(No Model.)

B. J. ALLEN.

COKE BREAKER.

No. 353,011. Patented Nov. 23, 1886.

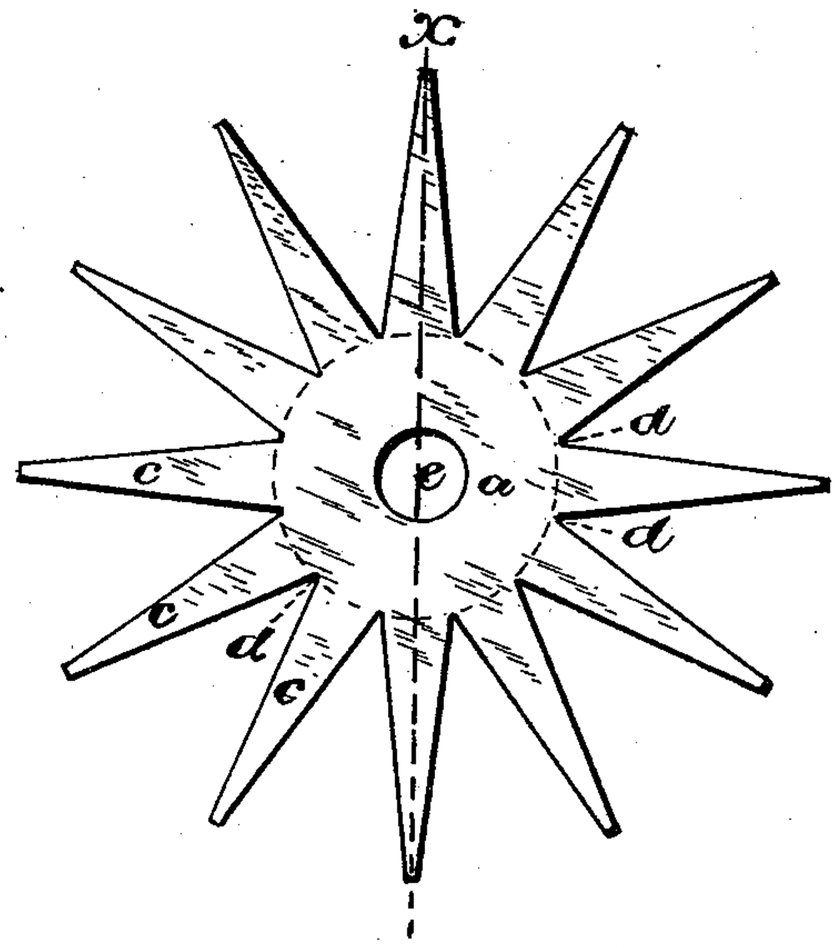
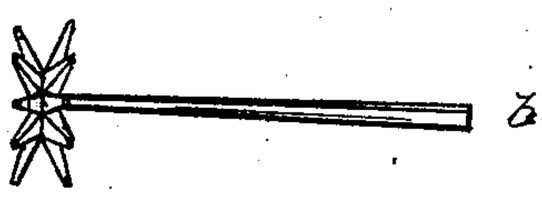


Fig. 1.

Fig. 2.



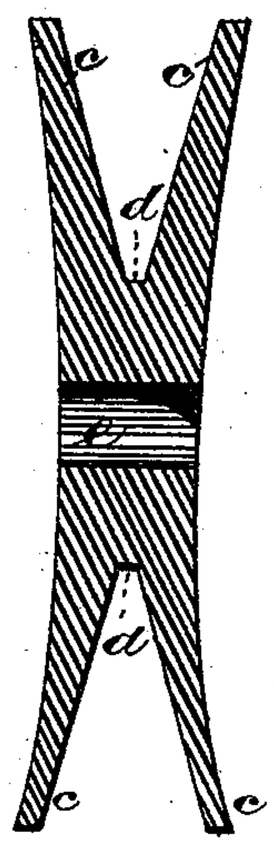


Fig. 3.

