

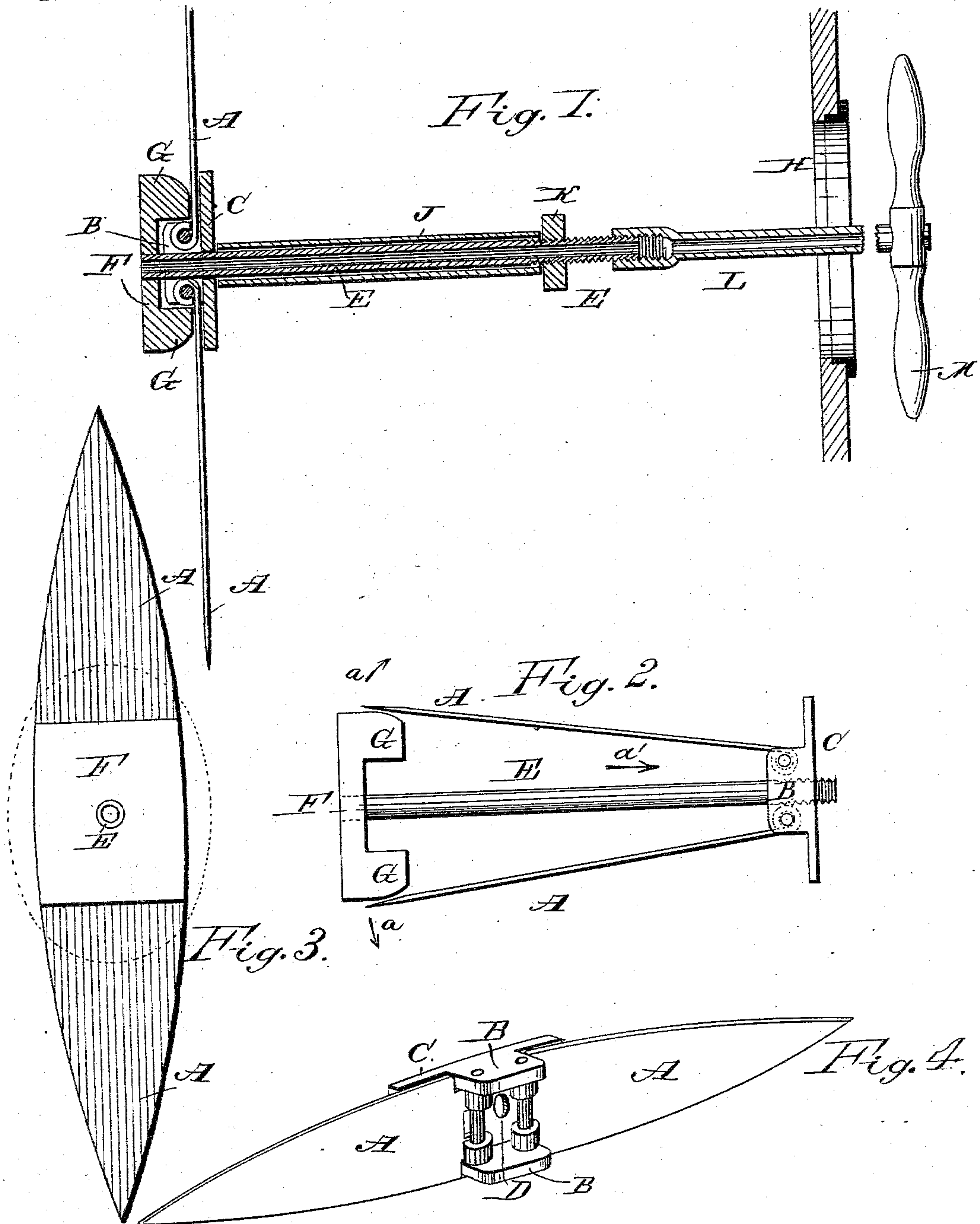
(No Model.)

J. PRESTON.

BOILER HOE.

Patented July 10, 1883.

No. 280,951.



WITNESSES:

Otto Beyer
C. Sedgwick

INVENTOR:

J. Preston
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES PRESTON, OF NEW YORK, N. Y.

BOILER-HOE.

SPECIFICATION forming part of Letters Patent No. 280,951, dated July 10, 1883.

Application filed November 28, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES PRESTON, of the city, county, and State of New York, have invented a new and Improved Boiler-Hoe, of which the following is a full, clear, and exact description.

The object of my invention is to provide an improved boiler-hoe which can scrape a large surface of the boiler and can easily be introduced through the hand-hole into the boiler.

