inserted within the flanges of the other, to secure the sheathing in position, said coacting devices being in line, and a strip positioned within the inner flanges of the coacting devices to spread the same into firm engagement with the other flanges, substantially as set forth.

This specification signed and witnessed this 8th day of February, 1915.

HENRY S. HALE.

Witnesses:
WILLIAM J. CONWAY,
JOHN B. KILBURN.