WITNESSES:

Frdk. F. Campbell.

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UNITED STATES PATENT OFFICE.

BENJAMIN J. ALLEN, OF NEWARK, NEW JERSEY.

COKE-BREAKER.

SPECIFICATION forming part of Letters Patent No. 353,011, dated November 23, 1886.

Application filed April 28, 1886. Serial No. 200,429. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN J. ALLEN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Coke-Breakers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a device better adapted for breaking the coke formed in the manufacture of illuminating-gas into pieces convenient for stove purposes, one that will enable the operator to break the coke with greater facility, and so that the pieces will be more uniform in size, and one which may be readily sharpened after the teeth have become worn with use.

The invention consists in the improved coke-breaker having the arrangements and combinations of parts, substantially as will be hereinafter set forth, and finally be embodied in the clauses of the claims.

Referring to the accompanying drawings, in which like letters indicate corresponding parts in each of the figures, Figure 1 is a side elevation of the improved breaker. Fig. 2 is a face view of the head thereof, and Fig. 3 is a sectional view of said head taken through line *x*.

In said drawings, *a* indicates the head of the hammer or breaker, and *b* the handle thereof. Said head is preferably a casting of steel having radial breaking-teeth *c c*, extending from the periphery *d* in many directions, the said teeth lying in laterally-adjacent pairs, as shown in Fig. 3, and flaring oppositely and outwardly, so that at their points they will lie a considerable distance apart, and thus take in or form a lump of suitable size for an ordinary stove or furnace. Said teeth are drawn out to form long but narrow teeth capable of cutting into the coke, so that in their effect is rather to form incisions in the coke and then wedge the same apart into smaller portions than to pulverize. The head of the breaker being of metal and preferably of steel, the teeth, after having been worn down by use, may be drawn out again by a blacksmith by any suitable forging process, so that its use can be continued indefinitely.

Inasmuch as the area surrounding the retorts are paved with flagging and the coke to be broken is first dumped or dropped thereon, the head of the breaker of necessity must be of sufficient strength to resist a heavy blow inadvertently expended on said flagging during the breaking process, for otherwise the breaker would not remain in operative condition long enough to be of any practical value.

By forming the teeth radially and in pairs in the manner shown in Fig. 2 four teeth will always present themselves to the coke in the breaking process, so that the pieces resulting from a blow will approximate a uniform size. By this construction the operator is compelled when employed in breaking the coke to present teeth thereto, and cannot present any flat or blunt hammer-like surface liable to break the coke into powder or very small bits should he carelessly allow the hammer or breaker to turn in his hands.

Through the center of the head is formed a perforation, *e*, to receive the handle *b*, which latter extends from the said head in a direction at right angles to the plane of its face, as will be understood upon reference to Fig. 1.

By the construction described the operator in handling the hammer or breaker after the coke has been dumped upon the flagging above referred to and cooled by water, and before it is carted away, walks around the heap, and, selecting his lump, strikes the same with four prongs or teeth at a time, causing the said lump to be broken into pieces of about a size equal to the distance of the teeth apart.

I am aware that in Patent No. 198,459 a handled head is shown having grooves and notches on a peripheral face thereof, said head being made of potters' clay and adapted for use in making beefsteak tender; but said device, for reasons already stated, would not serve the purposes of a coke-breaker, as will be evident.

What I claim as new is—

1. The improved coke-breaker herein described, consisting, essentially, of a metallic head having teeth formed in pairs radially therearound and a handle, said parts being constructed, arranged, and combined substantially as and for the purposes set forth.

2. In combination, a metallic head having long and oppositely-flaring teeth arranged or formed radially and in pairs around the periphery of said head, and having a central opening for a handle, and a handle, all said parts being constructed and arranged substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of April, 1886.

BENJ. J. ALLEN.

Witnesses:
CHARLES H. PELL,
OSCAR A. MICHEL.