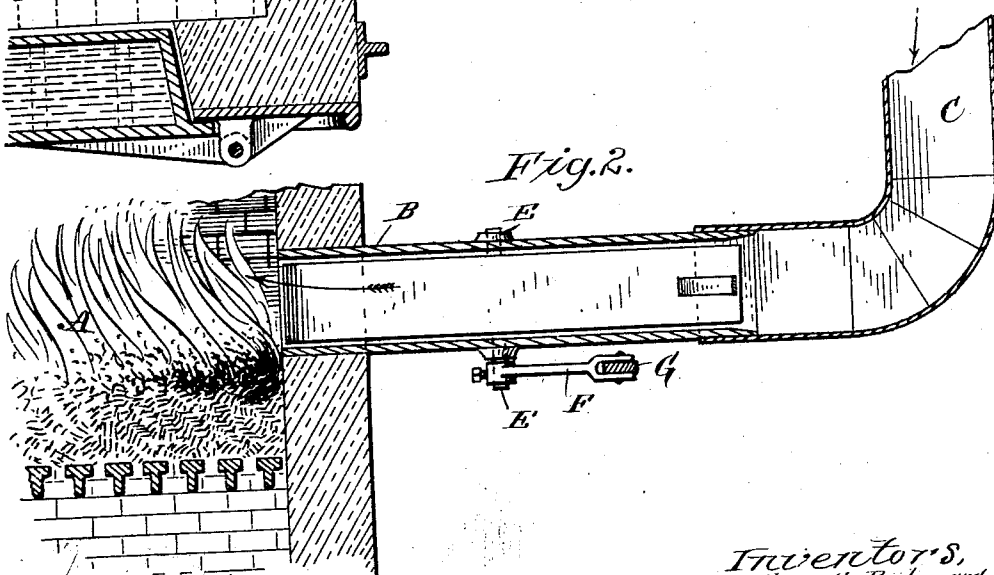
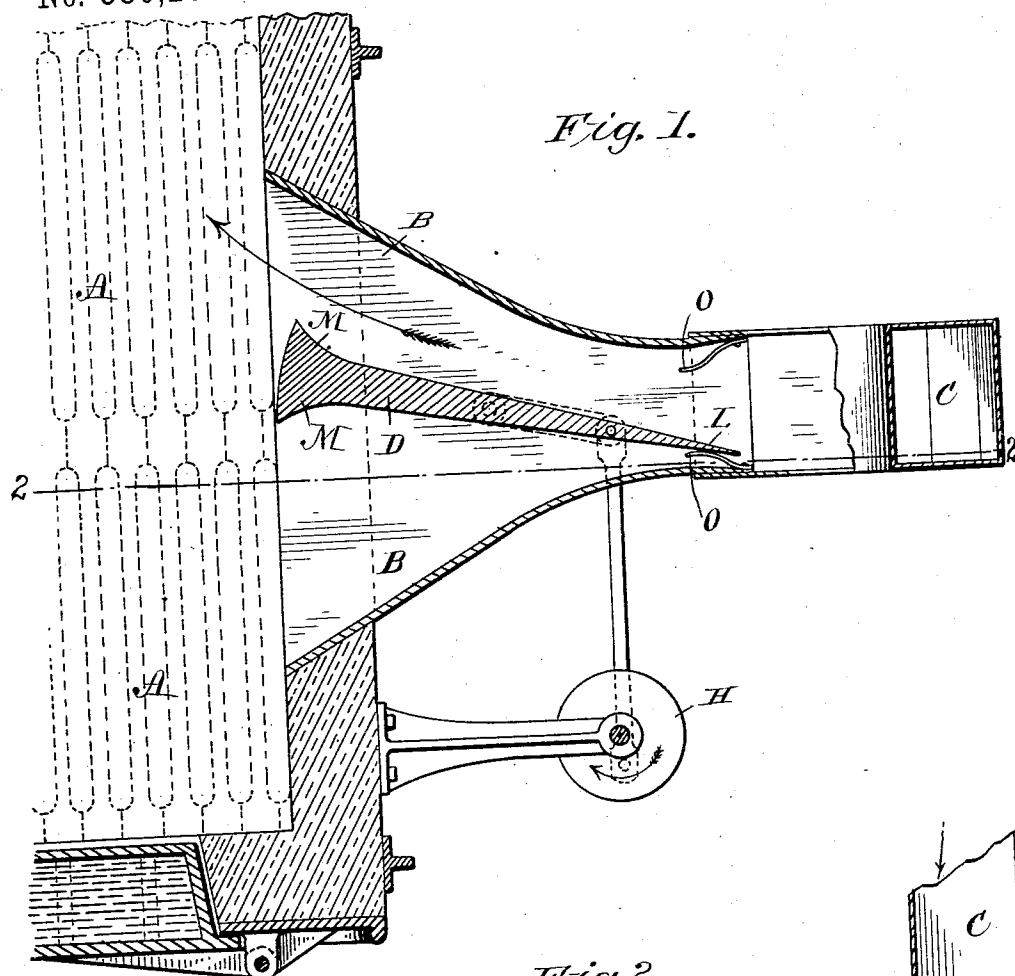


(No Model)

N. S. BEEBE & A. A. BOURGEOIS.
MECHANICAL STOKER FOR FURNACES.

No. 586,265.

