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Taburinsky et al.

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[54] **SANDSLINGER HEAD**

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[58] **Field of Search** 164/198, 199, 19, 20, 21

[56] **References Cited**

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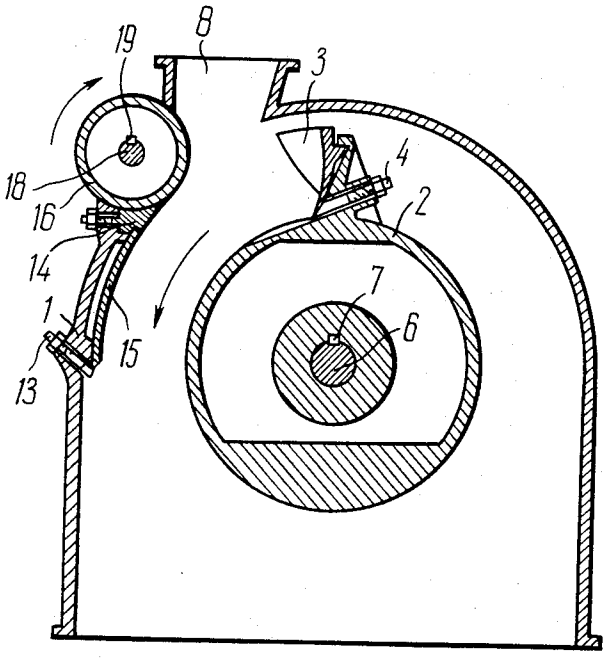
[57] **ABSTRACT**

A sandslinger head for ramming a molding mixture in which a rotor provided with a bucket is located in a housing, and a curved guide is disposed between a hole in the housing for charging the mixture, and a hole for its ejection or discharge. The characteristic feature of the sandslinger head is a driven roller mounted between the charging hole and the curved guide serving to prevent the adhesion of the mixture within the slinger head.

2 Claims, 2 Drawing Figures



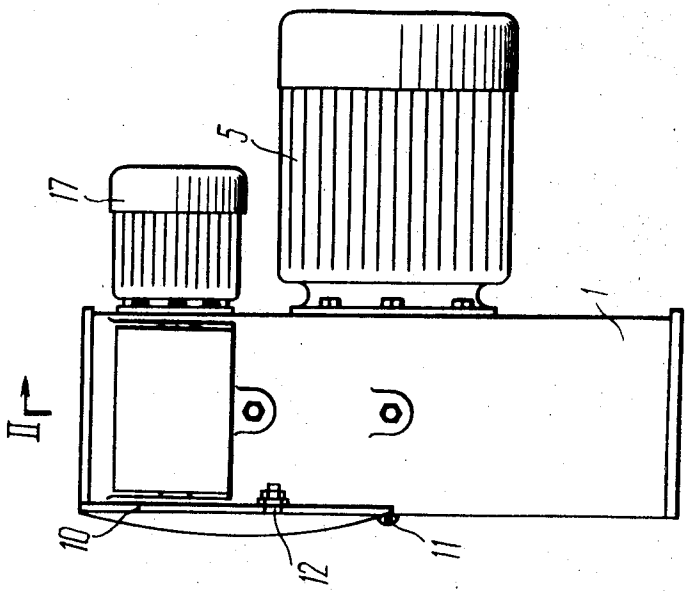


FIG.2

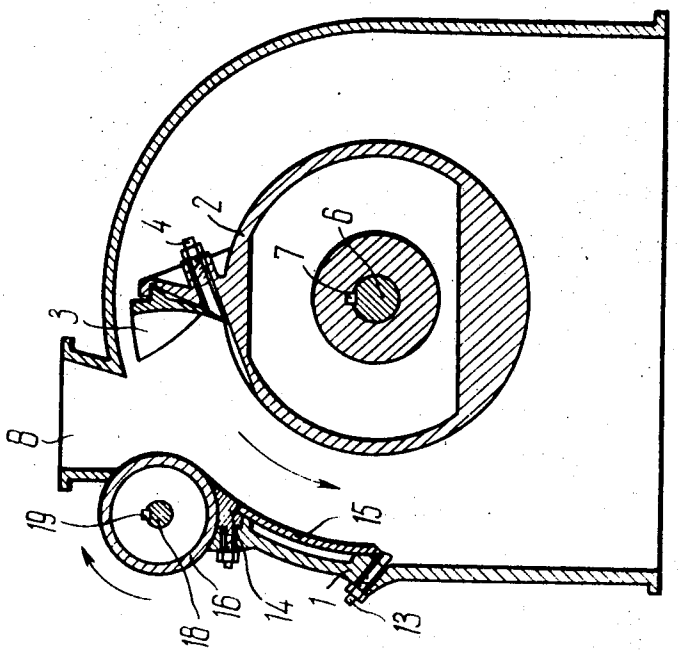


FIG.1

SANDSLINGER HEAD

BACKGROUND OF THE INVENTION

The invention relates to heads for sand slingers used for ramming molding mixtures in foundry practice, to produce foundry molds and cores, as well as for depositing the lining of pouring ladles and steel molds.

Widely known in the art is a slinger head provided with a tangential supply of the mixture to the rotor, which is used in cantilever-type hose-fed sand slingers for ramming the mixture in making molds and cores. It has a housing in which is enclosed a rotor equipped with a bucket. In the housing, there is a charging hole for the tangential supply of the mixture to the rotor, and a hole for the ejection of mixture with the ejection hole being located opposite the charging hole. Inside the housing, in the path of rotation of the rotor and past or beyond the charging hole, there is mounted a curved guide for directing the mixture from the head through the appropriate hole. Fixed between the charging hole and the curved guide is a heated plate designed to eliminate the adhesion of the mixture in the zone of the charging hole.

