

March 8, 1938.

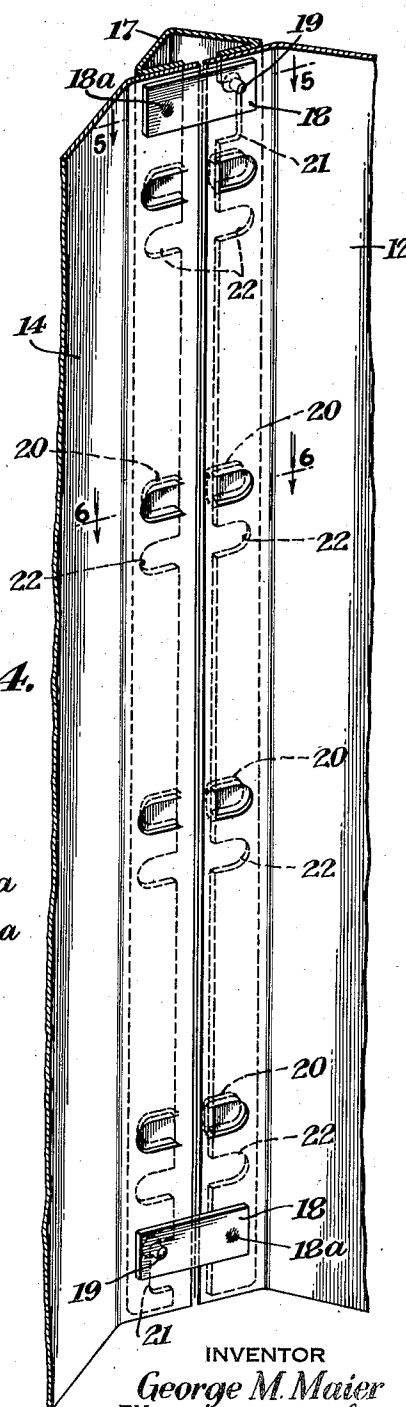
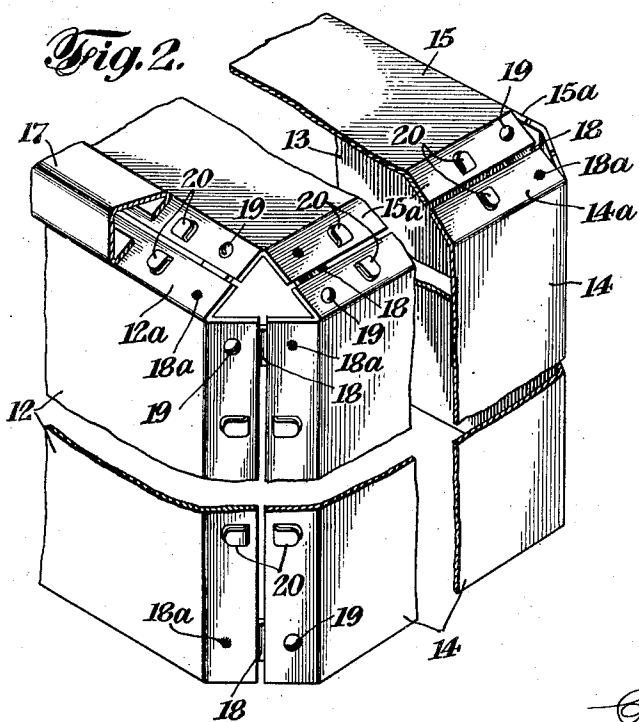
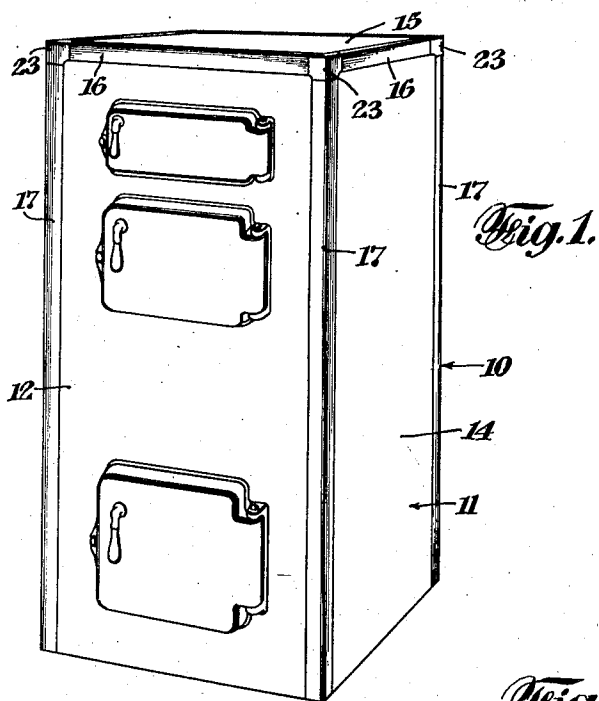
G. M. MAIER

