

No. 776,591.

PATENTED DEC. 6, 1904.

M. O. HOWER.
CLINKER CATCHER.

APPLICATION FILED FEB. 24, 1904.

NO MODEL.

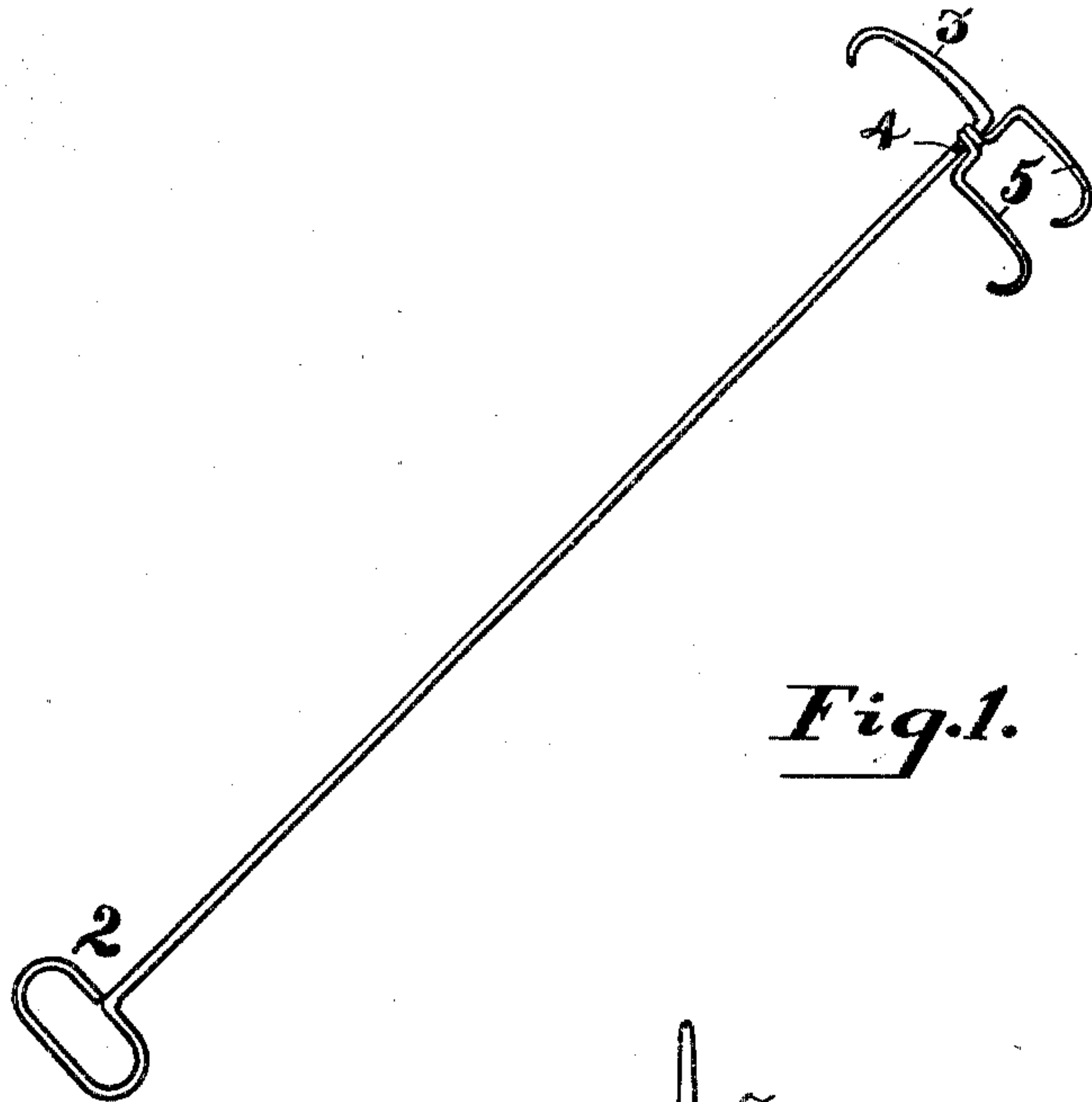


Fig. 1.

