June 4, 1940. I. KLEIN 2,203,158

CHISEL FOR REMOVING BOILER TUBES

Filed Dec. 17, 1938

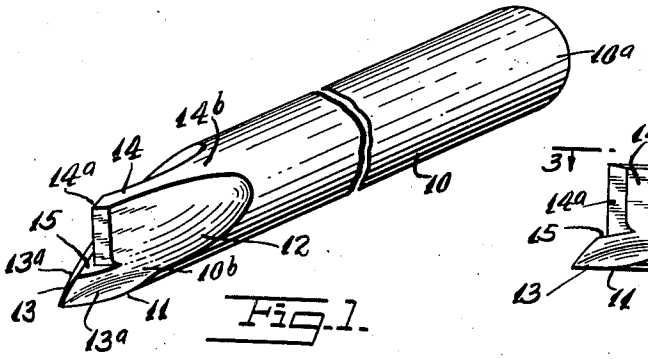


Fig. 1.

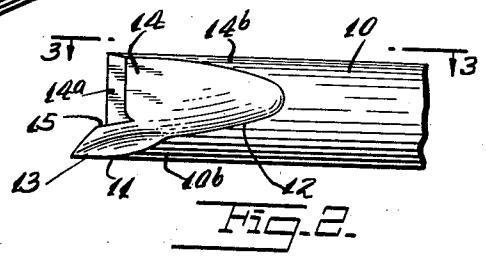


Fig. 2.

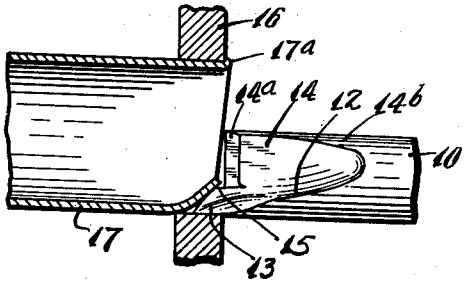


Fig. 4.

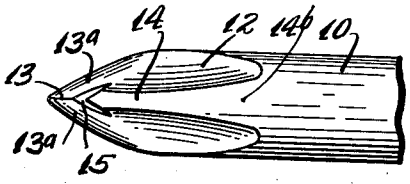


Fig. 3.

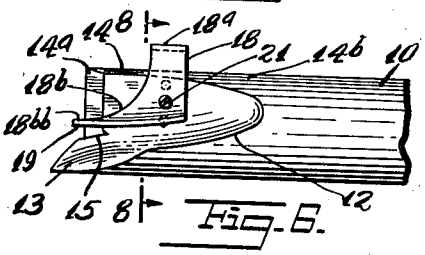


Fig. 6.

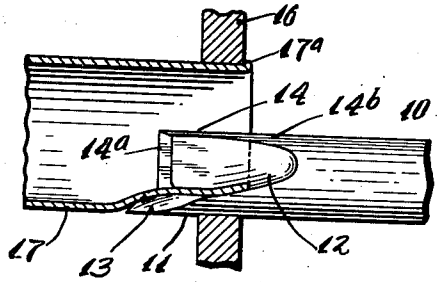


Fig. 5.

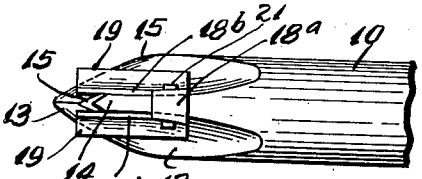


Fig. 7.

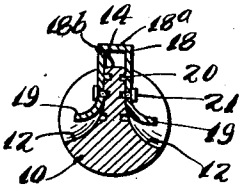


Fig. 8.

INVENTOR
Isidor Klein
BY Golten & Holechek
ATTORNEY

Patented June 4, 1940 2,203,158

UNITED STATES PATENT OFFICE

2,203,158

CHISEL FOR REMOVING BOILER TUBES

Isidor Klein, New York, N. Y.

Application December 17, 1938, Serial No. 246,383

5 Claims. (Cl. 30—168)

This invention relates to new and useful improvements in a chisel for removing boiler tubes.

The invention has for an object the construction of a chisel as mentioned which is characterized by a shank having a beveled front end portion with a rounded bottom side and an upwardly inclined top side, and provided with a vertical wall having a pointed tip arranged in a novel manner.

More specifically, the invention proposes to arrange the vertical wall with a pointed tip to simulate a knife edge chisel capable of slitting a boiler tube.

It is proposed to arrange the upwardly inclined top side of the beveled front portion in a manner to collapse a portion of the boiler tube and so assist in decreasing its diameter so that it may be easily removed from the boiler.

Still further the invention proposes the provision of a novel chisel member vertically adjustably mounted on the vertical wall for guiding the edge portions of the boiler tube which is being cut by the vertical wall along said inclined top side.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a perspective view of a chisel constructed according to this invention.

Fig. 2 is a side elevational view of Fig. 1.

Fig. 3 is a plan view looking in the direction of the line 3—3 of Fig. 2.

Fig. 4 is a vertical sectional view of a portion of the boiler showing the chisel at the start of removing one of the tubes.

Fig. 5 is a view similar to Fig. 1 but showing the chisel further advanced.

Fig. 6 is a side elevational view of a chisel constructed according to a modification of this invention.

