

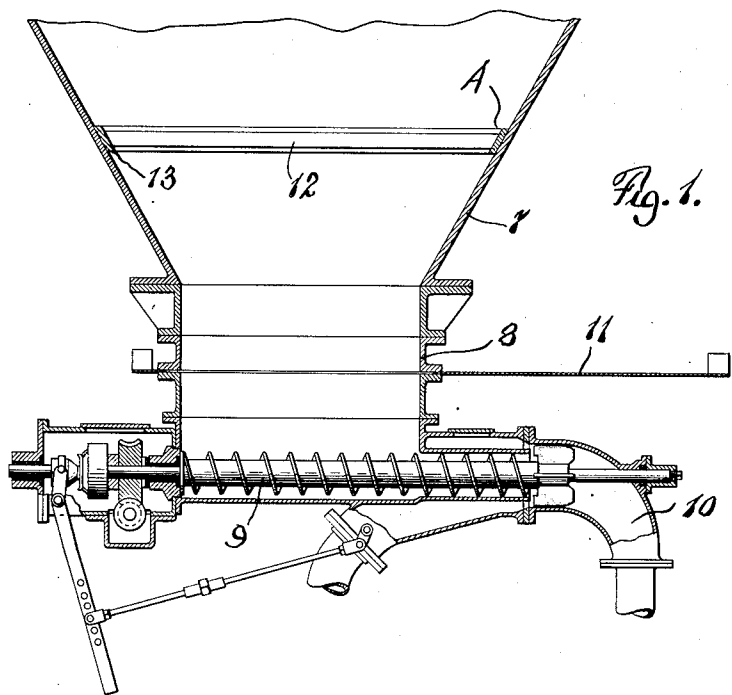
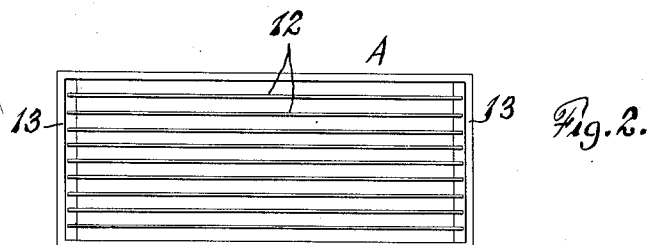
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PULVERIZED FUEL FEEDING APPARATUS

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UNITED STATES PATENT OFFICE.

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PULVERIZED-FUEL-FEEDING APPARATUS.

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This invention relates to pulverized fuel systems and particularly to the feeding of the fuel.

One of the difficulties encountered in this art is "bridging" of the fuel in the storage bins from which the fuel is fed to burners or elsewhere.

When the coal in the bin bridges or arches, feed will cease as soon as the coal below the arch has been removed. This bridging usually occurs in the lower portion of the bin and it is customary to break the arch or bridge by opening of the exterior of the bin with a sledge hammer.

It is the primary object of the present invention to prevent this difficulty and secure a uniformity of feed.

How the foregoing, together with such other objects as may hereinafter appear, or are incident to my invention are realized, is illustrated in preferred form in the accompanying drawings, wherein

Fig. 1 is a fragmentary section thru the lower portion of the bin and feeder illustrating my improvements applied thereto, and

Fig. 2 is a plan view of a grid which I employ in carrying out my invention.

Referring now to Fig. 1, the reference numeral 7 indicates the bin or hopper which is usually rectangular in cross section and which is adapted to discharge into the throat portion 8, below which is the feed screw 9 adapted to discharge the pulverized fuel into the line 10 leading to the burners or elsewhere. The throat is controlled by the usual gate 11.

To prevent the arching or bridging above described I locate a grid A in the lower portion of the bin 7. This grid is preferably composed of a plurality of thin bars 12.

These bars are preferably from $\frac{1}{8}$ to $\frac{1}{4}$ inch thick and about 1 to $1\frac{1}{2}$ inches wide and they are placed apart about 2 inches with the edges up, i. e., in the direction of the flow.

The grid may be supported in any suitable way and in the present instance I have sloped the end plates 13 of the grid the same as the slope of the sides of the bin so that the grid automatically positions itself.

I have found that such a grid overcomes

this difficulty altho one would suspect that the presence of such a number of plates would interfere with rather than promote proper flow. I assume the arching or bridging above referred to is produced by unevenness in flow in various portions of the coal and that the effect of the bars on the grid is to produce an uniform flow cross sectionally of the bin. Whatever the reason therefor may be, I have found by actual experience that the device prevents arching.

I claim:

1. In coal handling apparatus, a gravity discharge bin or reservoir for pulverized coal, feeder mechanism therefor, and a grid in the bin above the feeder mechanism, said grid comprising a plurality of stationary spaced bars.

2. In coal handling apparatus, a gravity discharge bin or reservoir for pulverized coal, feeder mechanism therefor, and a grid in the bin above the feeder mechanism, said grid comprising a plurality of stationary spaced bars, said bars being in the form of plates with the edges in the line of flow.

3. In a coal handling apparatus, a gravity discharge bin or reservoir for pulverized coal having a hopper shaped bottom with a discharge outlet, feeder mechanism therefor, and a grid in the bin comprising a plurality of spaced bars extending across the hopper shaped portion of the bin well above the discharge outlet.

4. In a coal handling apparatus, a gravity discharge bin or reservoir for pulverized coal having a restricted discharge outlet, feeder mechanism therefor, and a grid in the bin comprising a plurality of spaced bars extending across the bin well above the discharge outlet.

5. In a coal handling apparatus, a gravity discharge bin or reservoir for pulverized coal having a hopper shaped bottom with a discharge outlet, feeder mechanism therefor, and a grid in the bin comprising a plurality of spaced bars extending across the hopper shaped portion of the bin and resting on the walls thereof.

In testimony whereof, I have hereunto signed my name.

HENRY KREISINGER.