2,110,841

BOILER JACKET

Filed Sept. 14, 1935

2 Sheets-Sheet 1



INVENTOR

George M. Maier

BY

BY *Conrad A. Buterick*
his ATTORNEY

ATTORNEY

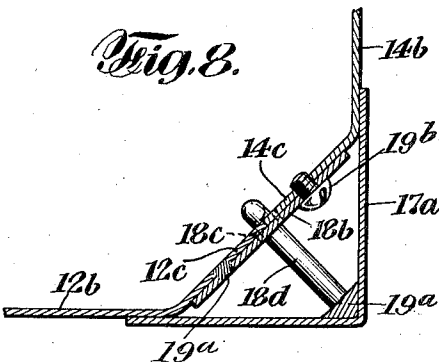
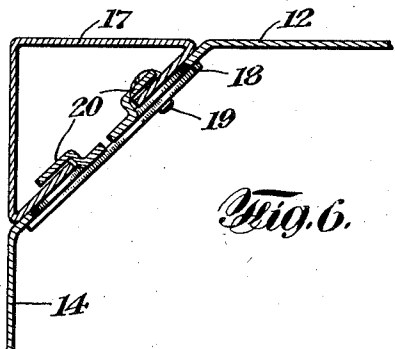
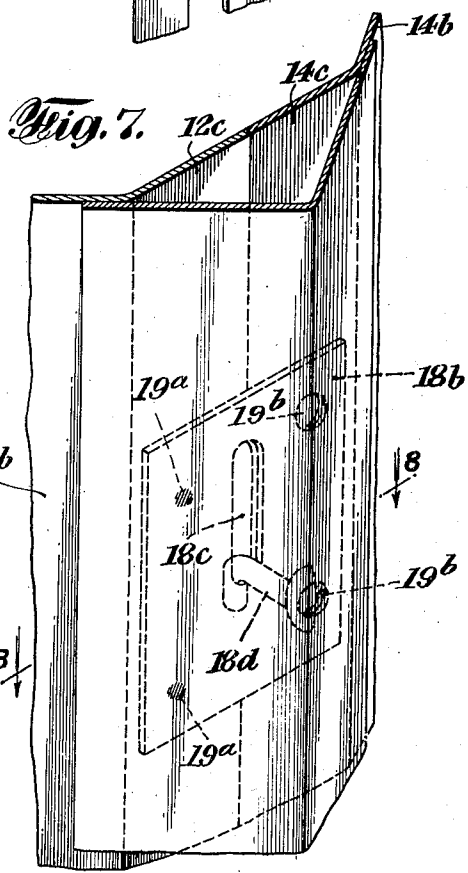
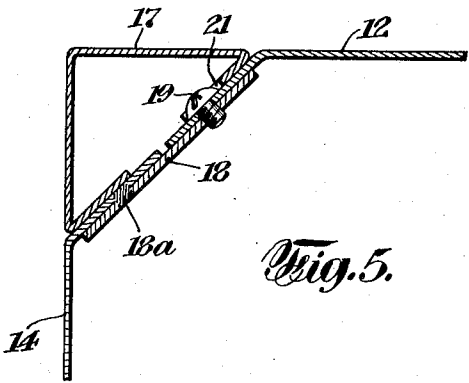
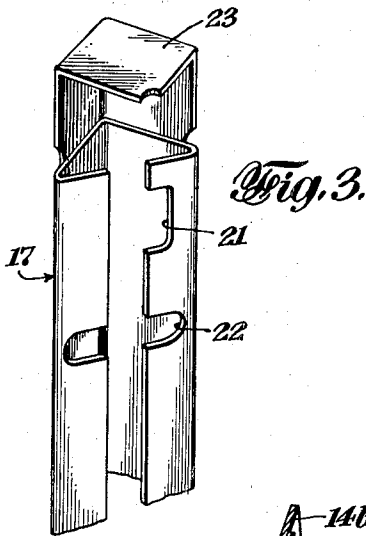
March 8, 1938.

