June 7, 1938. E. S. CORNELL, JR 2,120,211

STOVEPIPE COUPLING

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Fig. 1.

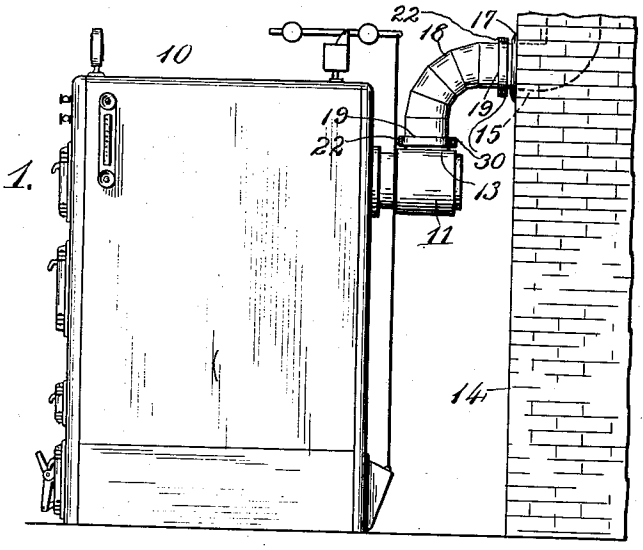


Fig. 5.

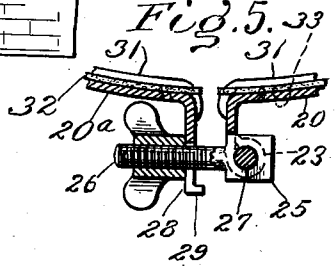


Fig. 4.

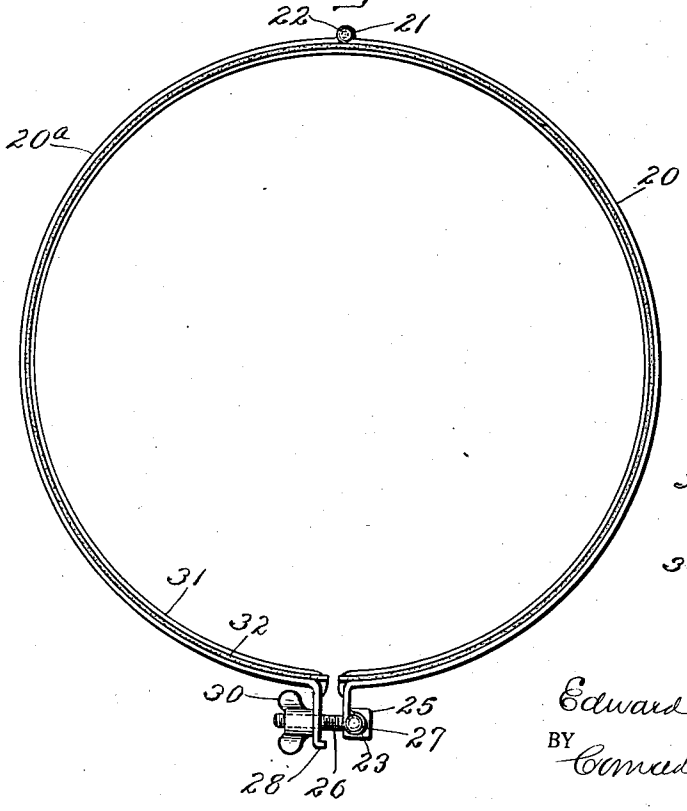
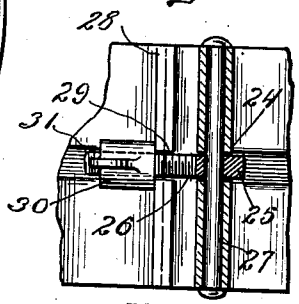


Fig. 6.



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Fig. 2.