Fig. 7 is a plan view of Fig. 6.

Fig. 8 is a vertical sectional view taken on the line 8—8 of Fig. 6.

The chisel for removing boiler tubes, according to this invention, includes a shank portion 10 having a rear end 10a to be hammered upon to drive the chisel forwards. The shank has a front end portion 10b which has a rounded bottom side 11 and an upwardly inclining top side 12, and a pointed front tip 13. A vertical wall 14 is integrally disposed upon the said top side 12 and has its front edge 14a set in from the said pointed front tip 13 and formed with a knife cutting edge.

The pointed front tip 13 is formed by a pair of curved top surfaces 13a disposed on both sides of the center line thereon. These curved surfaces connect with a small flattened area 15 at the base of the vertical knife edge 14a. The wall 14 thickens out at its rear portion 14b where it flows into the body of the shank 10.

In Figs. 4 and 5 a portion of a boiler is illustrated which includes a wall 16 through which one end of the boiler tube 17 is mounted. The end of this tube is formed with a coiled portion 17a. The chisel is used in the following manner: First a portion of the coiled edge 17a of the boiler is cut off. Then the pointed tip 13 is engaged between the surface of the opening in the wall 16 for the tube 17, and the outer face of the tube 17. The chisel is driven inwards until it reaches the position shown in Fig. 4. It should be noted that a portion of the edge of the tube 17 is being wedged upwards. Soon this edge engages the sharpened vertical wall 14. Then this edge is cut by the wall as indicated in Fig. 5. It should be noted that the outer end of the boiler tube is being reduced in diameter by the cutting and bending of the end portion thereof. This will permit its disengaging from the wall 16.

In Figs. 6–8 inclusive, a modification of the invention has been disclosed which distinguishes from the prior form merely in the fact that a baffle member 18 is vertically adjustably mounted on the said vertical wall 14 and is adapted to guide the edge portions of the boiler tube being cut. This baffle member has a top wall portion 18a which extends across the top of the wall 14 and has a pair of depending wall portions 18b which extend along the side faces of the wall 14. These wall portions 18b have their front edges curved so that there is a bottom upwardly projecting portion 18bb. The wall portions 18b terminate at the bottom in flanges 19. Several threaded openings 20 are formed in the sides of the wall 14 and are engageable by screws or other fastening elements 25 engaged through the wall portion 18b and adapted to hold the baffle member in desired vertically fixed positions.

When the chisel is used for removing a tube the sides of the cut portion of the tube will engage beneath the flanges 19 and will be forced along the upwardly inclined top side 12. The baffle member 18 may be adjusted vertically to various positions to adapt the baffle for boiler tubes of different gauge material. For a thinner gauge

tube the baffle member is moved downwards to decrease the distance between the flanges 19 and the upwardly inclining top side 12.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. A chisel for removing boiler tubes, comprising a shank having a beveled front end portion with a round bottom side and an upwardly inclining top side, and a pointed front tip, and a vertical wall on said top side and having its front edge set in from said pointed front tip and formed with a knife cutting edge, a small area in said upwardly inclining top side at the base of said vertical wall being flattened.

2. A chisel for removing boiler tubes, comprising a shank having a beveled front end portion with a round bottom side and an upwardly inclining top side, and a pointed front tip, and a vertical wall on said top side having its front edge set in from said pointed front tip and formed with a knife cutting edge, and a baffle member vertically adjustably mounted on said vertical wall for guiding the edge portions of a boiler tube being cut by the vertical wall along said inclined top side.

3. A chisel for removing boiler tubes, comprising a shank having a beveled front end portion with a round bottom side and an upwardly inclining top side, and a pointed front tip, and a vertical wall on said top side having its front edge set in from said pointed front tip and formed with a knife cutting edge, and a baffle member vertically adjustably mounted on said vertical wall for guiding the edge portions of a boiler tube being cut by the vertical wall along said inclined top side, said baffle member having a top wall for engaging across the top of said vertical wall, and downward depending side walls extending along the side faces of said vertical wall.

4. A chisel for removing boiler tubes, comprising a shank having a beveled front end portion with a round bottom side and an upwardly inclining top side, and a pointed front tip, and a vertical wall on said top side having its front edge set in from said pointed front tip and formed with a knife cutting edge, and a baffle member vertically adjustably mounted on said vertical wall for guiding the edge portions of a boiler tube being cut by the vertical wall along said inclined top side, said baffle member having a top wall for engaging across the top of said vertical wall, and downward depending side walls extending along the side faces of said vertical wall, said side walls having their bottom portions extended downwards forming outwardly directed flanges.

5. A chisel for removing boiler tubes, comprising a shank having a beveled front end portion with a round bottom side and an upwardly inclining top side, and a pointed front tip, and a vertical wall on said top side having its front edge set in from said pointed front tip and formed with a knife cutting edge, and a baffle member vertically adjustably mounted on said vertical wall for guiding the edge portions of a boiler tube being cut by the vertical wall along said inclined top side, said baffle member having a top wall for engaging across the top of said vertical wall, and downward depending side walls extending along the side faces of said vertical wall, said side walls having their bottom portions extended upwards, and formed with outwardly directed flanges, and screws engaging through said side walls and into threaded openings in said vertical wall for holding the baffle member in a fixed position on the vertical wall.

ISIDOR KLEIN.