

(No Model.)

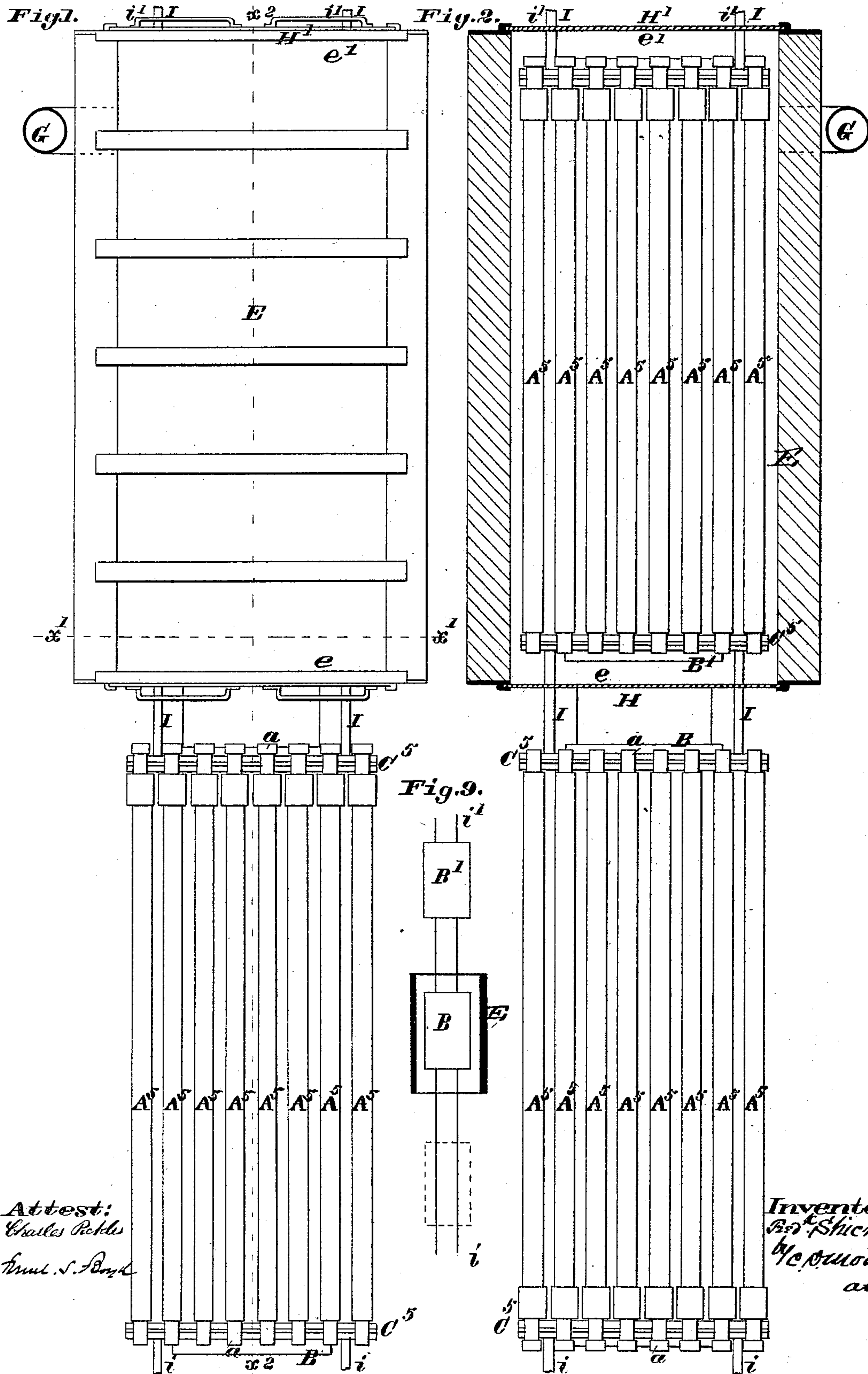
3 Sheets—Sheet 1.

F. SHICKLE.

APPARATUS FOR DRYING CORES FOR PIPES.

No. 246,643.

Patented Sept. 6, 1881.



