O. JONSSON.

DRAFT DEVICE.

APPLICATION FILED JULY 3, 1915.

1,231,373.

Patented June 26, 1917.

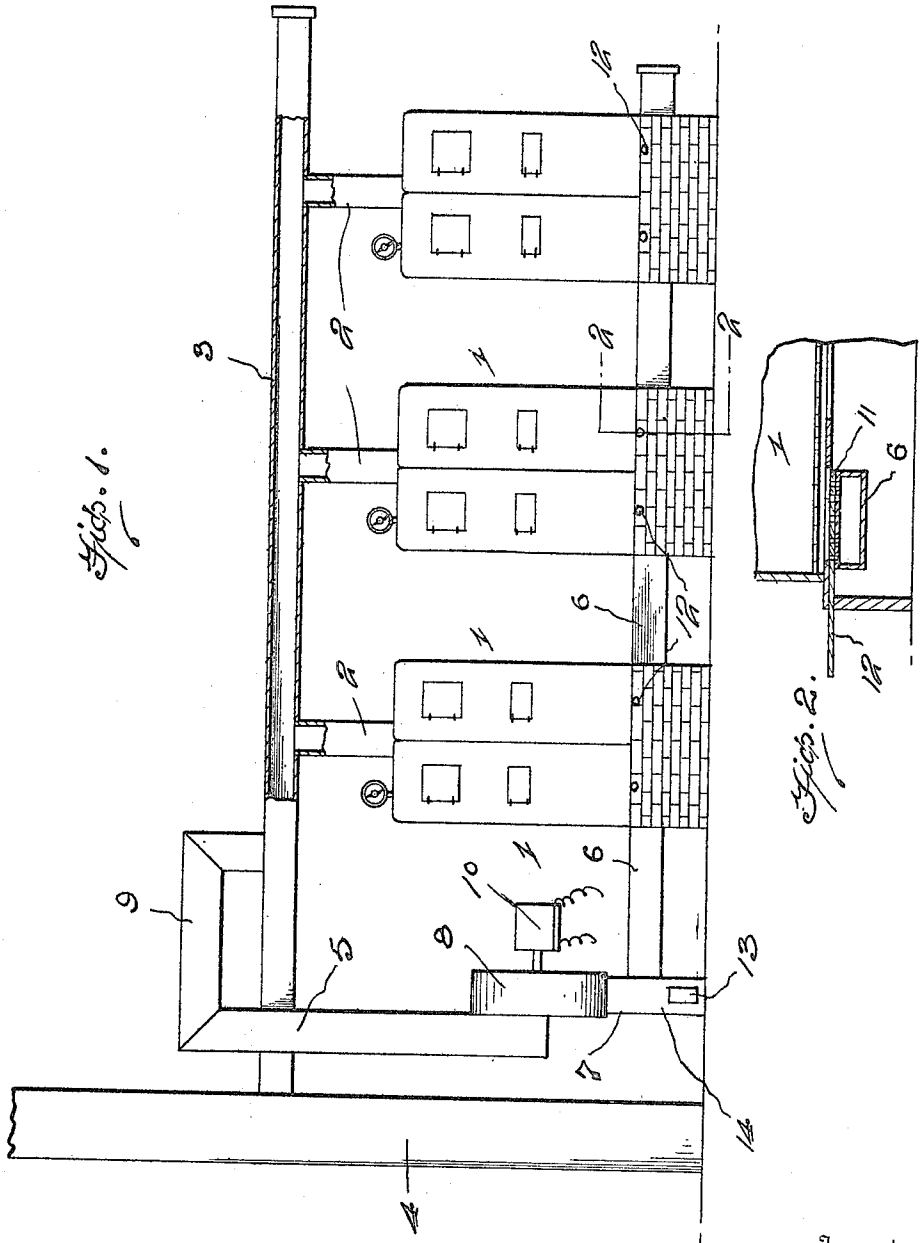


Fig. 1.

Fig. 2.

