(No Model.)

G. KELLY.

BOILER COVERING.

No. 602,454. Patented Apr. 19, 1898.

Fig. 1.

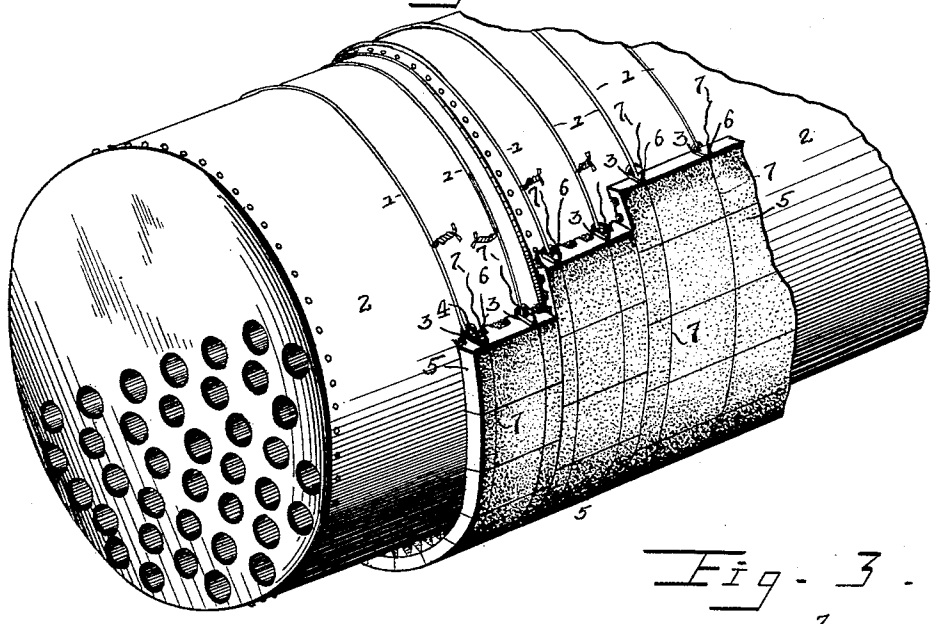


Fig. 3.

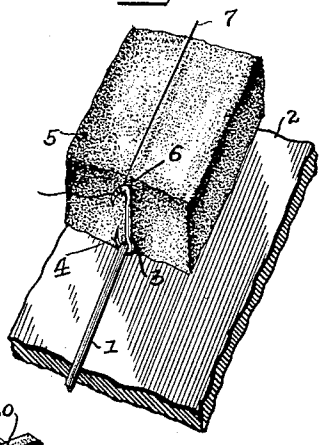
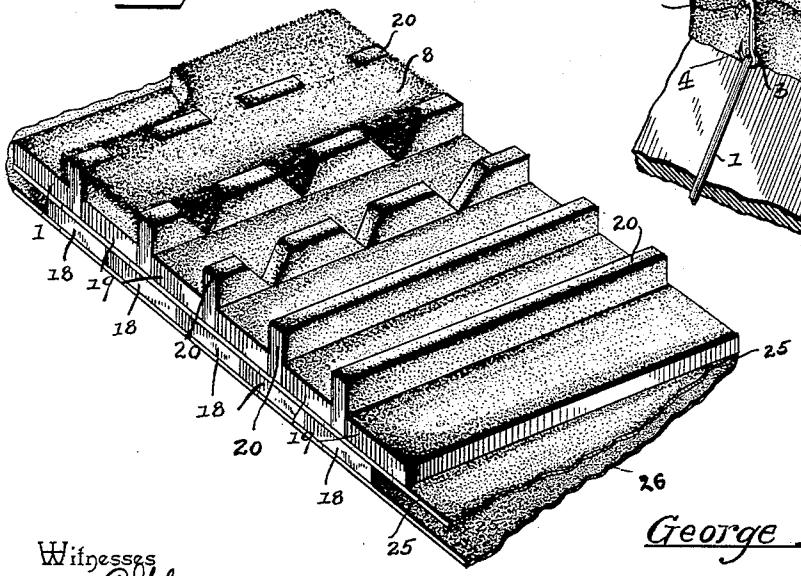


Fig. 2.



Witnesses
C. J. Young,
U. B. Hillyard.

Inventor:-
George Kelly
By his Attorneys,
C. A. Snow & Co.

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

UNITED STATES PATENT OFFICE.

GEORGE KELLY, OF MINERAL POINT, WISCONSIN.

BOILER-COVERING.

SPECIFICATION forming part of Letters Patent No. 602,454, dated April 19, 1898.

Application filed July 6, 1896. Serial No. 598,181. (No model.)

To all whom it may concern:

Be it known that I, GEORGE KELLY, a citizen of the United States, residing at Mineral Point, in the county of Iowa and State of Wisconsin, have invented a new and useful Boiler-Covering, of which the following is a specification.

This invention aims to provide a lagging for steam-boilers and other heated surfaces having projections and unevennesses due to overlapping joints, bolt and rivet heads, and similar protuberances, so as to secure a smooth and even appearance to the jacket or casing when complete. This result has been attained in various ways, either by countersinking the lagging or by beating and pounding it to place. The countersinking is objectionable, as it weakens the material or lagging and is attended with considerable expense in properly fitting it so as to secure the desired result. The pounding and mauling of the lagging breaks, bruises, and otherwise injures it and renders it unfit for further use after being removed. This is true of the countersinking, as it rarely happens that a section can be fitted to a new place after being in service and removed.

