Feed devices for pulverized fuel are known in which the pulverized fuel is taken from a supply bunker by means of a delivery drum provided on its periphery with recesses, for example corrugations, grooves, pockets or the like, and falls from the said recesses into an air conduit passing thereunder in order to ensure complete discharge of the recesses. More particularly it has been proposed to allow the air current to pass lengthwise along the discharging recesses in their lowest position.

The known feed devices of this type suffer from the disadvantage that regulation of the pulverized fuel-air mixture is only possible with difficulty, if at all. The pulverized fuel contained in the recesses of the revolving delivery drum is discharged in constant amount into the air conduit even if only a weak conveyor air current or no air current at all is passing through the conduit, so that when the normal air current sets in, the latter is over-saturated with pulverized fuel and this leads to trouble in operation.

This disadvantage is remedied according to the invention by avoiding the automatic free discharge of the recesses of the delivery drum into the air conduit, the conveyor air, in passing lengthwise through the recesses, discharging the said recesses directly. Hence, when the air current becomes weaker or stops altogether, the pulverized fuel remaining in the recesses is returned either partly or entirely to the supply bunker.

The invention is illustrated in the accompanying drawings by one embodiment shown in side elevation in Figure 1 and in plan in Figure 2. Figures 3, 4 and 5 show two constructional forms of the delivery disc and conveyor air conduit in which Figs. 3 and 5 are sectional views of two embodiments and Fig. 4 is an end view of Fig. 5.

The delivery disc 3 keyed to the shaft 2 is enclosed in a casing 1 which is connected by means of the hopper 5 to the pulverized coal container. The delivery disc 3 is provided on the periphery with suitable recesses 4, for example, corrugations, grooves, pockets or the like. The air conveyor conduit 6 passes through the casing 1 at a point where automatic free discharge of the recesses of the delivery disc containing the pulverized fuel cannot take place, and preferably in such a manner that the axis of the air conduit passes approximately through the recesses of the disc 3. It is preferable to make the blast conduit 6' nozzle shaped, for example, such that the conduit 6' is contracted at the part 7 or the conduit 6'' is contracted at the parts 7 and 8 (Figures 3, 4 and 5). The velocity of the air current is thereby increased in the region of the recesses and in addition, the air current is so guided as to effect certain and correct discharge of the recesses and suitable mixing of the air with the pulverized fuel.

As clearly seen in Figure 1 the air conduit 6 is provided so that the air will be forced past the periphery of the disc and through the recesses at a point which is above the horizontal diameter of the disc. The air conduit may, however, be provided on the horizontal diameter but it must be at least on or above such a line to provide for a positive removal of the fuel from the recesses.

The regulation of the pulverized fuel-air mixture is effected either by varying the strength of the air current or by altering the speed of rotation of the delivery disc or by both simultaneously. It has been found preferable to make the delivery disc, which heretofore has been made drum-shaped, of such a shape that its diameter is at least twice as great as its width.

I claim:
1. A feed device for pulverized fuel or the like, comprising a casing adapted to receive the fuel to be fed, a fuel delivery disc rotatably mounted in a vertical plane in said casing and having a relatively large number of teeth and recesses in the periphery thereof to receive the fuel from the casing, and an air conduit arranged parallel to the axis of the rotatable disc and above the horizontal diameter of the disc, the periphery of the disc passing through the conduit so that the air passing through the conduit will force and remove the fuel from the recesses, and the position of the conduit preventing the fuel from falling out of or leaving the recesses by itself unless forced to do so by the air stream.

2. A feed device according to claim 1, in which the conduit is contracted at the part adjacent both sides of the disc to increase the velocity of the air stream.

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