Witnesses
P. F. Veihmeyer.
H. J. Riley

Inventor
Olaf Jonsson.
By A. W. Underwood & Co.
Attorney

THE NORR'S PETERS CO., PHOTO LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

OLAF JONSSON, OF MILWAUKEE, WISCONSIN.

DRAFT DEVICE.

1,231,373. Specification of Letters Patent. Patented June 26, 1917.

Application filed July 3, 1915. Serial No. 37,851.

To all whom it may concern:

Be it known that I, OLAF JONSSON, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Draft Devices; 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.

The invention relates to improvements in furnaces.

The object of the present invention is to improve the construction of furnaces and to provide a suction draft of simple and comparatively inexpensive construction designed to be applied to a battery of furnaces and adapted to create a suction or partial vacuum in the smoke pipes of the furnaces for drawing off the smoke and unconsumed products of combustion simultaneously increasing the draft of the furnaces and adapted also to return such smoke and unconsumed products of combustion to the furnaces and force the same through the fire boxes to increase the draft and at the same time burn the said unconsumed products of combustion whereby a more complete combustion of fuel is obtained and the amount of smoke decreased.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawing and pointed out in the claim hereto appended, it being understood that various changes in the form, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing

Figure 1 is an elevation partly in section of a battery of furnaces provided with a suction draft and constructed in accordance with this invention,

Fig. 2 is a detail sectional view taken substantially on the line 2—2 of Fig. 1.

Like numerals of reference designate corresponding parts in the several figures of the drawing.

In the accompanying drawing in which is illustrated the preferred embodiment of the invention, 1—1 designate furnaces arranged in pairs, the members of each pair being provided with a common smoke pipe 2 and the smoke pipes of the pairs of furnaces being connected at intervals with an upper horizontal duct or pipe 3 which is connected at one end with a smoke stack 4. The smoke stack 4 which may be of any desired construction is common to the entire battery of furnaces and the horizontal top pipe or duct 3 is connected at a point between the furnaces and the smoke stack with an upper section or portion 5 of a connecting pipe which extends from the upper pipe or duct to a lower horizontal pipe or duct 6. The connecting pipe is composed of the said upper section 5 and a lower section or portion 7 which communicate at their adjacent ends with a fan casing 8 and the upper section 5 has an arm 9 which extends over and is connected to the upper or suction duct or pipe 3 at the top thereof. A suction is created in the top pipe or duct 3 both by the stack and by the fan or blower 8 which is operated by a motor 10. An electric motor 10 is illustrated in the accompanying drawing for operating the fan or blower but any other form of motor may of course be employed.

The lower pipe or draft duct 6 which preferably extends beneath the grate of the pairs of furnaces is connected at one end to the lower portion of the lower section 7 of the connecting pipe or duct and it is provided at intervals with dampers 11 for controlling the draft from the bottom pipe to the individual furnaces. The dampers 11 which are preferably of the flat type are provided with operating rods 12 or other means for enabling them to be readily adjusted to control the draft to the individual furnaces. A large amount of the smoke is consumed thereby assisting in preventing the discharge of the highly objectionable black smoke at the smoke stack.

The lower draft duct is located slightly above the lower end of the lower section 7 of the connecting pipe or duct which section is provided at its lower end with a door 13 for removing soot and other accumulation. The lower depending or projecting portion 14 forms a chamber or extension for trapping the soot.

What is claimed is:—

In a device of the class described, a battery of furnaces arranged in pairs, a vertical common smoke pipe for each pair of furnaces, a horizontal pipe connecting the

smoke pipes, one end of said horizontal pipe being closed, a single smoke stack, the open end of said horizontal pipe being connected to said smoke stack, a suction pipe connected to the upper portion of said horizontal pipe intermediate the smoke stack and the battery of furnaces, a blower having a casing communicating with said suction pipe, and a transverse blast pipe leading from said casing and passing through the furnaces beneath the grates thereof and provided with openings adapted to discharge to said furnaces, respectively.

In testimony whereof I affix my signature in presence of two witnesses.

OLAF JONSSON.

Witnesses:
AXEL JOHNSON,
CARL LINDHOLM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."