G. M. MAIER
BOILER JACKET

2,110,841

Filed Sept. 14, 1935

2 Sheets-Sheet 2



INVENTOR
George M. Maier
BY
Comad A. Dietrich
his ATTORNEY

UNITED STATES PATENT OFFICE

2,110,841

BOILER JACKET

George M. Maier, Detroit, Mich., assignor to
American Radiator Company, New York, N. Y.,
a corporation of New Jersey

Application September 14, 1935, Serial No. 40,518

10 Claims. (Cl. 220—80)

My invention relates to improvements in enclosures for heating apparatus, and the same has for its object more particularly to provide a simple, efficient and inexpensive jacket for enclosing boilers and analogous structures which may be readily secured thereon or removed therefrom.

Further, said invention has for its object to provide a boiler jacket formed of a plurality of parts or wall members secured together along their contiguous edges by a securing member having means thereon engaging with cooperating means provided upon the jacket parts or walls.

Further, said invention has for its object to provide a boiler jacket in which the members or parts which serve to effectively hold the several jacket sections or wall portions in assembled relation are free from projecting bolts, screws or other fastening members, and thus render the exposed or outer surfaces of said fastening members smooth and unbroken.

Further, said invention has for its object to provide a boiler jacket formed of a plurality of sheet metal sections or wall portions having their meeting edges disposed at angles to the body portions thereof to form longitudinal flanges, and securing members conforming to and secured to the longitudinal flanges in order to maintain the several parts in duly assembled relation.

Further, said invention has for its object to provide a boiler jacket or casing consisting of side and top wall members in which the locking member for securing the meeting edges of adjacent wall members together has its outer surfaces disposed substantially flush with the several surfaces of said wall portions.

Other objects will in part be obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends, my invention consists in the novel features of construction, and in the combination, connection and arrangement of parts hereinafter more fully described and then pointed out in the claims.

In the accompanying drawings—

Figure 1 is a perspective view showing one form of boiler enclosure constructed according to and embodying my said invention;

Fig. 2 is an enlarged detail perspective view showing one corner of a boiler jacket with the locking key partly broken away;

Fig. 3 is an enlarged detail perspective view of the locking key, as seen from its rear side;

Fig. 4 is a detail perspective view, as seen from the inside of the jacket, showing one corner

of the jacket with the locking key in place and secured thereto;

Fig. 5 is a detail horizontal section on the line 5—5 of Fig. 4;

Fig. 6 is a similar view on the line 6—6 of Fig. 4;

Fig. 7 is a perspective view showing a modification, and

Fig. 8 is a transverse section on the line 8—8 of Fig. 7.

In said drawings 10 designates a sectional boiler of well-known general form, and 11 denotes a jacket or enclosing casing therefor which completely envelops the boiler.

The jacket 11 is preferably made of sheet metal and comprises a front section or wall member 12; a back section 13; side sections 14, and a top section 15 which are secured together along their adjacent edges by horizontal and vertical fastening members 16, 17, respectively.

The said sections 12, 13, 14, 15 are provided along the contiguous or adjacent meeting edges with relatively narrow flanges 12^a, 13^a, 14^a, 15^a, respectively, which are arranged at an angle of substantially forty-five degrees (45°) to the planes of the several outer surfaces of said jacket sections or wall members, and form relatively narrow flat surfaces with which the conforming rear or base portion is adapted to engage.