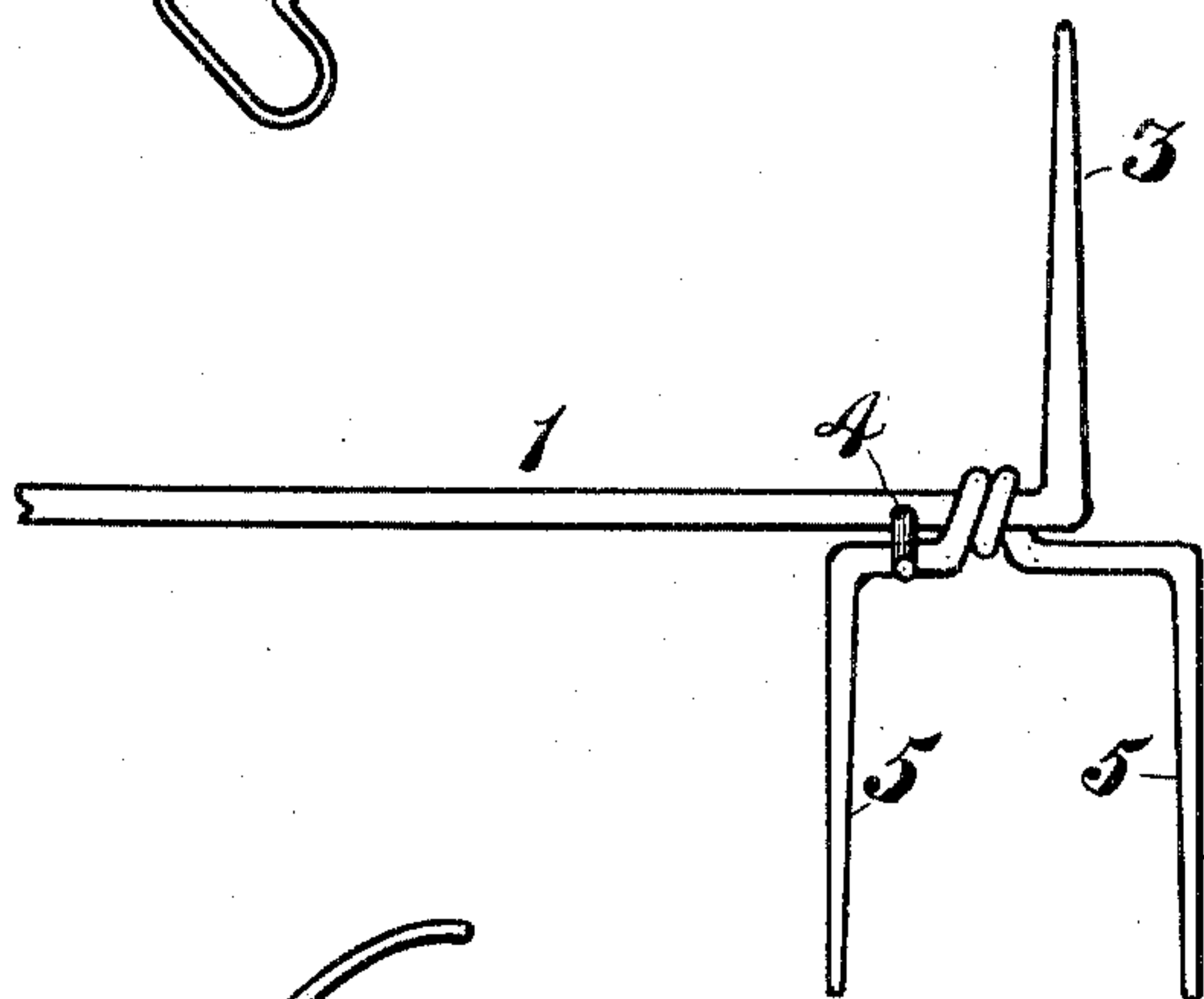


Fig. 2.

