(No Model.)

W. P. ABELL.

AUTOMATIC DEVICE FOR FEEDING MEGASS FURNACES.

No. 522,445. Patented July 3, 1894.

FIG. 1.

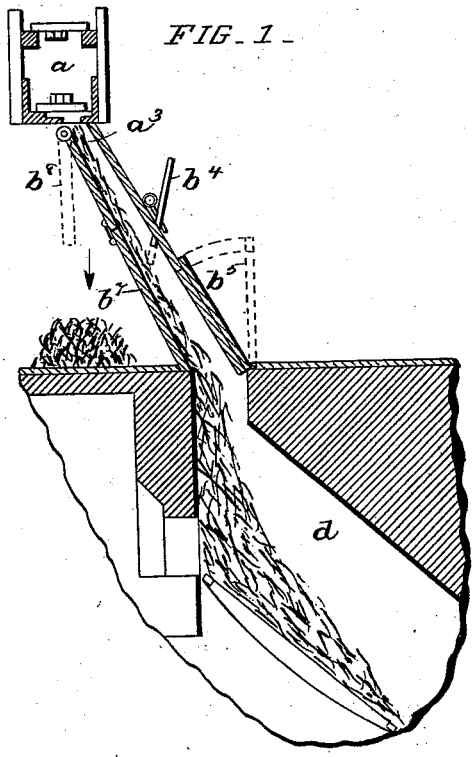


FIG. 2.

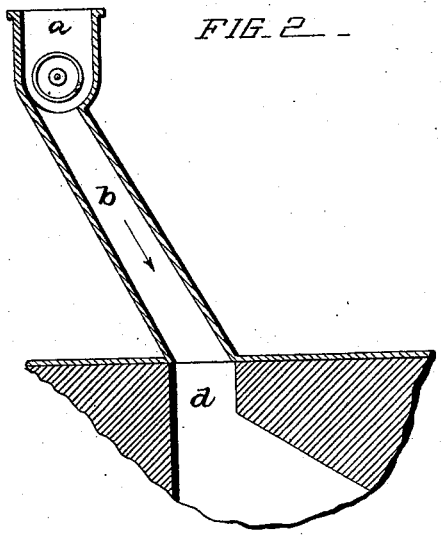
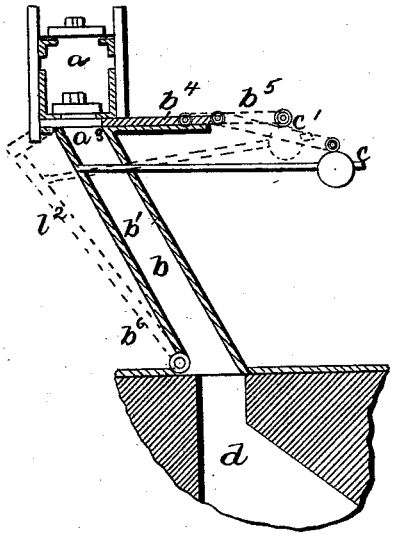


FIG. 3.



WITNESSES

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WILLIAM PRICE ABELL, OF ESSEQUEBO, BRITISH GUIANA.

AUTOMATIC DEVICE FOR FEEDING MEGASS-FURNACES.

SPECIFICATION forming part of Letters Patent No. 522,445, dated July 3, 1894.

Application filed June 25, 1892. Serial No. 438,056. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PRICE ABELL, Whitworth scholar and engineer, a subject of the Queen of Great Britain, and a resident of Tooley Park, Hinckley, Leicestershire, England, and temporarily residing at Essequebo, in the county of Essequebo, British Guiana, have invented certain new and useful Improvements in Automatic Feeding Devices for Megass-Furnaces, of which the following is a full, clear, and exact specification.

Hitherto, the practice of feeding megass (bagasse) furnaces with green megass has necessitated the attendance of one or more men at each furnace, these men requiring careful supervision to make them keep the furnace full of megass and thus facilitate its more efficient work. This has been overcome to a certain extent by building one large furnace and supplying one or a series of boilers with heat from this one furnace. Now there are many difficulties and inconveniences resulting from this style, besides the fact that the good practice of spares necessitates work with a battery of boilers each with its own distinct furnace, so that the failure of any one does not stop the factory. The usual method of working hitherto has been to drop the megass from a carrier A to the floor and from there regulating and pushing it by gearing, rolls, or labor, into the furnaces, this being laborious and requiring much attention.

Having given a brief account of the past condition of megass firing to facilitate the description of my automatic feeding devices, I will proceed to describe my invention.

My object is to reduce the labor on megass platforms as now used, by replacing human firemen by automatic mechanical ones, and at the same time feed the furnace in such a way as tends to facilitate combustion.

Figure 1. is a sectional elevation of a fixed chute connecting the cross-carrier direct with the furnace. Fig. 2. is a modification of Fig. 1.; and Fig. 3. is a sectional elevation of a fixed hopper with a movable or oscillating back.

In Fig. 1., a. is the ordinary carrier. d. is the furnace, b. the hopper or chute connecting the carrier with the furnace.

b^5. is a door which can be opened when desired to clear the furnace or chute.

b^4. is a damper to assist in regulating the feed, should the megass chute be too steep; a part of the back of the chute b^7. is made loose either to be taken away or revolved into position b^8. when it is desired to store a little megass behind the furnace.

My invention, referring to Fig. 1. works automatically as follows:—The megass in its progress along the carrier arrives at an opening a^3, and part falls down the hopper b. which guides it into the furnace d.; this continues until the furnace is full, then the hopper as a natural consequence also fills and the opening a^3. becomes blocked up with megass in such a way that the traveling megass in the carrier passes over and on to feed the next furnace: as soon as the megass is reduced by burning in the furnace, the deficiency is made up by more megass dropping down the opening a^3., the rate of combustion and consequently the feed of megass being regulated by suitable appropriate flue or boiler air-dampers, not necessary to be shown, as the present invention is limited to the feeding devices. I consider the inclining of the chute important in facilitating this automatic operation, by preventing the jamming that would take place in the furnace if a straight hopper were used: it will also be noticed by those versed in the art, that the hopper being always virtually full of megass, no needless or un-wanted air can find its way into the furnace through the feeding mouth.

In practice, I find the megass has an automatic creeping advance motion from the time it enters the automatic hopper, and that during the whole of its route along the carrier, and till it enters into combustion, it is being gradually dried.

It will be observed that the set of furnaces connect with the traveling cross-carrier in such a way, that each furnace receives from the carrier a portion of the megass carried and delivered by it, and that when a furnace is thus made full, the megass so delivered

and so filling the furnace automatically forms its own door and shuts off the supply of more megass to the furnace, and thereby allows the surplus not wanted at one furnace, to pass on to feed the next one.

In Fig. 2. the cross-carrier is shown with a portion in a circular form; and which carrier may be used instead of the ordinary carrier, but similarly connected with the series of chutes or hoppers.

Having thus particularly described my invention, what I claim is—

1. A chute or hopper inclined and oscillating as set forth and provided with a valve, and whereby when full of bagasse the weight of said bagasse shall automatically close the entrance therefor from the carrier to the hopper.

2. In combination with a chute or hopper, having its interior area or passage continuously larger from top to bottom, a movable back forming part of the same, all substantially as set forth.

WILLIAM PRICE ABELL.

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