W. W. CHURCH.

CLINKER TONGS.

APPLICATION FILED JUNE 28, 1907.

913,619. Patented Feb. 23, 1909.

Fig. 1.

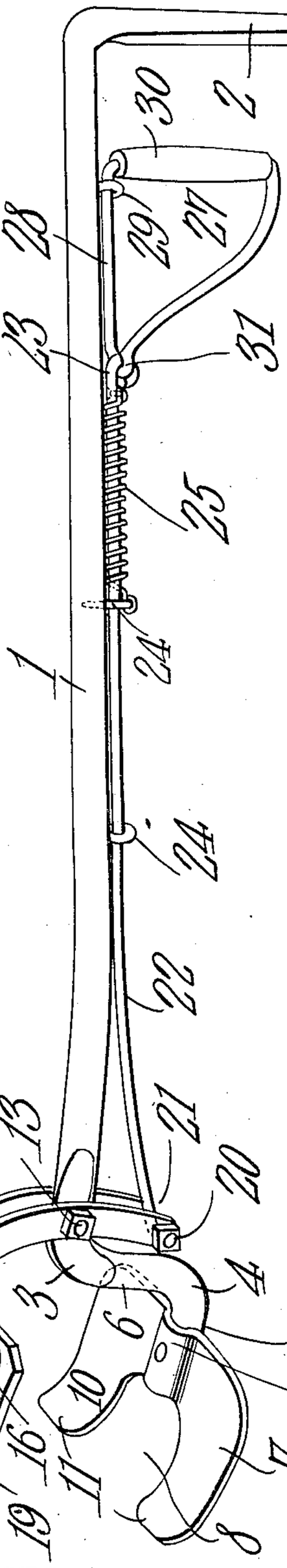
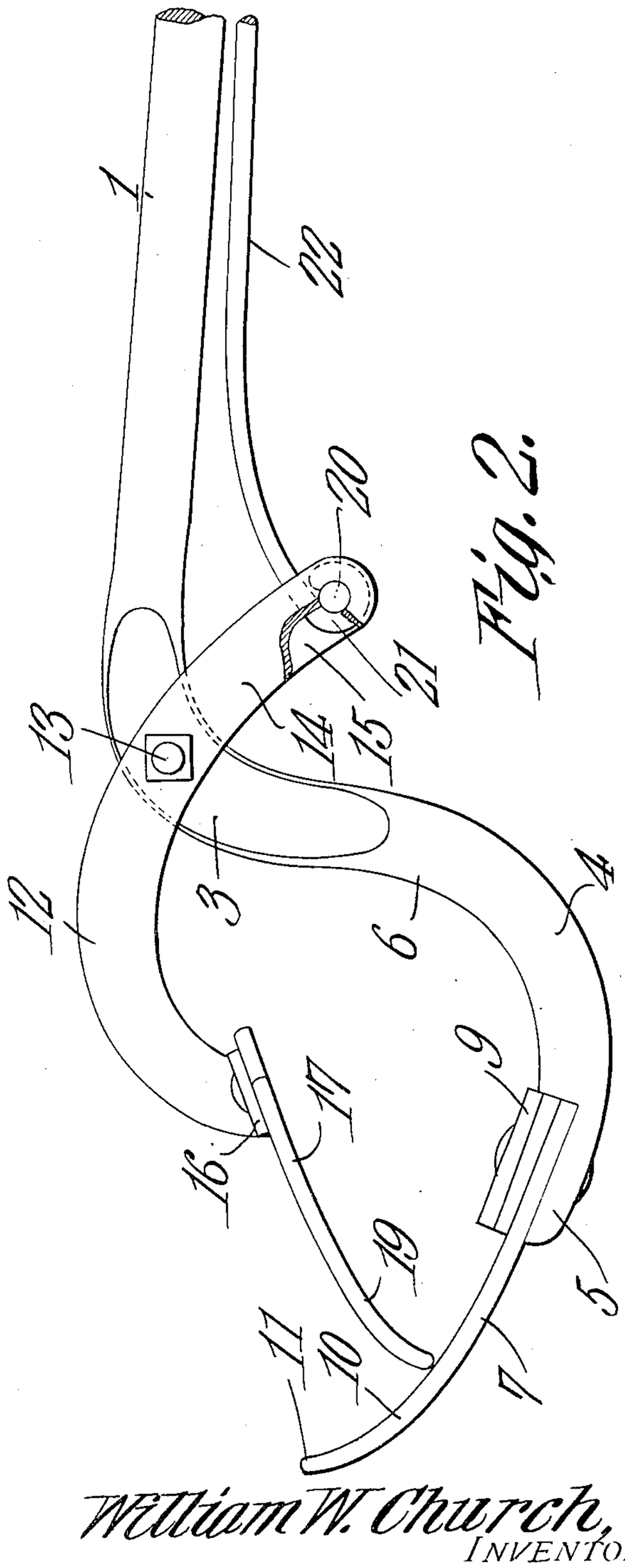


Fig. 2.



WITNESSES:

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WILLIAM WARREN CHURCH, OF ROCK ISLAND, ILLINOIS.

CLINKER-TONGS.

No. 913,619. Specification of Letters Patent. Patented Feb. 23, 1909.

Application filed June 28, 1907. Serial No. 381,362.

To all whom it may concern:

Be it known that I, WILLIAM WARREN CHURCH, a citizen of the United States, residing at Rock Island, in the county of Rock Island and State of Illinois, have invented a new and useful Clinker-Tongs, of which the following is a specification.

This invention relates to an implement for the use of those who care for furnace fires and consists of a device for the removal of clinkers from the fire chamber of a furnace, boiler, or like construction.