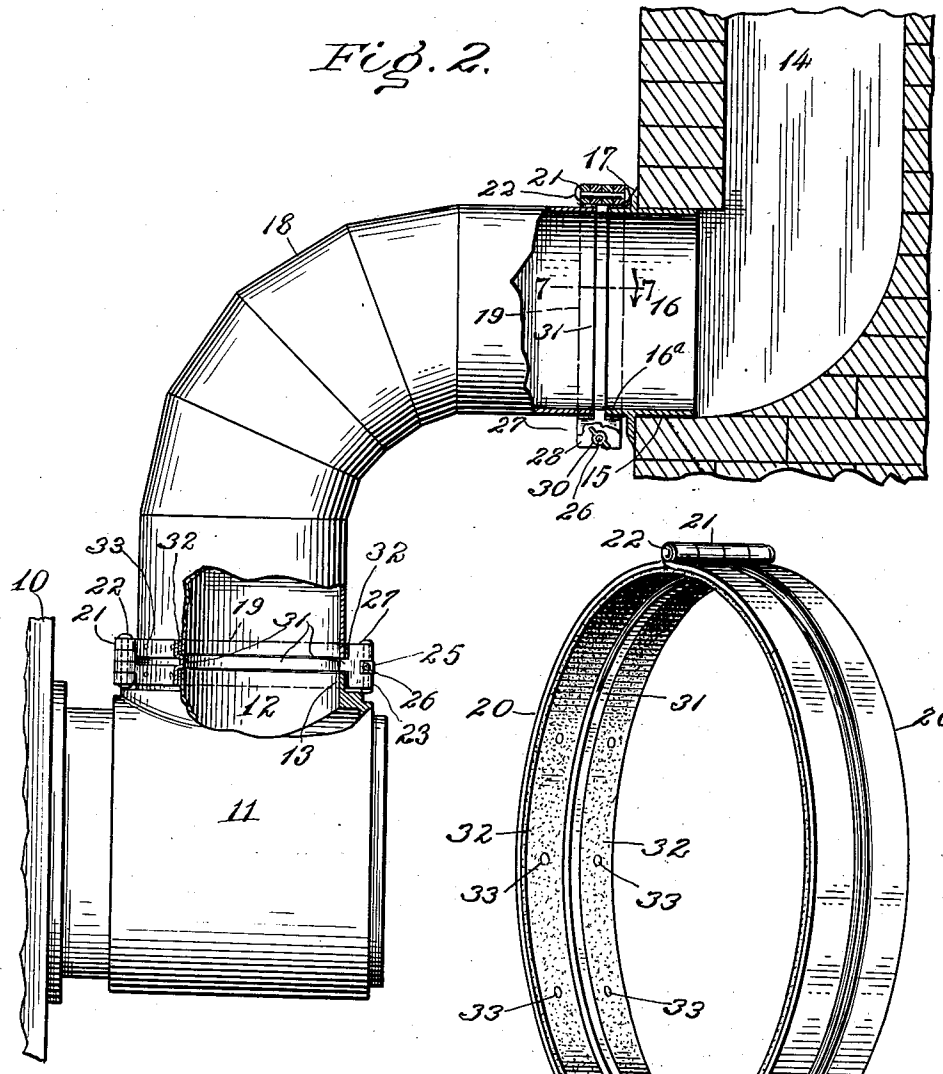
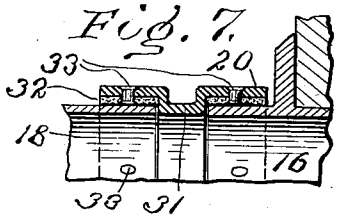


Fig. 3.

Fig. 7.



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UNITED STATES PATENT OFFICE

2,120,211

STOVEPIPE COUPLING

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Application February 12, 1936, Serial No. 63,501

1 Claim. (Cl. 285—194)

My invention relates to improvements in means for connecting tubular elements, pipes, and the like, and the same has for its object to provide a simple, efficient and inexpensive device for connecting the smoke outlet of a heating apparatus with a chimney or stack.

Further, said invention has for its object to provide a fluid-tight coupling whereby the smoke outlet of a heating apparatus may be readily and conveniently connected to or disconnected from the intake opening of a chimney or stack.

Further, said invention has for its object to provide a connection of the character described in which a coupling section may be interposed between the smoke outlet and the intake opening in the chimney or stack and secured by separate clamping members interposed between the opposite ends of the coupling section and said smoke outlet and chimney intake opening, respectively.

Further, said invention has for its object to provide a connection of the character specified in which a coupling section of less length than the distance between the smoke outlet of the heating apparatus and the intake opening of the chimney or stack is interposed between the same and secured by readily detachable clamping members engaging ends of said coupling section and the cooperating parts on said secured smoke outlet and the chimney or stack intake.

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 claim.

In the accompanying drawings—

Figure 1 is a side elevation showing a heating apparatus and chimney with one form of smoke pipe connection constructed according to, and embodying my said invention;

Fig. 2 is an enlarged side elevation, partly broken away and in section showing the coupling section, and the means for securing the same to the smoke outlet of the heating apparatus and the intake opening of the chimney or stack;

Fig. 3 is a detail perspective view of one of the clamping members;

Fig. 4 is an edge view thereof;

Fig. 5 is a detail edge view, partly broken away and in section, showing the construction of the free ends of the clamping member, and the securing means therefor;

Fig. 6 is a detail plan or face view of the parts shown at Fig. 5, and

Fig. 7 is an enlarged detail section on the line 7—7 of Fig. 2.