The flanges 12^a, 13^a, 14^a, 15^a are provided at their meeting edges with offset portions in the form of plates 18 which may be made either integrally with said flanges, or separately therefrom and secured thereto by welding as at 18^a, or otherwise. The said offset portions or plates may be of any desired length, and serve to hold the opposing edges of said flanges duly in position with respect to one another, and with their outer sides flush. One or more of said plates 18 on one of said flange members have their free ends extending outwardly therefrom and underlying the edge of the cooperating or adjacent flange member to which said projecting end or ends may be secured by screws 19, and the other or remaining of said plates extend from the second-named of said flanges and have their free ends underlying the first named of said flanges and secured thereto by screws 19.

Each pair of flange members 12^a, 13^a, 14^a, 15^a, is provided with transversely, oppositely extending tongues 20 which are arranged in pairs and spaced apart at regular intervals, and adapted to engage with and retain the fastening members or keys 16, 17.

The fastening members or keys 16, 17 are tu-

bular in form and made of sheet metal, and while here shown as substantially triangular in cross-section may nevertheless be of any desired outline in cross-section. In the construction illustrated each of said keys has its two outer or exposed sides arranged at right angles to the other and disposed in the plane of the main portion of its respective adjacent wall member, and the free edges of said sides bent inwardly towards each other at angles of forty-five degrees to said sides. The extreme edges of said keys 16, 17 are spaced apart throughout their entire length and provided along said edges with registering notches 21, to accommodate the projecting heads of the screws 19, and with recesses 22 to receive the tongues 20 on the flange members 12^a, 13^a, 14^a, 15^a, when said keys are being applied to the jacket parts or sections.

In assembling and securing the several jacket sections or wall members together it merely becomes necessary to bring the meeting edges of the flanges together and initially secure the same by means of the plates 18 and screws 19. Hereupon the horizontal, upper keys 16 are brought into position over the horizontal upper edges of the jacket with the recesses 22 therein in position to receive the several registering tongues 20 on the flanges of the sections, and the key 16 then moved bodily lengthwise until the tongues 20 engage with the rear sides of the flanges of the keys 16 at points intermediate the recesses 22. Hereupon the same procedure is followed in respect of the vertical keys 17 and the vertical corners of the jacket.

When so desired, and in order to give a more finished and ornamental appearance to the keys 17, the upper side thereof may be provided with corner pieces 23 which will serve to conceal the ends of the horizontal keys 16. The said corner pieces may be made of any desired outline or shape.

In the modification illustrated at Figs. 7 and 8 the construction of the jacket parts or sections is essentially the same as in the main construction above described except as to the specific fastenings employed for securing the key to the jacket parts. In the modified construction the flanges 12^c, 14^c of the side and front sections 12^b, 14^b are secured together by plates 18^b, which are considerably larger than the plates 18 of the main construction, and provided with suitable slots 18^c to receive the ends of hook members 18^d extending inwardly from the inside corner of the key 17^a. The plates 18^b are secured to the flanges of the jacket sections by welding, as at 19^a, and screws 19^b, and the hook members 18^d may be welded or otherwise suitably secured at their outer ends to the inner side of the key at the junction of its members.

It is to be noted that in my improved jacket construction the several wall parts or sections may be secured in assembled relation by keys which serve to hold the parts duly united, and at the same time provide an ornamental finish for the enclosure, and that the said keys may be applied to or removed from the jacket parts without necessitating the use of tools.

Having thus described my said invention, what I claim and desire to secure by Letters Patent is:

1. A boiler jacket comprising a plurality of wall members having their associated flat edge portions disposed in alignment and at angles to the main portions of said wall members, and locking means each including a split tubular

member having its opposite edge portions flat and turned towards each other and forming a flat base portion conforming to and engaging the flat surfaces of the associated edge portions of said wall members, and means for securing said locking means to said wall members.

2. A boiler jacket comprising a plurality of sheet metal wall members having flat flange portions along their associated edges disposed in alignment and at angles to the main portions of said wall members, and locking means each including a split tubular member having its opposite edge portions flat and turned towards each other and forming a flat base portion conforming to and engaging the flat flanges of the associated edge portions of said wall members, and means for securing said locking means to said wall members.