The mixture is fed into the head through the charging hole and during rotation of the rotor, the mix is captured by the bucket, formed into wads, and through the ejection hole enters into the molding volume.

In the operation of such sandslinger head, part of the mix captured by the bucket reaches the heated plate, which partially eliminates adhesion of the mixture in the zone of the charging hole.

However, in using a mixture with high adhesiveness (for example, fluidized glass, or self-hardening mixtures), as well as when using mixtures with a low adhesiveness, but at a high rate of their feed into the slinger head, the charging hole becomes jammed, since the heated plate cannot, within a short time interval, secure a sufficient heating of the mix, and completely eliminate its adhesion. Thus, for example, a slinger head with a bucket **200** mm wide already becomes jammed at a rate of **15** m^3/hour with an ordinary sandloam mixture. At the same time, the most widely employed, although less economical, sandslinger heads with a side mix supply are known to secure a productivity of up to 50 m^3/hour at a bucket width of 150 mm.

There were attempts made to eliminate the disadvantages of the slinger head by employing vibration plates instead of the heated plate. However, no positive results wee obtained thereby, due to which the highly economical slinger heads having a tangential mix supply did not find any wide application in practice.

An object of the present invention is to eliminate the disadvantages.

SUMMARY OF THE INVENTION

The basic object of the invention is to provide a sandslinger head, which features high productivity, is usable with mixtures of high adhesiveness, and at the same time is more reliable and economical in operation.

With this object in view, there is provided a sandslinger head, comprising a rotor provided with a bucket enclosed in a housing, with the housing having on one side a charging hole for supplying the mixture tangentially to the rotor, and on the opposite side, a hole for ejecting the mixture, together with a curved guide fixed on the inside of the housing past the charging hole in the direction of rotation of the rotor, and serving to direct the mixture ejection from the sandslinger head, wherein, according to the invention, between the charging hole and the curved guide there is mounted a roller the periphery of which protrudes inward of the housing, and a drive for rotating the roller about an axis parallel to that of rotation of the rotor.

The present slinger head is not jammed with the mixture, features higher productivity, and the use of mixtures of high adhesiveness, since the rotating roller prevents the adhesion of the mixture particles in the zone of the charging hole, and discharges such particles in the direction of the rotor rotation.

To explain the invention, the following is the description of an exemplary embodiment of the sandslinger head for making foundry molds and cores, with references to the appended drawings, wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a view taken along line II—II of FIG. **2**, the view looking in the direction of the arrows;

FIG. **2** is an end elevational view of the head illustrated in FIG. **1**.

DETAILED DESCRIPTION OF THE DRAWINGS

The sandslinger head includes a housing **1** in which a rotor **2** having a bucket **3** fixed thereon by a bolt **4** is enclosed. The rotor **2** is connected with a drive source **5** through a shaft **6** and a key **7**.

The housing **1** has a charging hole **8** for supplying the mixture tangentially to rotor **2**, and a hole **9** for ejecting the mixture from the slinger head. On the side wall of the housing **1** is provided a cover **10** secured to the housing **1** by a hinge **11** and a fastening bolt **12**, which allows rapid replacement of the worn components of the slinger head. On the inner side of housing **1**, past or downstream of the charging hole **8** in the direction of rotation of the rotor **2**, bolts **13** and **14** hold a curved guide **15** serving to direct the mixture ejection from the slinger head. Between the charging hole **8** and the curved guide **15** there is mounted a roller **16**, the periphery of which protrudes inward of the housing **1**, and a drive **17** provides for rotation of the roller about an axis parallel to the axis of the rotation of rotor **2**. The roller **16** is connected with the drive **17** through a shaft **18** and a key **19**.

The slinger head operates as follows:

The mixture is supplied into the charging hole **8** of the housing **1** and the mix located in the zone of rotation of the bucket **3** is captured thereby, drawn along the curved guide **15**, and ejected in separate wads into the molding volume. During operation the roller **16** is rotated by the drive **17** in a direction opposite to the rotation of the rotor **2**. It is also possible to rotate the roller **16** in the same direction, as rotor **2**, but this is not quite as satisfactory. The mix to be ejected by the bucket **3**, at the moment of its separation from the general flow supplied through the charging hole **8**, enters the surface of the rotating roller **16**, from which it is cleaned by a sharpened head of bolt **14**, to be again captured by the bucket **3**, but being already within the zone of the curved guide **15**, this completely rules out its adhesion, and jamming of the charging hole **8**.

Tests of the present slinger head have proven its full operability when using mixtures with high adhesiveness

(fluidized glass, or self-hardening, mixtures) at a high productivity rate (up to 50 m^3/hour), and a bucket width of from 63 to 600 mm.

What we claim is

1. A sandslinger head, comprising: a housing; a rotor provided with a bucket mounted in said housing; a drive operably connected to the rotor for rotating said rotor; said housing having a charging hole for supplying mixture tangentially to said rotor, and a hole for ejecting the mixture, said ejecting hole being located opposite said charging hole; a curved guide fixed on the inner side of said housing past said charging hole along the direction of rotation of said rotor, said guide serving to direct the mixture ejection from said slinger head; a roller having its peripheral surface protruding inward of said housing, said roller having an axis of rotation parallel to that of said rotor, said roller being mounted on said housing between said charging hole and said curved guide, and a drive operably connected to said roller to impart rotation thereto.

2. The sandslinger head as claimed in claim 1 in which a bolt fixing said curved guide to the housing is provided with a sharpened head adjacent said roller periphery to clean from the periphery any of the mix thereon.

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