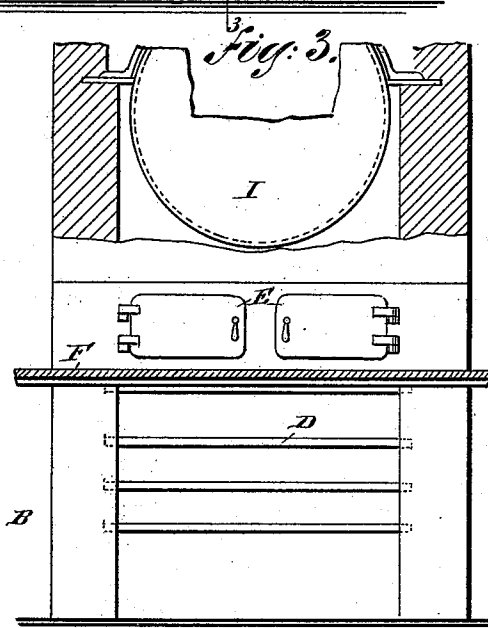
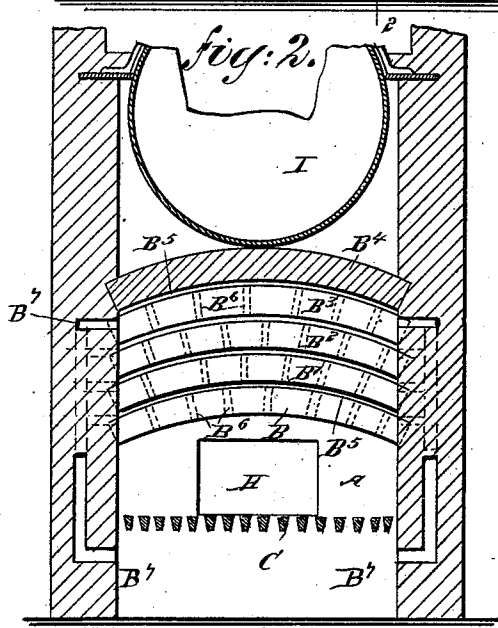
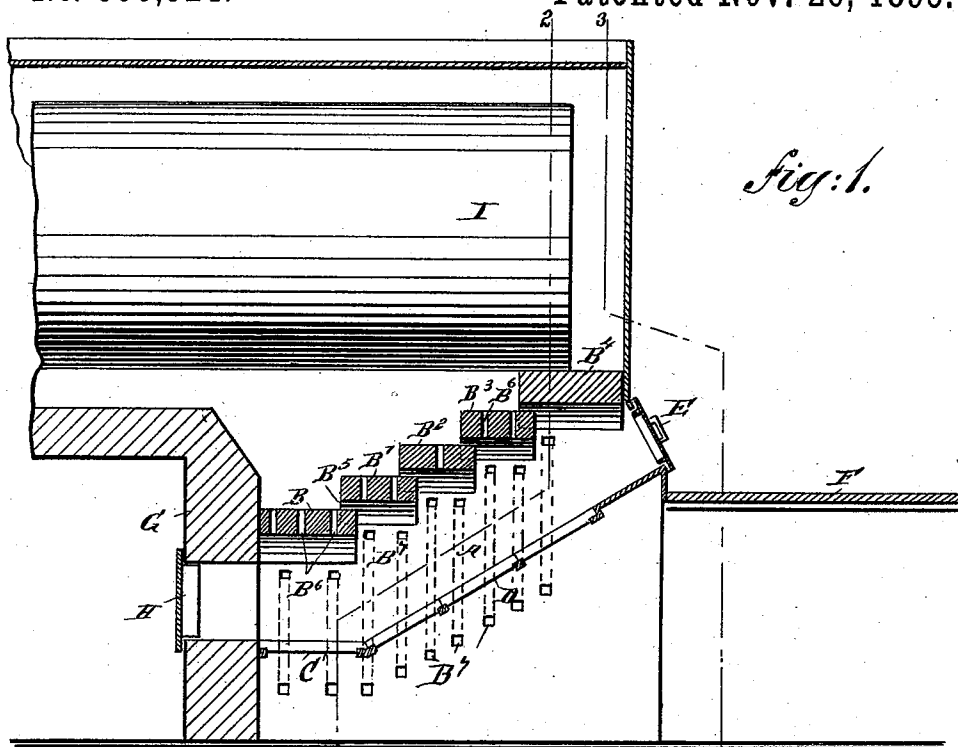


(No Model.)