3. A boiler jacket comprising a plurality of sheet metal wall members having flat flange portions along their associated edges disposed in alignment and at angles to the main portions of said wall members, and locking means each including a split tubular member having its opposite edge portions flat and turned towards each other and forming a flat base portion conforming to and engaging the flat flanges of the associated edge portions of said wall members, and cooperating means arranged in part on said flanges and in part on the base portion of said tubular member for securing said locking means to said wall members.

4. A boiler jacket comprising a plurality of wall members having their associated edges disposed at angles of substantially forty-five degrees to the main portions of said wall members, and locking means each including a tubular member of triangular cross-section having its base portion engaging the angular edges of said wall members, and means arranged in part on said angular edges of said wall members, and in part on the base portion of said triangular member, for securing said locking means to said wall members to hold said wall members secured together.

5. A boiler jacket comprising a plurality of sheet metal wall members having flat flange portions along their associated edges, means for securing said flange portions together in substantially edge to edge relation and at angles to the main portions of said wall members; said securing means each including a split tubular member having its opposite edge portions flat and turned towards each other and jointly forming a flat base portion conforming to and engaging the flat surfaces of the flange portions of said wall members, a series of fixed engageable elements arranged in spaced relation along the adjacent edges of said flange portions, said split tubular member having means thereon cooperating with said engageable means and severally engaging the same for securing said wall members in assembled relation.

6. A boiler jacket comprising a plurality of wall members having associated contiguous edges, and means for securing said wall members together in substantially edge to edge relation; said securing means including a series of engageable elements arranged in spaced relation along the several adjacent edges of said wall members, and locking members provided with entrance portions registering with and adapted to receive said engageable elements, and the portions of said locking member intermediate said entrance portions being adapted to engage with said en-

gageable elements to hold the several contiguous wall members secured together.

7. A boiler jacket comprising a plurality of wall members having associated contiguous edges, means for maintaining the adjoining edges of said wall members duly positioned and in alignment, and means for securing said wall members together in substantially edge to edge relation; said securing means including a series of engageable elements arranged in spaced relation along the several adjacent edges of said wall members, and locking members provided with entrance portions registering with and adapted to receive said engageable elements, and the portions of said locking members intermediate said entrance portions being adapted to engage with said engageable elements to hold the several contiguous wall members secured together.

8. A boiler jacket comprising a plurality of wall members having associated contiguous edges, and means for securing said wall members together in substantially edge to edge relation; said securing means including a series of engageable tongues arranged in spaced relation along the several adjacent edges of said wall members, and a locking member; said locking member having inwardly-extending longitudinal flanges provided with recesses registering with and adapted to receive said engageable tongues, and the portions of said longitudinal flanges intermediate said recesses engaging with said tongues to hold the several contiguous wall members in assembled relation.

9. A boiler jacket comprising a plurality of wall members having associated contiguous edges, and means for securing said wall members

together in substantially edge to edge relation; said securing means including a series of laterally-extending tongues struck from and arranged in spaced relation along the several adjacent edges of said wall members, and a locking member; said locking member being substantially triangular in cross-section having inwardly-extending longitudinal flanges provided along their edges with recesses registering with and adapted to receive said tongues, and the portions of said longitudinal flanges adjoining said recesses engaging with said tongues to hold the several contiguous wall members in assembled relation.

10. A boiler jacket comprising a plurality of wall members, having associated contiguous edges, a plurality of lugs severally extending from one edge of said wall members, means for securing the projecting ends of said lugs to the edge of the contiguous wall member to maintain the edges of said wall members in alignment, means for securing said wall members together in substantially edge to edge relation; said securing means including a series of laterally-extending tongues struck from and arranged in spaced relation along the several adjacent edges of said wall members, and a locking member; said locking member being substantially triangular in cross-section having inwardly-extending longitudinal flanges provided along their edges with recesses registering with and adapted to receive said tongues, and the portions of said longitudinal flanges adjoining said recesses engaging with said tongues to hold the several contiguous wall members in assembled relation.

GEORGE M. MAIER.