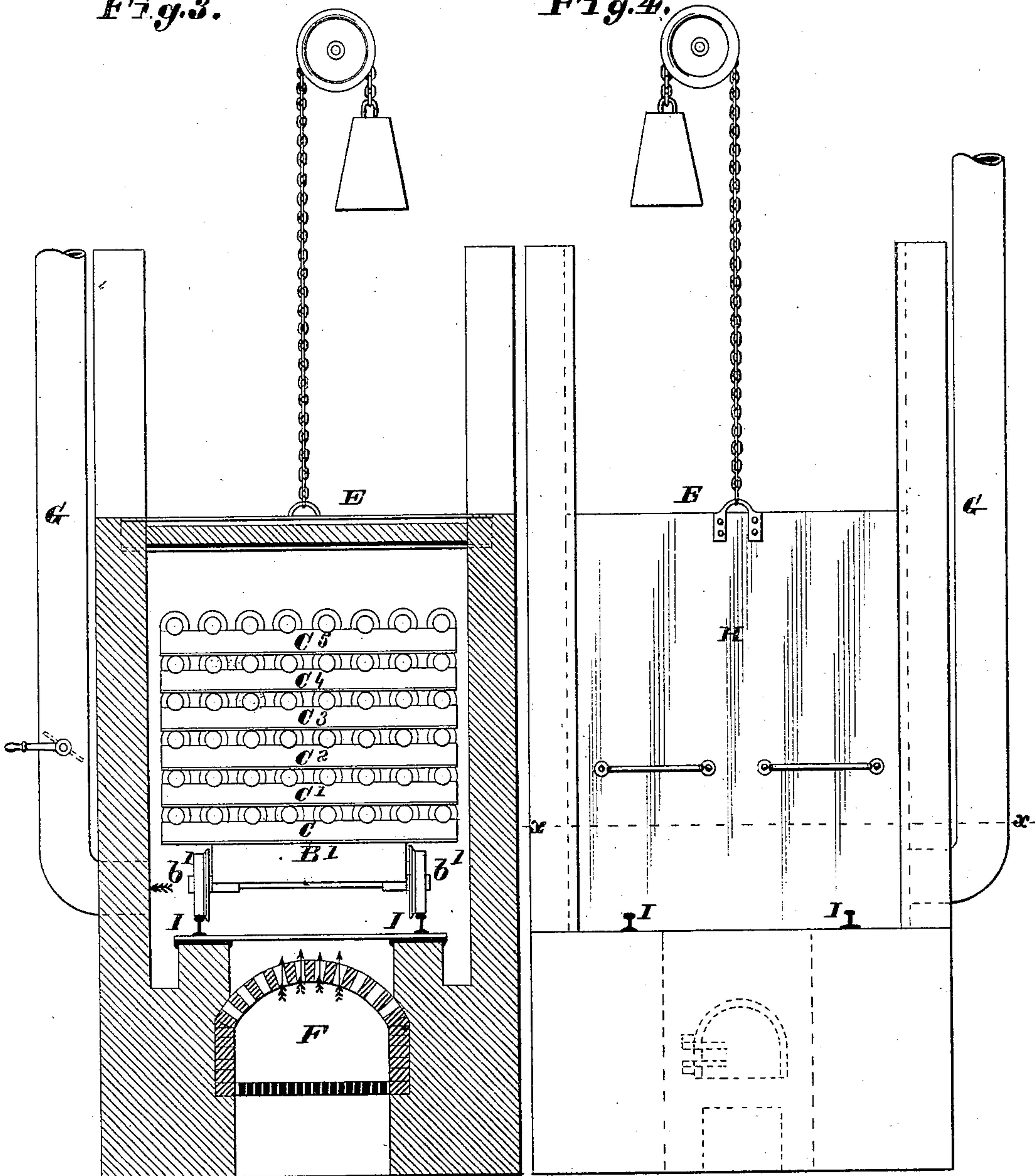
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Fig. 3.

Fig. 4.