The invention consists in a boiler-hoe formed of a block to which two wings are pivoted, which wings can be separated by a block attached to a rod passing through the block to which the wings are pivoted, whereby the blades or wings can be passed into the boiler through the hand-hole while folded, and can then be spread within the boiler by drawing the blocks toward each other and locking them in position by a nut. A very large hoe can thus be formed by which the inner surface of a boiler can be scraped clean very effectively and rapidly.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional view of my improved boiler-hoe, showing it passed through the hand-hole of a boiler. Fig. 2 is a plan view of my improved boiler-hoe, showing it folded before it is introduced into the hand-hole of the boiler. Fig. 3 is an end view of my improved boiler-hoe, showing the wings extended. Fig. 4 is a perspective view of the inner sides of the wings, showing them extended.

Two blades or wings, A, are pivoted to top and bottom lugs, B, on one side of a block, C, in such a manner that the wings can swing toward each other or can be swung from each other to rest against the surface of the block from which the lugs project. The edges of the wings A are tapered toward the end on curved lines, and the top and bottom edges of the block C are curved, so that the edges of the wings A and the top and bottom edges of the block C form continuous segmental lines. The block C is provided with an aperture, D, between the inner ends of the wings A.

A rod or tube, E, is attached at one end

to the middle of a block, F, which is provided with transverse ridges G at the ends, between which ridges a recess is formed of sufficient size to receive the lugs B B of the block C, the width and height of the block F being the same as that of the block C, and the top and bottom edges of the block F being curved the same as the top and bottom edges of the block C. The other end of the rod E is screw-threaded, and is passed through the aperture D in the block C. The length of the blocks C and F must not be greater than the length of the hand-hole H of the boiler, so that the blocks C and F can be passed through the said hand-hole into the boiler. If the hoe is to be introduced into a boiler, the ends of the wings A are folded against the ends of the block F, as shown in Fig. 2, and the blocks F and C are passed into the boiler. After the block C has been passed within the boiler, the block F is drawn toward the block C in the direction of the arrow a' , whereby the wings A will be swung in the direction of their arrows a against the surface of the block C, and when the block F rests against the outspread wings and the wings rest against the block C the wings will be at right angles to the rod E, and the lugs B will pass into the recesses between the end ridges, G, of the block F, as shown in Fig. 1, and will then hold the wings A in place, and will prevent the block F from turning independently of the block C. A tube, J, is then passed over the rod E until one end of the said tube J rests against the surface of the block C, and then a nut, K, is screwed on the threaded end of the rod E. A handle-rod, L, provided with a handle, M, of any suitable construction, is screwed on the end of the rod E, which handle is used to manipulate the hoe within the boiler. As the edges of the extended wings A and the blocks C F form continuous segmental curves, the hoe thus formed will fit closely against the curve of the inner side of the boiler, and can be used to scrape off scale and draw it toward the hand-hole.

The especial advantage of my above-described hoe is that it covers a very large part of the inner surface of the boiler, and thus greatly facilitates the labor of removing the scale from a boiler. The hoes used heretofore were no larger than the hand-hole, as

they could not otherwise be introduced into the hand-hole.

The blades of my improved hoe can be of any desired length, as they may be folded 5 against each other to permit them to pass through the hand-hole. The edges of the wings and the blocks C and F are to be sharpened sufficiently to adapt them to scrape the scale from the boiler.

10 If desired, the sleeve J can be dispensed with, and the entire length of the rod E screw-threaded, so that the nut K can be screwed directly against the surface of the block C; but as that would require considerable time I 15 prefer to use the sleeve J.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A boiler-hoe constructed with two wings 20 hinged to a block connected with a handle-rod, substantially as herein shown and described, whereby the wings can be folded when introducing the hoe through the hand-hole, and can be extended after the hoe has 25 been passed through the hand-hole, as set forth.

2. In a boiler-hoe, the combination, with wings pivoted to a block, of an additional block provided with a rod passing through an 30 aperture in the block to which the wings are pivoted, substantially as herein shown and described, and for the purpose of swinging the wings outward and locking them in this position, as set forth.

35 3. In a boiler-hoe, the combination, with

the block C and the wings A, pivoted to the same, of the block F and rod E, the sleeve J, and the nut K, substantially as herein shown and described, and for the purpose set forth.

4. In a boiler-hoe, the combination, with 40 the block C, having lugs B B, and the wings A, pivoted thereto, of the block F, provided with end ridges, G G, the rod E, and nut K, substantially as herein shown and described, and for the purpose set forth. 45

5. In a boiler-hoe, the combination, with the block C, having its top and bottom edges curved segmentally, of the wings A, the block 50 F, having its top and bottom edges curved segmentally, the rod E, and the nut K, substantially as herein shown and described, and for the purpose set forth. 55

6. In a boiler-hoe, the combination, with the block C, having its top and bottom edges curved segmentally, of the tapering wings A, 60 having their edges curved segmentally, the block F, having its top and bottom edges curved segmentally, the rod E, and the nut K, substantially as herein shown and described, and for the purpose set forth. 65

7. In a boiler-hoe, the combination, with the block C, of the wings A, the block F, the rod E, the nut K, and the handle L M, substantially as herein shown and described, and for the purpose set forth.

JAMES PRESTON.

Witnesses:

C. SEDGWICK,
ALFRED LURCOTT.