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[54] **MOLD ROCKING MECHANISM IN A CONTINUOUS METAL CASTING PLANT**

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[51] **Int. Cl.** **B22d 11/02**

[58] **Field of Search** 164/83, 260, 261, 273; 248/1, 248/2, 6–9, 14–18, 204

[56] **References Cited**

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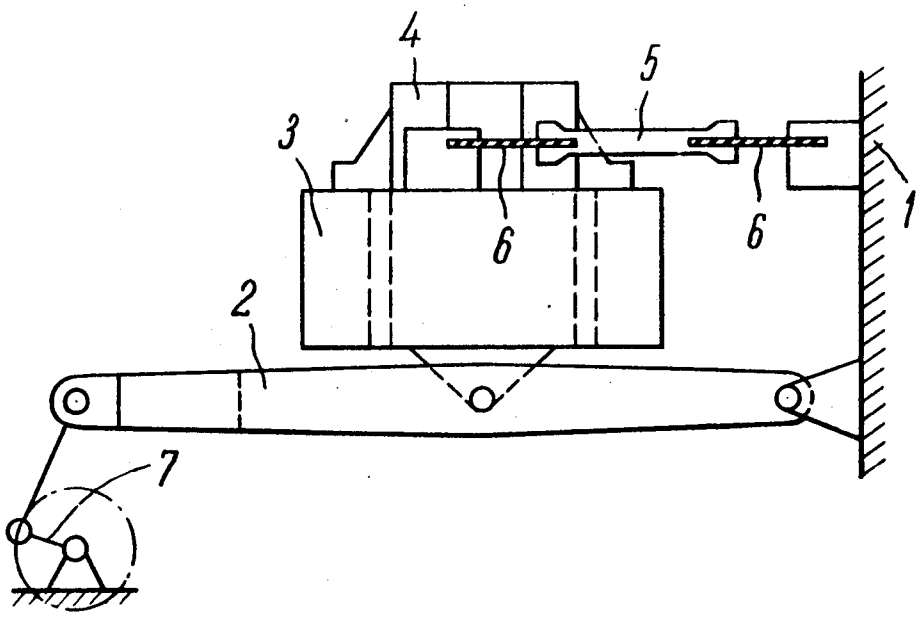
[57] **ABSTRACT**

A mold-rocking mechanism installed in a continuous metal casting plant, comprises a system of pivotal links on which is mounted a frame carrying the mold. The link system includes links which resist only forces directed along their axes and these links are attached to the frame and to the framework of the plant by means of flexible members.

4 Claims, 2 Drawing Figures



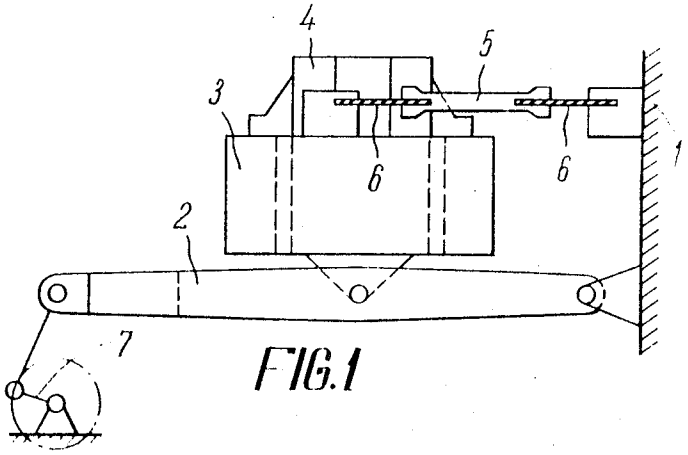
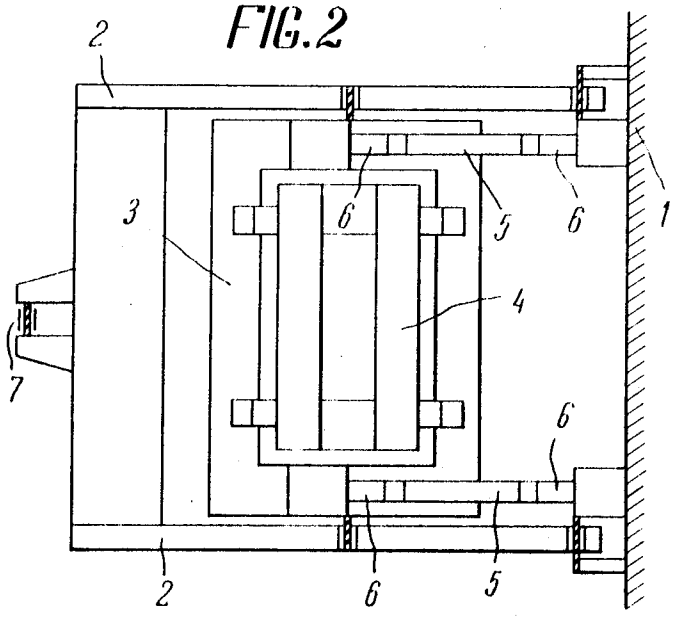