The object of the invention is to provide a clinker tongs which shall be simple in construction, direct and sure in its operation and economically manufactured. The tongs comprise two gripping plates pivoted together, one plate being attached to the standard and the other to a rocking lever connected to a hand operating rod. The gripping plates are held normally open and are closed by pulling on the operating rod.

In the accompanying drawings: Figure 1 is a perspective view of the clinker tongs in normal position. Fig. 2 is a side elevation of the lower end of the same closed.

Similar numerals of reference indicate the same parts in all the figures.

The numeral 1 indicates the standard and consists of a bar of metal, preferably cylindrical, of sufficient length for the purpose and having one end bent downwardly at a right angle to form a handle 2. From about midway the length of the standard 1 the bar curves gently upward away from the handle to near the end where it again receives a downward bend 3 at about a right angle to the bar 1 and finally a forward bend 4 terminating a short distance beyond the latter bend in a projection 5, the two bends forming a shoulder 6. The handle 2, shoulder 6 and projection 5 all lie in a plane passing through the center of the standard 1.

Attached to the upper side of the projection 5 by rivets is the lower gripper plate 7 made preferably of sheet steel, its forward side being provided with a notch 8 extending into the plate a little more than one-half the dimension of the plate from front to rear. The plate 7 between the notch 8 and its rear edge is stamped to form a rib 9 on the upper surface of the plate and a groove on its under surface into which the projection 5 on the lower end of the standard fits. The forwardly extending tongues 10 on the lower plate 7 are curved upwardly at 11 for a purpose hereinafter disclosed.

On the standard 1 near the upper end of the bend 3 is fulcrumed a rocking lever 12 on a through bolt 13. This lever is preferably made of two flat curved bars 14 and 15 of metal similar in shape and disposed in parallel relation to each other. The upper end of each bar 14—15 is provided with a lateral projection or foot 16 riveted to the upper movable gripping plate 17 which like the lower plate is provided with a notch 18 and two tongues 19 turned downwardly at their forward ends as shown. The opposite ends of the rocking lever bars 14, 15 have pivoted between them on a connecting bolt 20, an eye 21 formed on the lower end of an operating rod 22 which curves upwardly toward the standard 1 and lies parallel thereto until near its upper end where it is formed into a loop 23. Eyes or guides 24 are attached to the standard 1, through which, the operating rod passes and is held in place.

Instead of making the rocking lever of two similar pieces of metal, it may be made of a single piece perforated for the standard and having feet for the upper plate 17 and a notch for the operating lever 22.

The upper gripping plate 17 is held normally out of contact with the lower plate 7 by means of a spiral spring 25 here shown as surrounding the operating rod 22 between the upper guiding eye 24 and a hand hold on the rod 22. The means for closing the gripping plate comprises a triangular frame 27 made of heavy wire or a light rod having one side 28 parallel to the standard 1 and passing through a guiding eye 29 above which the frame 27 is turned downwardly at a right angle and surrounded with a suitable hand hold 30. The remaining side of the frame 27 curves towards the upper end of the operating rod, and with the side 28 forms a loop attached to the upper end of loop 23 of said rod. When the hand hold 27 is pulled, the two gripping plates come together or on whatever may be between them, at the same time extending the spring 25. As soon as the pressure on the operating rod is released, the spring contracts and raises the gripping plate 17. The hand hold 30 may be of coiled wire.

Clinker tongs as above described are most efficient in their operation, as by having a comparatively broad fixed plate on the bot-

tom, the plate can be easily worked under a clinker without disturbing the coal or fire in any appreciable way, and as soon as the plate has worked under the clinker, a pull on the operating rod closes the upper plate on the clinker and it is held fast between them without danger of the clinker dropping from between the plates.

It will be noted that the ends of the plates 7 and 17 are curved towards each other; this formation serves as an additional means of clasping the clinker. It is also to be observed that when the upper plate is closed on the lower one, the forward end of the upper plate strikes the lower plate at a point about one third the length of said lower plate from its forward end, and as each plate has two points of contact with a clinker it is held at four points and cannot escape from the plates from this fact and because of the direction of pressure of the upper plate.

While the bar 1 has been spoken of as being made of a round or cylindrical bar, it may be hollow or of any other desirable shape.

Having thus described the invention what is claimed is:—

1. A device of the class described comprising a standard bent at its upper end to provide a handle, and off-set at its opposite end by a double bend to form a projection out of line with the standard, but parallel thereto, a gripping plate provided with two projecting tongues with upturned ends and having a concave seat for said projections to which it is riveted, a rocking lever comprising a pair of curved members pivoted one to each side of the standard and at a point adjacent one of their ends, the opposite ends of the said members extending above the said gripping plate and being provided with laterally turned ears, a second gripping plate, riveted to the said ears, said ears being positioned against the back of the said plate, and means connected with said members below the said standards, whereby they may be rocked upon their pivots.

2. A clinker tongs comprising a standard bent at its upper end to provide a handle and offset at its opposite end by a double bend to form a projection out of line with said standard but parallel thereto, a gripping plate provided with two projecting tongues with upturned ends and having a concave seat for said projection to which it is riveted, a rocking lever comprising a pair of curved members parallel to each other intermediately pivoted on opposite sides of said standard near the offset, a second gripping plate with similar tongues riveted to one end of said rocking lever, a connecting rod pivoted to the opposite end of said rocking lever and extending up the standard, and a finger grip pivotally joined to said connecting rod.

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

WILLIAM WARREN CHURCH.

Witnesses:

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GEORGE BENNETT.