Attest:
Charles Pickles
Jm. S. Boyd

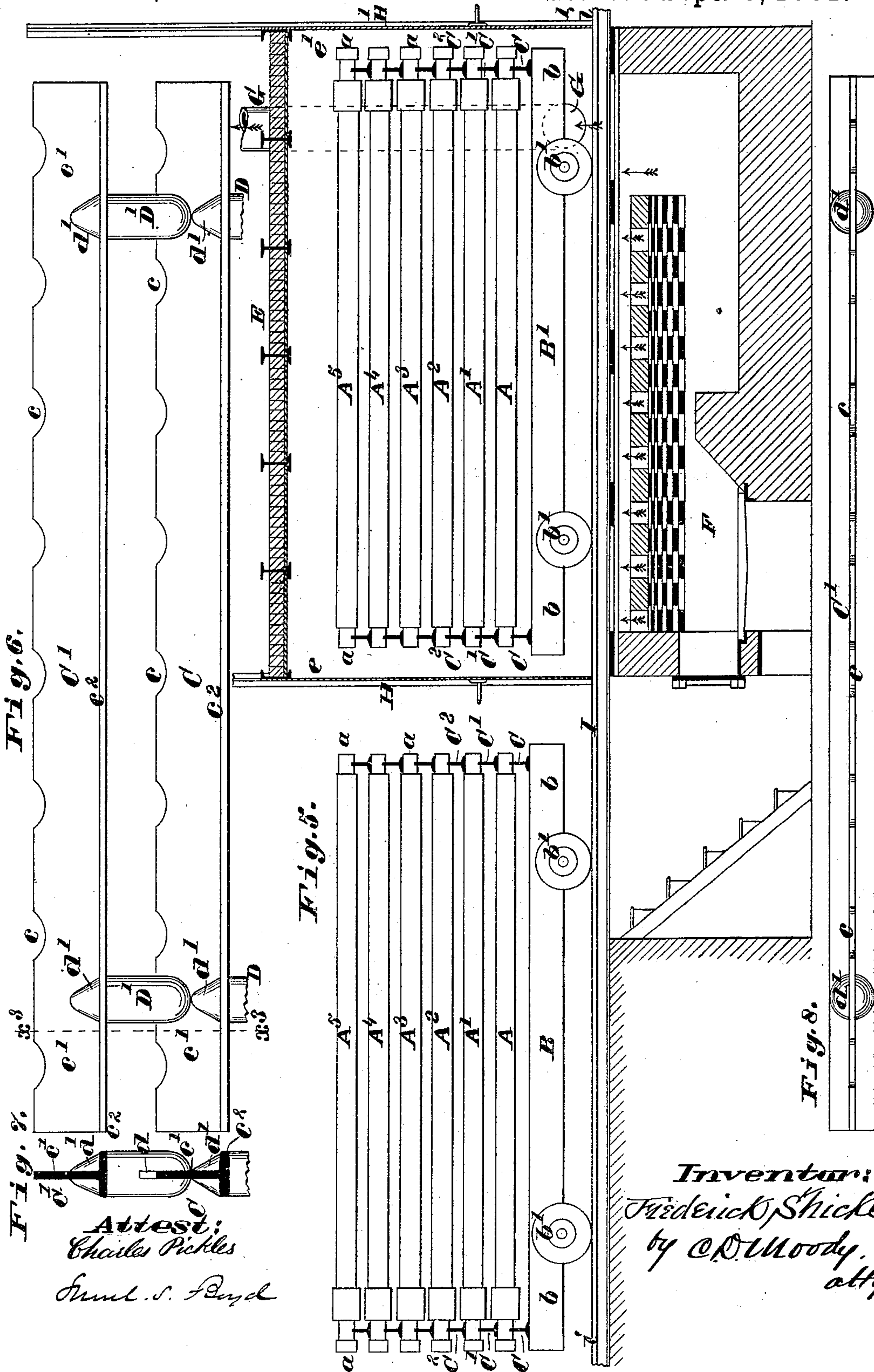
Inventor:
Frederick Shickle
by C. D. Moody
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UNITED STATES PATENT OFFICE.

FREDERICK SHICKLE, OF ST. LOUIS, MISSOURI.

APPARATUS FOR DRYING CORES FOR PIPES.

SPECIFICATION forming part of Letters Patent No. 246,643, dated September 6, 1881.

Application filed June 10, 1881. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK SHICKLE, of St. Louis, Missouri, have made a new and useful Improvement in Apparatus for Drying
5 Cores for Molding Pipes and other Castings, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

10 Figure 1 is a plan; Fig. 2, a section taken on the line $x x$ of Fig. 4; Fig. 3, a transverse vertical section taken on the line $x' x'$ of Fig. 1; Fig. 4, an end elevation of the oven; Fig. 5, a vertical longitudinal section taken on the
15 line $x^2 x^2$ of Fig. 1; Fig. 6, an elevation upon an enlarged scale, showing two of the bars used in supporting the cores; Fig. 7, a section taken on the line $x^3 x^3$ of Fig. 6; Fig. 8, a plan of one of the core-supporting bars, and
20 Fig. 9 a plan showing the relative position of the track and oven.

The same letters denote the same parts.

The present invention relates partly to the means used in drying the cores and partly to
25 the means for holding the cores while being dried.

