

(No Model.)

W. BARRY & J. R. CALDER.

BAGASSE FURNACE.

No. 343,978.

Patented June 22, 1886.

Fig. 1.

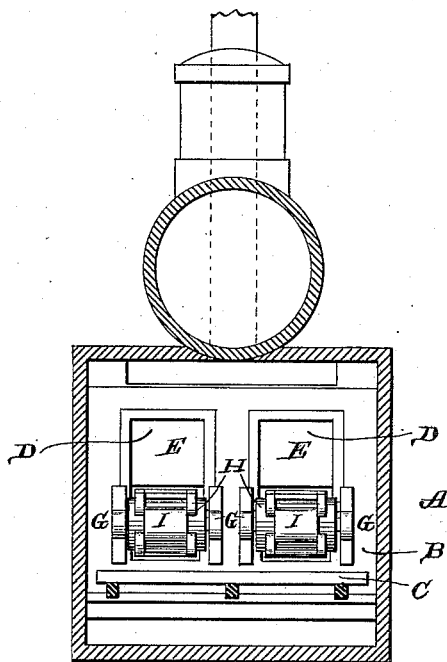
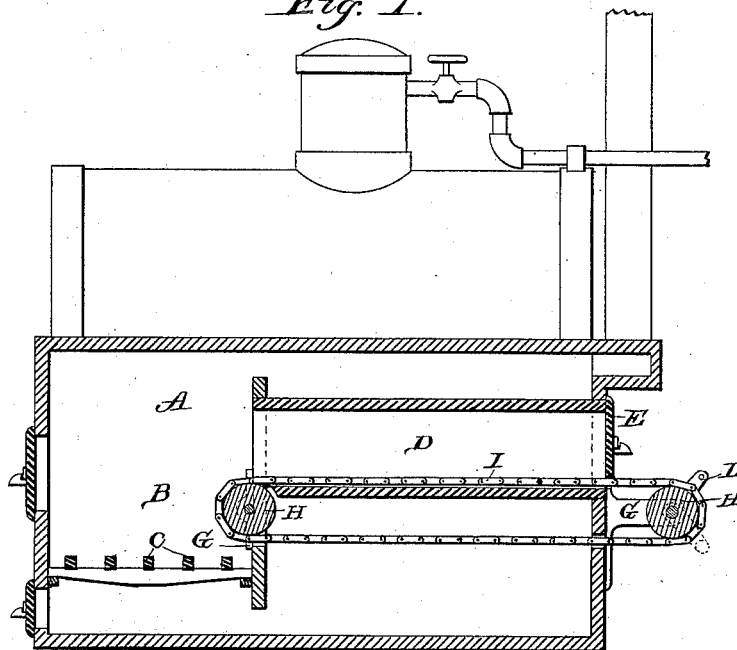


Fig. 2.

Witnesses

Broyl Brown
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UNITED STATES PATENT OFFICE.

WILLIAM BARRY AND JOHN R. CALDER, OF MINDEN, NEBRASKA.

BAGASSE-FURNACE.

SPECIFICATION forming part of Letters Patent No. 343,978, dated June 22, 1886.

Application filed March 3, 1886. Serial No. 193,845. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM BARRY and JOHN R. CALDER, citizens of the United States, residing at Minden, in the county of Kearney and State of Nebraska, have invented a new and useful Improvement in Bagasse-Furnaces, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to an improvement in bagasse-furnaces; and it consists in the peculiar construction and combination of parts, that will be more fully set forth hereinafter, and particularly pointed out in the claim.

In the drawings, Figure 1 is a vertical longitudinal sectional view of a furnace embodying our invention. Fig. 2 is a vertical transverse sectional view of the same.

Heretofore in the manufacture of sorghum or sugar-cane the bagasse or residue of the cane after the juice has been expressed therefrom has been thrown away as worthless.

The object of our invention is to utilize this bagasse as fuel, either for the purpose of boiling the juice or raising steam in steam-boilers, or for any other suitable purpose, and this we do by first drying the bagasse before feeding it to the furnace, and thus making it very inflammable.

A represents a furnace, of which B is the fire-box, and C the grate. Through one end of the furnace extends one or more heating ovens or tunnels, D, the inner ends of which communicate with the fire-box above the grate, and the outer ends of which extend through the outer end of the furnace and are provided with suitable doors, E. In suitable bearings, G, which are arranged at the ends of the ovens, are journaled rollers H, which are connected by endless carriers or belts I, which may be either made of chains or of any other suitable material, and which extend lengthwise through the ovens, in the lower sides thereof.

The fire is started, by means of any suitable fuel, in the fire-box and the bagasse is placed on the endless carriers in the lower sides of

the heating-ovens, and the said endless carriers are operated by means of suitable cranks, L, causing the bagasse to pass slowly through the ovens toward the fire-box. The heat from the furnace thoroughly dries the bagasse during its passage through the ovens, and when it reaches the fire-box it is dropped onto the grate and utilized as fuel, producing a very intense and uniform heat.

We have herein shown a steam-boiler arranged on the upper side of the furnace for the purpose of generating steam, which steam is to be conveyed and fed through the evaporating-pans (which are not here shown, as they form no part of the present invention) for the purpose of heating the juice in the evaporating-pans. If preferred, however, the evaporating-pan may be placed directly over the furnace, to be heated thereby, and the boiler entirely discarded; or the furnace may be used for generating steam to drive an engine, or for any other preferred purpose.

By this construction of the furnace we are enabled to utilize a material for fuel which has been heretofore considered worthless, and thus effect a considerable economy in the manufacture of sugar, as we are enabled to entirely dispense with wood or coal for fuel.

Having thus described our invention, we claim—

A furnace having the fire-box B, provided with a grate, the ovens D, (one or more,) communicating with the fire-box, and the endless carriers located in the ovens and extending through the same, to convey the bagasse through the ovens and discharge it into the fire-box, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

WILLIAM BARRY.
JOHN R. CALDER.

Witnesses:

ROBERT P. STEIN,
THOMAS B. KEEDLE.