This invention aims to devise a lagging which can be applied to any heating-surface having protuberances, and which will conform thereto and result in a smooth external appearance, and which can be used a number of times in different positions.

This invention is constructed with especial reference to the removal of any section of the lagging to permit of access to a portion of the jacketed surface for inspection or repairs without disturbing or loosening any other section.

The invention consists, essentially, in lagging formed as hereinafter more fully set forth, combined with means for securing it to a boiler or other surface to be protected or incased, said means consisting of wires applied to the surface, hooks having their ends bent, the bent terminals being right-angularly disposed to each other and one of the bent ends adapted to engage with the said wires, and binding-wires arranged to lay over the lagging and engage with and be coiled around the other bent ends of the hooks.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a steam-boiler incased in accordance with the principles of this invention, a portion of the jacket being omitted and parts broken away to more fully disclose the means employed for securing the lagging thereto. Fig. 2 is a view showing a lagging with longitudinal ribs, some of which are notched at intervals in their length, and the section composed of a series of strips arranged to break joint, and having the ribs formed by placing the intermediate strips edgewise with respect to the alternate strips. Fig. 3 is a detail view showing the manner of securing the lagging to the surface to be incased.

Corresponding and like parts are referred to in the following description and indicated in the several views of the accompanying drawings by the same reference characters.

The lagging is constructed in sections in the usual way for ease and convenience in fitting it to a boiler or surface to be sheathed or jacketed, and as it is universally applied to steam-boilers it is illustrated in this connection in the drawings. Bands or rings 1 encircle the boiler 2 and are preferably formed of wire, which is passed around the boiler and has its ends twisted or otherwise secured together. Hooks 3 are engaged with the bands or rings and are formed of short lengths of wire which have their end portions bent so as to provide hooks, the hooks at the opposite ends being right-angularly disposed so as to admit of the bent end 4 adjacent to the boiler coming at right angles to the band or ring and in the plane of the edge of the lagging 5 and the bent end 6 coming in a plane at right angles to the plane of the bent end 4 and standing at right angles to the plane of the edge of the lagging and adapted to receive the binding-wire 7, by means of which the sections of lagging are held in place.

The lagging is applied to the surface to be jacketed in the following manner: A pair of hooks 3 are fitted to the bands or rings 1 by engaging the bent ends 4 therewith, and binding-wires 7 are engaged with the bent ends 6 of the said hooks. A section of lagging is placed in position with one edge touching the hooks, and a second pair of hooks are engaged with the bands or rings in the manner previously described and are arranged to bear against the opposite edge of the section of lagging, and the binding-wires 7 are passed over the said section and engaged with the bent ends 6 of the second pair of hooks and are coiled about the same a number of times. The other sections are placed in position, care being observed to have their longitudinal edges abut so as to secure a close fit, and after each section is placed in position hooks are fitted to the bands or rings, and the binding-wires are engaged with the bent ends 6 thereof in the manner set forth. It will be seen that the binding-wires 7 are continuous, thereby enabling the lagging to be quickly placed in position and each section being independently secured to the boiler or surface to be protected, so that any section can be removed without disturbing the remaining sections. When it is required to gain access to a particular portion of the surface jacketed, the binding-wires are cut at a point between the edges of the section of lagging covering that portion of the surface to be reached, and the end portions of the wires so cut are turned aside, thereby admitting of the section being removed, and after the inspection or repair has been made the section is replaced and the ends of the wires spliced or secured in any well-known manner.

Fig. 2 shows a lagging composed of a layer of strips 18, placed edge to edge, a second layer of strips 19, breaking joint with the strips 18 and having their edges spaced apart, and strips 20, placed on edge and fitted into the spaces formed between the strips 19, all the strips being cemented or secured together in any convenient way. The strips 20 project beyond the inner side of the lagging, so as to form projections for the purpose herein stated, and the projecting edge portions may be straight or notched, as preferred. The outer surface of the lagging may be clothed, as indicated at 26, so as to secure a smooth and neat finish, and a lining 25 of felt or other suitable material may be placed between the layers 18 and 19.

In order to prevent the formation of a dead-air space between the body of the lagging and the surface to be protected, filling material 8 is crowded into the spaces formed between the strips 20 and into the notches thereof. This filling material may be of mineral wool or asbestos, so as to render the lagging fireproof and non-heat-conducting, or any substance generally employed for this purpose may be resorted to. In the event of the lagging being formed of wood or like material it is rendered fireproof by being treated with soluble glass.

Having thus described the invention, what is claimed as new is—

1. The herein-described means for securing sections of lagging to steam-boilers and other surfaces to be protected, consisting of wires secured to the said boiler, hooks having their ends bent, the bent ends being right-angularly disposed to each other, and one of the bent ends adapted to engage with the said wires, and binding-wires arranged to lay over the lagging and engage with and be coiled around the other bent end of the hooks, substantially as shown and described.

2. A lagging composed of a layer of strips, a second layer of strips superposed on and breaking joint with the first layer and the strips of the second layer spaced apart from each other, and other strips fitted into the spaces between the strips comprising the said second layer and projecting beyond the surface thereof, substantially as shown for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE KELLY.

Witnesses:
W. A. SHERMAN,
PHIL ALLEN, Jr.