In said drawings 10 designates a heating apparatus which may be of any type and form but is here shown, by way of example, as a hot water boiler of the form commonly used for house heating purposes, and provided at its back section with a smoke hood 11 having an outlet 12 in its top provided with a circular flange 13.

14 denotes a chimney or stack having an intake opening 15 therein into which is fitted a short tubular member or thimble 16 having a flange 17 intermediate its ends in engagement with the outer side of the chimney surrounding the intake opening 15 therein. The thimble 16 is preferably permanently secured in the intake opening 15 with its end 16a projecting outwardly from the chimney or stack.

18 denotes a coupling section which may be of any size or shape, and of less length than the distance between the flange 13 of the smoke hood 11 and the outwardly projecting end or flange 16a of the thimble 16, but has its opposite ends conforming to and registering with the ends of the flanges 13 and 16 of the smoke hood 11 and thimble 16, respectively.

The coupling section 18, in the present instance, is in the form of an elbow of uniform diameter, and preferably possesses the same diameter as the flanges 13 and 16a, and has its opposite ends disposed in spaced relation to the ends of said flanges by the clamping members 19.

The clamping members 19 are preferably formed of sheet metal, and each comprises two semi-circular members 20, 20a which are secured together at their corresponding ends by hinge members 21 and a pin 22. The opposite free end of the semi-circular member 20 is provided with a rolled cylindrical portion 23 having a portion cut away at 24 to receive the perforated head 25 of a screw 26 which is pivotally supported by a pin 27 extending through said screw and said cylindrical portion 23. The corresponding end of the semi-circular member 21 is provided with a flat transverse portion 28 having a recess 29 therein to receive the free end of the screw 26, when the ends of said semi-circular members are brought together, and be secured to adjusted position by a wing-nut 30 working on the free end of the screw 26. Each semi-cylindrical portion 20, 21 is provided with a central semi-annular rib 31, which is angular in cross section, and whose edges, when the portions 20, 21 are secured to-

gether, form annular stops against which the ends of the coupling section **18**, and the ends of the flanges **13**, **17** abut, and are maintained in duly separated relation thereby.

The inner surface of each semi-circular member **20**, **21**, between the outer edges thereof and the opposite edges of the semi-annular ribs **30**, are provided with packing strips **32** which are secured in place by rivets **33** and completely cover the inner surfaces of said semi-circular members **20**, **21**.

As illustrated in Figs. 4 and 5, the packing strips **32** are coextensive lengthwise with the combined lengths of the ribs **31**, so that when the ends of the respective ribs **31** abut to seal the joint between the ends of the pipe or conduit elements being coupled, the ends of the packing strips also abut to complete fluid-tight sealing of the coupled pipe or conduit elements.

It is to be noted that by means of my invention I am enabled to provide a coupling whereby a fluid or gas tight connection may readily be formed between the smoke hood of a heating apparatus and the intake opening of a stack or chimney without necessitating the use of cement or similar sealing medium. Further, said invention provides a coupling which may be easily and quickly connected to or removed from a heating apparatus and stack without requiring the use of any tools or instruments.

It will, of course, be understood that while I have shown and described my said invention in connection with a coupling for connecting a heating apparatus with a stack, that the same is not limited thereto as said invention is readily applicable to the securing together of the ends of pipes or tubular members of various different kinds.

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

A clamping device for coupling two longitudinally aligned ends of respective hollow tubular conduits in sealed relationship, comprising a pair of pivotally connected metal-strip members adapted to close in encircling relationship about the ends of the conduits to be connected and to jointly conform to the circumferential contour thereof, said members having their free ends directed outwardly to form ears adapted for interconnected clamping action, said members each having an inwardly projecting substantially central rib portion extending longitudinally and continuously throughout the length of the element, said rib portions being adapted to mutually abut in end to end alignment when the said members are closed about the ends of the conduits to be coupled, to form an abutment stop for and between the said ends of the conduits, which abutment stop extends continuously around the full periphery of the said ends of the conduits in sealing relationship therewith; packing material secured to and covering the inner surfaces of said members on each side of said rib portions, said packing material being in continuous longitudinal coextension with said rib portions and adapted to abut in end to end alignment when the said members are closed about the ends of the conduits to be coupled, for forming, together with said rib portions, a fluid-tight seal thereabout; and means secured to one of said ears for clamping said members in maintained sealing relationship.

EDWARD S. CORNELL, JR.