A A' A² represent the cores, being the kind used in molding pipes. They are supported upon the car B and as follows: The car consists of the frame b , mounted upon the wheels
30 $b' b'$. Bars C C are laid crosswise upon the frame b . A layer of cores, A A A, are rested on the bars C C. Then a pair, C' C', of cross-bars are laid above the first layer of cores; then a second layer, A' A' A', of cores, and
35 then a third pair, C² C², of bars, and so on.

The main object of this part of the improvement is to provide means by which the cores can be conveniently piled in a suitable manner for drying, securely confined in such position in being moved into and out of the oven, and, after drying, for readily unpacking them and withdrawing them from the car. To this end the bars C C' C², in their upper edges, are
40 shaped out or notched at $c c c$, and at their lower edges furnished with lugs D D' D², slotted at d , and as the car is loaded the first layer, A A, of cores are laid in the notches $c c$ of the lowest bars, C C, and the second pair, C' C',

of bars are laid above the cores A A, with the
50 flanges $c' c'$ of the bars C C engaging in the slotted lugs D' D' of the bars C' C', the parts being preferably adjusted so that the top edge of the flange c' shall not strike the upper end of the notch d , the lower ends of the lugs D' D' being supported upon shoulders $d' d'$, formed
55 upon the bars next below. The bars C² C² are similarly provided with slotted lugs D² D², and are similarly connected with the bars C' C', and so on. The notches $c c$ in the bars serve
60 to keep the cores suitably spaced apart upon the bars, and by connecting the bars C C' C² with each other and with the cores, as described, the cores can be rapidly and without injury placed upon the car and taken there-
65 from, the latter operation being effected by first taking off the topmost cores, then the topmost bars, then the second from the top layer of cores, and so on. The bases $c^2 c^2$ of the bars C C' C² are suitably widened to render them
70 stable, and the various parts are also so adjusted that when piled up the bases $c^2 c^2$ bear upon the bars $a a$ of the cores. Thus, without any fastening, the load of cores A A' A² and bars C C' C² is thoroughly secured upon the
75 car B, but in such a way as to be easily dissected.

E represents the oven, in which the cores are dried. It is heated, say, from the furnace F, the heat passing upward, as indicated by the
80 arrows, and the escape pipe or chimney being at G. The oven can be loaded from either end, e or e' . For this purpose the oven has doors H and H' at both ends, and the track I is extended in both directions from the oven, as shown in
85 Fig. 9 more distinctly.

The aim and operation of this feature of the improvement are as follows: Heretofore it has been customary to provide a core-oven with a door at one end only. Necessarily, then, with
90 such an arrangement, and with but a single track, the oven could not be used while the car was loading and unloading; and if two tracks arranged side by side and connected by a switch should be employed, much floor-
95 space, comparatively, would be required, and as it is desirable to have that portion of the apparatus which is used in making the cores in

proximity to the core-cars a switch would interfere with the work. To avoid these difficulties the oven and track are constructed as shown, and the cars are run into the oven at both ends. As shown, the car B has been loaded, and is now in the oven. Meanwhile the car B' is being loaded. When the load on car B is dried that car is moved onto the end *i* of the track and the car B' run into the oven and the doors H H' closed. The load on car B' is now dried, and meanwhile car B is unloaded and reloaded. The oven is then opened, car B' run back onto the end *i'* of the track, car B run into the oven, and so on, the operation and apparatus requiring but little room, and both cars being convenient of access. The operation is also carried on expeditiously. One car can be rolled into the oven as the other is being rolled out. This enables the heat of the oven, which necessarily is of a high temperature, to be thoroughly economized. A further advantage derived from the present relative arrangement of track and oven is, that the track can be made straight. In molding pipes it is of the highest importance that the roundness of the cores be accurately preserved. Cores previous to being dried are soft, pulpy,

and fragile, and in such condition are liable to get out of shape, if jostled. Now, if the track is curved the car is apt to oscillate in passing over it, causing the cores to be disturbed and injured, especially when the car is loaded, as herein described.

I claim—

1. The combination of the core-oven E, constructed to open at opposite ends, *e e'*, the track I, extended at *i i'*, the cars B B', and bars C, substantially as described. 35

2. The combination of the car B and the bars C C' C², notched at *c c c*, and having the slotted lugs D D' D², substantially as and for the purpose described. 40

3. The combination of the car B, the bars C C' C², and the slotted lugs D D' D², substantially as described. 45

4. The combination of the car B, bars C C' C², notched at *c c c*, and having the flange *c' c'* and bases *c² c²*, and the slotted lugs D D' D², substantially as described.

FREDERICK SHICKLE.

Witnesses:

C. D. MOODY,
SAML. S. BOYD.