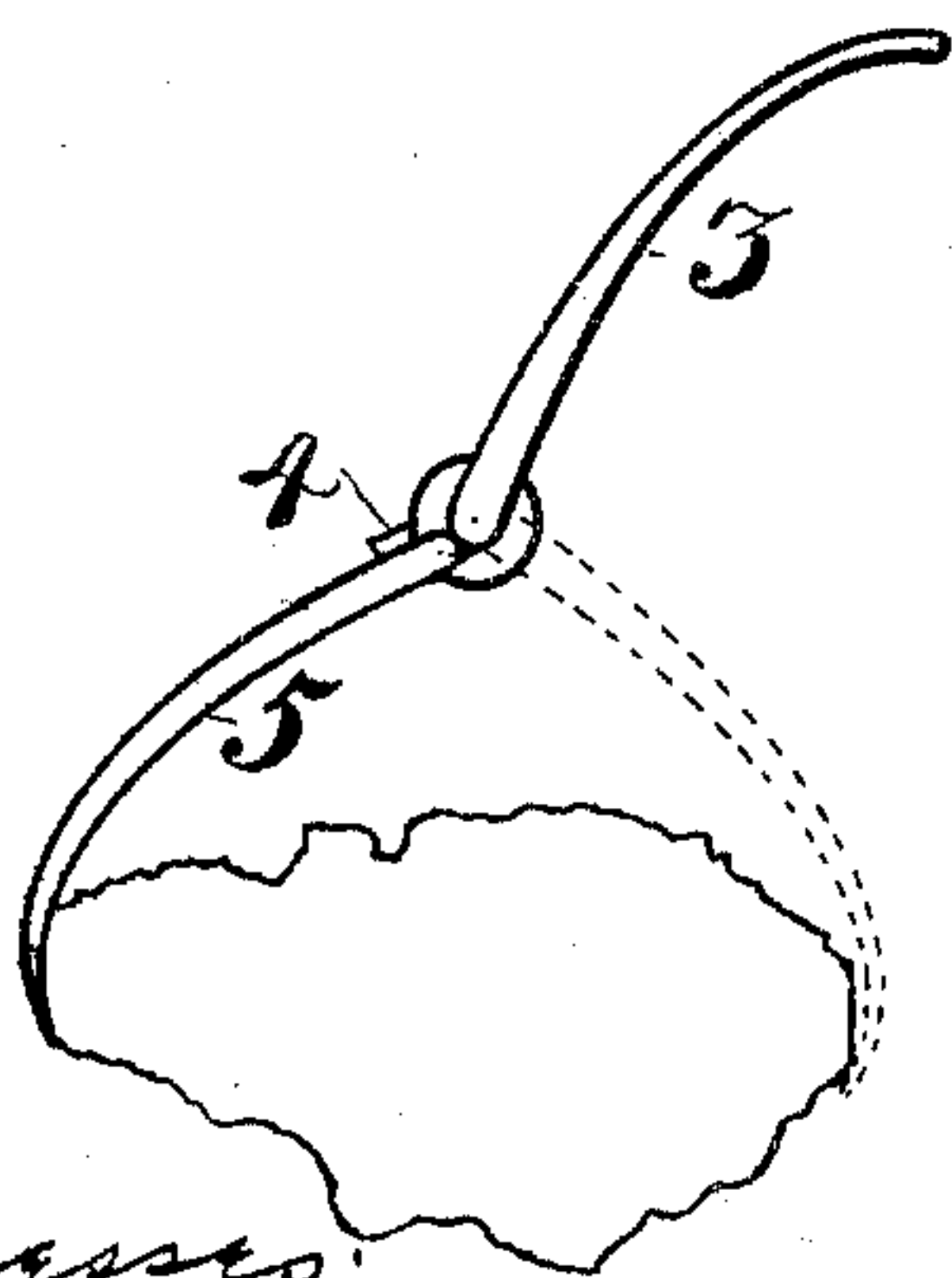


Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

MILTON O. HOWER, OF AKRON, OHIO.

CLINKER-CATCHER.

SPECIFICATION forming part of Letters Patent No. 776,591, dated December 6, 1904.

Application filed February 24, 1904. Serial No. 195,002. (No model.)

To all whom it may concern:

Be it known that I, MILTON O. HOWER, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Clinker-Catchers, of which the following is a complete specification.

My invention relates to devices for removing from furnaces, fire-pots, &c., clinkers, slate, and analogous non-consumable substances and for placing therein and removing therefrom such objects as require to be heated, such as crucibles containing matter to be melted, articles to be annealed, &c.