M. T. J. OCHS.
FURNACE.

No. 550,524.

Patented Nov. 26, 1895.



WITNESSES:

WITNESSES:
Chas. Vida.
Geo. H. Foster,

INVENTOR

BY *M. J. Ochs*
Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

MILTON T. J. OCHS, OF ALLENTOWN, PENNSYLVANIA.

FURNACE.

SPECIFICATION forming part of Letters Patent No. 550,524, dated November 26, 1895.

Application filed February 12, 1895. Renewed October 26, 1895. Serial No. 567,037. (No model.)

To all whom it may concern:

Be it known that I, MILTON T. J. OCHS, of Allentown, in the county of Lehigh and State of Pennsylvania, have invented a new and Improved Furnace, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved furnace, more especially designed for using tan-bark, mill-refuse, and similar materials as a fuel, the furnace being very simple and durable in construction and arranged to insure complete combustion of the fuel.

The invention consists principally of a fire-box having a top formed of a series of transverse arches arranged in inverted-step form.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

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 elevation of the improvement. Fig. 2 is a transverse section of the same on the line 2 2 of Fig. 1, and Fig. 3 is a similar view of the same on the line 3 3 of Fig. 1.

The improved furnace, as illustrated in the drawings, is provided with a fire-box A, having a top formed of a series of transverse arches B B' B² B³ B⁴ arranged in inverted-step form—that is, one arch above the other and somewhat in front thereof—as is plainly shown in Fig. 1. The succeeding arches slightly overlap one another and are spaced a suitable distance apart by an opening B⁵ for the escape of the heat to the under side of the boiler. The arches B B' B² B³ B⁴ are in addition provided with radially-arranged draft-apertures B⁶, as indicated in Figs. 1 and 2.

The bottom of the fire-box A is formed with a grate C, arranged opposite the lowermost arch B, and from the outer end of the grate C extends upwardly and forwardly the inclined back D, which may be made partly of brick or tile and partly of grate-bars, as de-

sired. The upper end of the fire-box A is provided with doors E, through which the fuel can be fed down the inclined back D to burn in the fire-box, the ashes falling through the grate C into the ash-pit.

The fuel is first thrown on a platform F, arranged in front of the boiler, to be then shoveled through the doors E into the fire-box A. A cleaning-door H is arranged in the bridge-wall G of the furnace. This door leads to the lower end of the fire-box A, its bottom being level with the grate C.

The uppermost arch B⁴ forms a step for the front end of the boiler I, and this arch is preferably made solid, as indicated in the drawings.

In order to increase the supply of air for combustion, I may form in the side walls of the furnace draft-passages B⁷, leading from the ash-pit into the fire-box A at the ends of the arches, the said passages being preferably provided with dampers under the control of the fireman. It will be seen that by the arrangement described loose fuel—such as tan-bark, mill-refuse, sawdust, and the like—can be readily burned in the fire-box, at the same time insuring proper draft and complete combustion.

It will further be seen that the fire-box A is in close proximity to the boiler, so that loss of heat is reduced to a minimum.

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

A furnace provided with a grate, a series of transverse arches arranged in step-like order above the grate and having their adjacent edges overlapping and spaced apart to form lateral openings for the passage of the products of combustion between the arches, the said walls of said furnace being provided with flues, the lower ends of which open into the ash pit below the grate and the upper ends of which open into the fire box below the respective arches, substantially as set forth.

MILTON T. J. OCHS.

Witnesses:

THOS. F. DIEFENDERFER,
ALBERT MISSIONIER.