Patented July 13, 1897.



Witnesses:
J. H. Orfield
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UNITED STATES PATENT OFFICE.

NATHAN S. BEEBE, OF SPRINGFIELD, AND ABRAHAM A. BOURGEOIS, OF LONG MEADOW, MASSACHUSETTS; SAID BOURGEOIS ASSIGNOR TO SAID BEEBE.

MECHANICAL STOKER FOR FURNACES.

SPECIFICATION forming part of Letters Patent No. 586,265, dated July 13, 1897.

Application filed November 3, 1896, Serial No. 610,992. (No model.)

To all whom it may concern:

Be it known that we, NATHAN S. BEEBE, residing at Springfield, and ABRAHAM A. BOURGEOIS, residing at East Long Meadow, in the county of Hampden and State of Massachusetts, citizens of the United States of America, have invented new and useful Improvements in Mechanical Stokers for Boiler or other Furnaces, of which the following is a specification.

This invention relates to mechanical stokers for boiler or other furnaces, and has for its object the construction of such a stoking device whereby an even distribution of fuel is assured throughout the length of the fire-box of said furnace; and it consists in the construction and arrangement of the devices for the above-mentioned purpose, all as hereinafter fully described and claimed.

In the drawings forming part of this specification, Figure 1 is a plan view in section of a part of a boiler or other fire-box and the stoking mechanism therefor. Fig. 2 is a side elevation of the same, also in section.

Referring to the drawings, A is the fire-box, and B is the flaring mouthpiece of the trough C. Said trough is of rectangular form in cross-section and is carried back away from said fire-box to the source of supply of the fuel to be used in the fire-box. The mouthpiece B thereof is preferably made of cast-iron, as it is subjected to quite a high temperature, which would cause the distortion thereof if it were made of sheet metal, which is the material used in the construction of said trough C.

In mechanical stokers as ordinarily made it is impossible to get a uniform distribution of the fuel, especially where they are applied to the furnaces of boilers used in the wood-working industries, where the said fuel being of a very light nature a strong air-current is employed to convey it to the furnace from various parts of the mill. Under such conditions the fuel is piled up along the side of the fire-box opposite the mouth of the delivery-pipe, and is not only very wasteful of fuel, but requires the attention of a fireman to even it up over the surface of the grate-bars. To obviate these objections, we have constructed the mouth of the fuel-distributing pipe very flaring horizontally and located therein a swinging vertical partition D, secured to a vertical shaft E, located substantially midway between the ends of said partition. On one end of said vertical shaft is secured a crank-

arm F, connected by a pitman G or connecting-rod to a smaller crank rotated by a pulley H or other suitable means whereby more or less rapid oscillatory motion may be imparted to the said swing partition. The said partition is of cast-iron or other suitable metal, and the inner end L thereof is made thin to easily part the stream of fuel directed against it by the air-current. From said end L to the opposite end thereof it is tapered to form the wedge-shaped partition shown in the drawings. When near the end next to the fire-box, the sides of said partition are curved quite sharply outward, as at M, to the end that the stream of fuel carried by the air-current may be deflected toward the ends of the fire-box as the said partition swings from side to side. When said partition is about midway between the vertical sides of the mouthpiece B of the stoker, the divided stream takes a nearly straight course, being very little effected by the curved sides of said partition, and thus the part of the fire-box in a line with said partition D is supplied with fuel. Secured to the inside of the small end of the said mouthpiece are two springs O O, against which the end of the partition strikes as it is oscillated by its driving mechanism.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a mechanical stoker, the swinging divisional partition centrally located within the enlarged end of a fuel-delivering conduit, said partition being tapered from one end to the other, and the sides thereof at its larger end being outwardly tapering, and means for imparting a reciprocatory motion to said partition, substantially as described.

2. In a mechanical stoker, the swinging divisional partition centrally located within the enlarged end of a fuel-delivering conduit, said partition being tapered from one end to the other, and the sides thereof at its larger end being outwardly tapering, and buffer-springs to receive the impact of the end of said swinging partition, and means for imparting motion to said swinging partition, substantially as described.

NATHAN S. BEEBE.
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Witnesses:

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WM. H. CHAPIN.