In the ordinary use of furnaces it frequently happens that by reason of the presence of certain substances in the fuel used large clinkers accumulate in the fire-pot and generally on the grate, the presence of which tend to dampen and impede the free combustion of the fuel and the removal of which is attended with highly-satisfactory results both for the purpose of affording a better draft to the fire and allowing more space for the superimposition of freely-combustible fuel therein. Heretofore devices have been manufactured for the removal of these clinkers which embody large tongs made in the form of pliers for seizing these clinkers; but these tend to crush the clinker and break it up into small particles, preventing its withdrawal whole from the furnace. Another species of devices for removing these clinkers consists of a long sleeve in which is a rotatable shaft, the sleeve bearing fingers and the shaft bearing generally a single finger, and the rotation of the shaft within the sleeve serves to bring the fingers together about an object. This is attended with the disadvantage that if any force is exerted in prying up the clinker the shaft and sleeve are bent and are thenceforth rendered inoperative.

The objects of my invention are to produce an article for the successful and easy removal of clinkers from a fire-pot, furnace, or similar combustion device which will grasp the clinker with sufficient firmness to hold it against unintentional dropping, will be easily operated, and will not be rendered useless by being bent.

Another object is to provide a device of

great simplicity in construction and operation whereby the interior of a heated chamber of any description may be readily reached for the insertion therein of articles to be heated—such as melting-pots, crucibles, &c., containing substances to be melted and articles requiring heat for annealing purposes—and this device is especially adapted for use where access in the ordinary manner is difficult and where the use of the common appliances is disadvantageous.

To the accomplishment of the aforesaid objects my invention consists in the peculiar and novel construction, arrangement, and combination of parts hereinafter described, reference being had to the accompanying drawings, forming a part hereof.

In the accompanying drawings, in which similar reference-numerals indicate like parts in the different views, Figure 1 is a perspective view of my improved device; Fig. 2, a side elevation of the front or working end thereof; and Fig. 3, an end elevation of the same, showing the device in operation.

In the drawings, 1 is a long metallic rod provided at one end with a hand-grip 2 of any desired construction and at the opposite end is turned abruptly to one side at right angles with the main portion thereof and terminates in a curved tapering hook 3. Back from the angle thus formed on the rod is inserted a pin 4, which may be held in place by any desired or preferred means which the requirements of the case demand. This rod 1, with its hand-grip 2 and right-angled hook 3, constitutes one member of the device, and the other member will now be described in detail.

Freely revoluble on the rod 1 and hung between the pin 4 and the hook 3 are a pair of hooks 5, which consist of tapering points curved toward the hook 3 and then are formed with portions at substantially right angles to the rod 1 and then are bent abruptly approximately parallel with the rod 1. The central portion connecting these two hooks 5 is wrapped a desired number of turns about the rod 1 between the pin 4 and the hook 3. This coil surrounding the rod 1 is made large enough to make these hooks 5 readily revoluble thereon.

In using this device it is inserted into the

furnace and the hook 3 elevated so as to bring the pin 4 against the shoulder or part of the hooks 5 which lies parallel with the rod 1, and thereby force them to dig down into the incandescent mass and force their hooked ends under a clinker. As soon as this has been done the hook 3 is swung around by means of the hand-grip 2 so as to inclose the object between the hooks 5 and 3, after which the object is readily lifted from its place and conveyed out of the furnace to any desired or preferred place.

In using this device to insert an object into a furnace the object is grasped in precisely the same manner as just described with reference to a clinker and is deposited in and removed from the heated chamber with equal ease, and an extended description is thought unnecessary.

In adapting this device for grasping such articles as crucibles it is apparent that the general contour and shape of the hooks may require alteration to meet the requirements of each particular case; but this may readily be done and still be entirely within the scope of my invention.

It is obvious from this description that any bend which may be made to suit a particular object in the rod 1 will in no wise interfere with the perfect operation of the hooks 5 and 3.

What I claim, and desire to secure by Letters Patent, is—

The combination in a device of the class designated, of rod having a handle at one end and with its opposite end bent into a curved hook at approximately right angles with the handle-rod and provided with a fixed abutment adjacent to the hooked end constituting one member of the device and a pair of hooks arranged to cooperate with said first hook and pivotally attached to said handle-rod by being wrapped one or more times thereabout between its hooked end and said abutment constituting the other member of the device.

In testimony that I claim the above I hereunto set my hand in the presence of two subscribing witnesses.

MILTON O. HOWER.

In presence of—

C. E. HUMPHREY,
THOMAS L. CHILDS.