FIG.1

FIG.2



MOLD ROCKING MECHANISM IN A CONTINUOUS METAL CASTING PLANT

The present invention relates to continuous metal casting plants, and more specifically to mould rocking mechanisms used in such plants.

Known in the prior art are mould rocking mechanisms comprising a system of oscillating links mounted on the framework of the plant, the mould carrying frame being fixed to said links. This system of links provides for the reciprocal movement of the frame-mounted mould along the axis of a billet.

The existing mechanisms are complex in design and insufficiently reliable in operation, which is due to the large number of hinge joints operating under high temperature and moisture conditions, premature wear of these joints causing distortion of the path of the mould movement, and, hence, lowered quality of the billet being cast.

It is an object of the present invention to provide a mould rocking mechanism permitting maximum simplification of construction while raising the operational reliability thereof.

This and other objects of the invention are achieved in that in the mould rocking mechanism comprising a system of oscillating links mounted on the framework of the metal casting plant, the links taking up only those forces that are directed along their axes, are, according to the invention, attached to the mould frame and the framework of the plant by means of flexible members allowing rocking of these links to a certain angle.

Such construction provides for the smooth rocking of the mould with a guaranteed clearance thereof with respect to the billet being cast.

For the sake of better understanding of the invention, here is a description of a particular embodiment thereof, taken with reference to the appended drawings wherein.

FIG. 1 is a diagrammatic side elevation view of apparatus according to the invention; and

FIG. 2 is a plan view thereof.

The mould rocking mechanism comprises a system of oscillating links mounted on a framework 1 of the casting plant consisting of carrier links 2 which is hinge connected to a frame 3 with a mould 4, and links 5 vertically stabilizing frame 3 and resisting only the forces directed along the axis thereof.

Links 5 are attached to frame 3 of the rocking mechanism, and to the framework 1 by means of flexible members 6 which are rigidly fixed to their opposite members.

The rocking movement of frame 3 and mould 4 is effected by a crank gear 7.

The rocking mechanism operates as follows.

After actuating the crank gear 7, links 2 along with frame 3 and mould 4 will start rocking.

Links 5 attached to framework 1 and frame 3 through flexible member 6, will also oscillate.

Flexible members 6 will be strained, thus permitting links 5 to swing about their neutral position at some small angle, which is produced by the reciprocal movement of frame 3.

Deviation of frame 3 from its vertical position occuring during the deformation of the flexible members 6, is insignificant, being within the existing operational clearance between the billet and the mould wall, and, therefore, not causing any adverse action during the metal casting.

Hence, the above-mentioned mould rocking mechanism is simple in construction, and possesses high operational reliability.

We claim:

1. A mould-rocking mechanism in a continuous metal casting plant, said mechanism comprising: a linkage system mounted on a stationary framework of the plant; a frame carrying a mould and attached to said linkage system; means for oscillating said linkage system to cause said frame to reciprocate along an axis substantially coincident with an axis of a billet in the mould; said linkage system including a first link member having opposite ends, one end pivotably connected to said framework, the other end connected to said means which oscillates the linkage mechanism, said frame being pivotably connected to the first link member intermediate the ends thereof, a second link member having opposite ends and flexible members fixedly connected to the ends of the second link member and respectively to said frame and said framework, said flexible members resisting forces only directed longitudinally along the second link member to allow oscillation of the second link member through a particular angle.

2. A mechanism as claimed in claim 1 wherein said link members extend generally horizontally, and in parallel spaced relation, said frame extending vertically therebetween.

3. A mechanism as claimed in claim 1, wherein said means for oscillating said linkage system comprises a crank gear connected to said first link member.

4. The mechanism as claimed in claim 3, wherein said second link member is connected to said frame in spaced relation from said first link member.

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