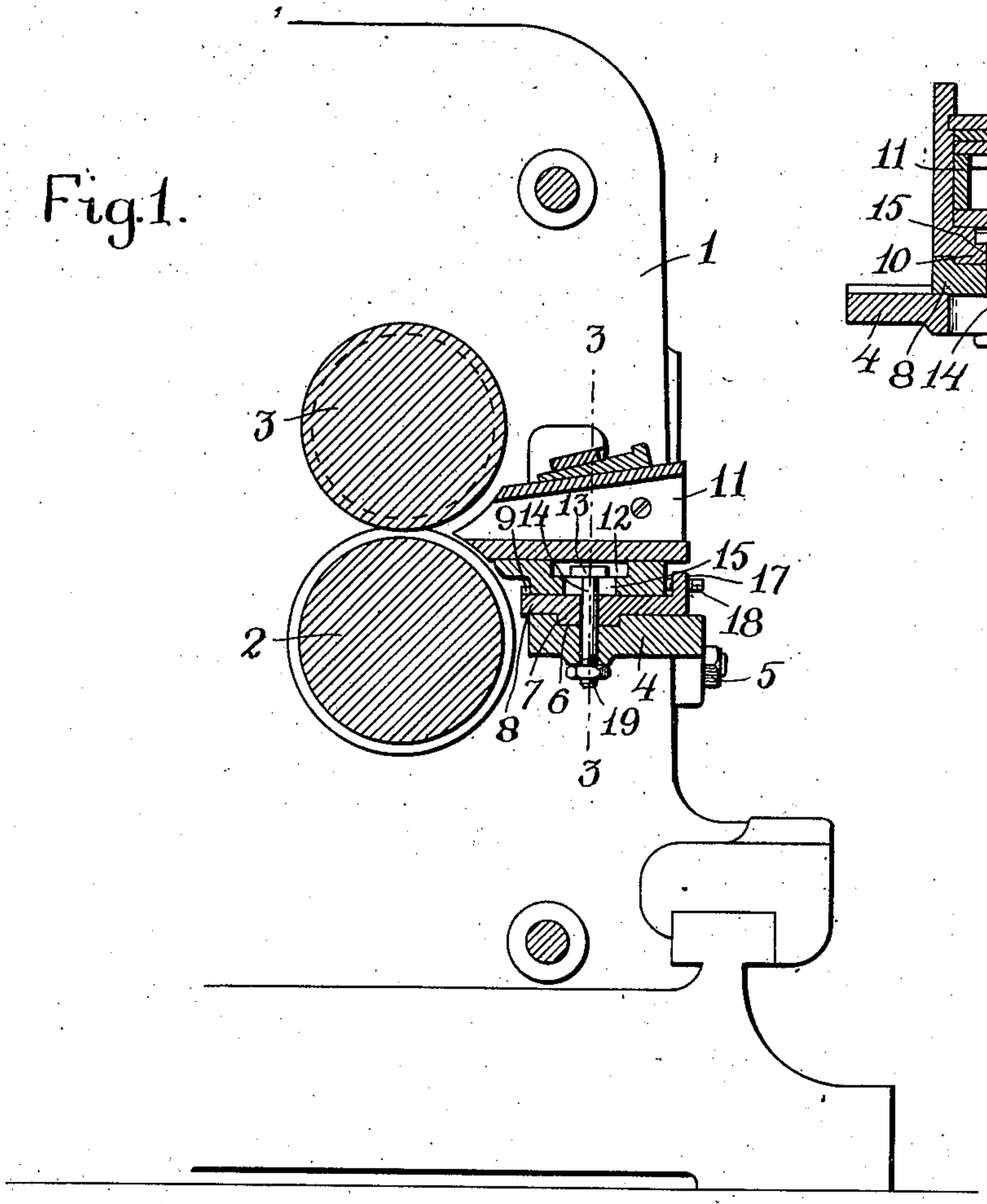
T. M. JEWELL.

GUIDE BOX FOR ROLLING MILLS.

APPLICATION FILED NOV. 2, 1908.

966,556. Patented Aug. 9, 1910.

Fig. 1.



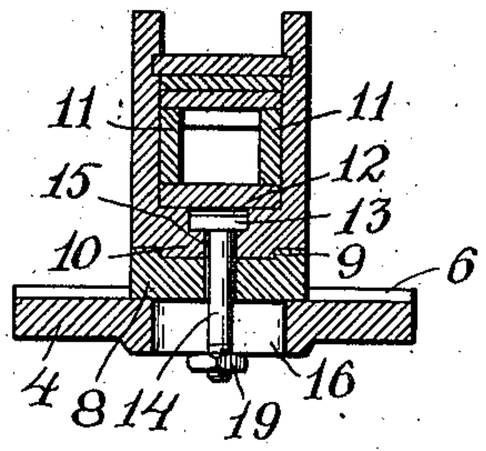
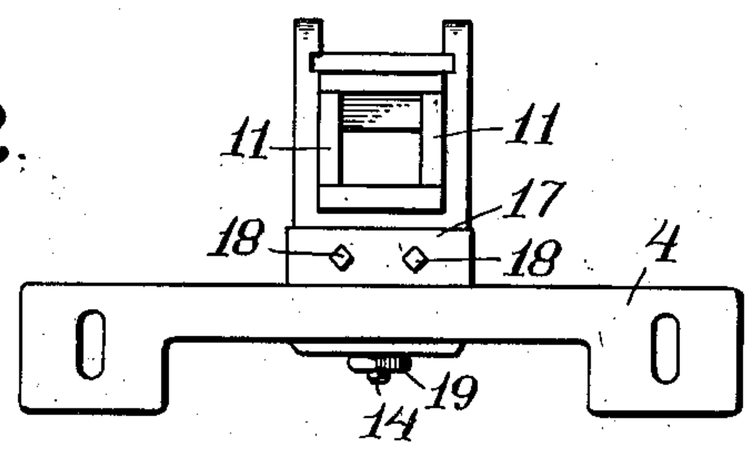


Fig. 3.

Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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GUIDE-BOX FOR ROLLING-MILLS.

966,556. Specification of Letters Patent. **Patented Aug. 9, 1910.**

Application filed November 2, 1908. Serial No. 460,791.

To all whom it may concern:

Be it known that I, THOMAS M. JEWELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Guide-Boxes for Rolling-Mills, of which the following is a specification, accompanied by drawings, forming a part of the same, in which—

Figure 1 represents in side elevation a vertical sectional view of a pair of rolls of a rolling mill, with such portion of the housing as is necessary to illustrate the nature of my invention. Fig. 2 is a front view of the guide box. Fig. 3 is a vertical sectional view of the guide box on the plane of the broken line 3—3, Fig. 1.

Similar reference figures refer to similar parts in the different views.

My present invention relates particularly to the method of mounting the guide box of a rolling mill upon its supporting bar, and it has for its objects to facilitate the adjustment of the guide box to the rolls of the mill, and to enable the guide box to be rigidly held in correct alinement by the use of a single bolt which may be breakable under any undue strain upon the guide box, such for example, as that due to a "cobble" produced by an interruption of the movement of the metal through the rolls, and I accomplish these objects by means of the construction as hereinafter described and set forth in the annexed claims.

In the accompanying drawings 1 denotes a portion of the roll housing in which are journaled a pair of rolls 2, 3. Attached to the front of the housing and extending across from side to side in front of the rolls 2, 3, is a guide supporting bar 4 attached at its ends by bolts to the front of the housing, one of which is shown at 5, Fig. 1. The guide supporting bar 4 is provided on its upper surface with a longitudinal groove 6, to receive a rib or tongue 7 upon the under side of an intermediate plate 8 which is longitudinally adjustable along the bar 4.

The plate 8 is provided on its upper edge with a groove 9 at exact right angles to the rib 7 to receive a closely fitting rib 10 on the under side of the guide box 11. The guide box 11 is recessed at 12 to receive the head 13 of a bolt 14, which passes through a slot 15 which is elongated in the direction of and parallel with the groove 9 of the intermediate plate 8. The bolt passes through a hole in the intermediate plate 8 and also through a slot 16 elongated in the direction of and parallel with the groove 6 upon the guide supporting bar 4. The intermediate plate 8 has its forward edge turned upwardly, forming a flange 17 to receive the adjusting screws 18 which are held in the flange 17 and engage the front of the guide box 11.

The guide box is secured to the guide bar 4 by means of the bolts 14 and nut 19, and the bolt may be made of such material or size as to furnish the requisite strength for the permanent attachment of the guide box to its supporting bar 4 under any ordinary stress in the operation of the machine, but capable of breaking under any undue strain, thereby allowing the guide box to be lifted from its seat without other damage than the breaking of the bolt 14.

By loosening the nut 19 the guide box may be adjusted along the bar 4 to the extent of the elongated slot 16, and the guide box may be further adjusted toward or away from the rolls 2, 3, by sliding the guide box upon the intervening plate 8 and an accurate adjustment of the guide box toward the rolls is secured by means of the adjusting screws 18. When the nut 19 is tightened, the guide box 11, intermediate plate 8 and bar 4 are held in frictional contact, and the grooves 6 and 9 determine the correct angular adjustment of the guide box with relation to the circumferential grooves or passes of the rolls. The guide box may be adjusted both parallel with and at right angles to the axes of the rolls by merely loosening the nut 19 on the bolt 14, which forms the only connection between the guide box and the supporting bar. Whenever the nut 19 is slightly loosened the guide box is still held in true angular relation to the rolls by the interlocking grooves and ribs, as above described.

The present drawing shows in Fig. 1 a receiving guide box for conducting a metal rod to the roll. The same construction of intermediate plate and supporting bar may be employed in the case of a delivery guide box for conducting a metal rod from the rolls and in this case, since the strain is outward, it is received by the adjusting screws

18 and transferred to the intermediate plate 8 which is held against the outer shoulder of the groove 6.

I claim,

1. The combination with a pair of rolls, of a guide supporting bar, a guide box supported by said bar, an intermediate member between said guide box and said bar, said intermediate member arranged to be adjustable on said bar parallel with the axes of said rolls and said guide box arranged to be adjustable on said intermediate member at right angles to the axes of said rolls, and means extending between said guide box and said bar for holding said guide box, said intermediate member and said bar in frictional contact.

2. The combination with a pair of rolls, of a guide supporting bar having a groove parallel with the axes of said rolls, a guide box supported by said bar, an intermediate plate between said guide box and said bar, said plate having a rib or tongue arranged to engage the groove on said bar and also having a groove at right angles to the axes of said rolls, said guide box having a rib or tongue arranged to engage the groove on said plate, and adjustable means connecting said guide box and said bar arranged to hold said guide box, said plate and said bar in frictional contact.

3. The combination with a pair of rolls, of a guide supporting bar, a guide box supported by said bar, an intermediate member between said guide box and said bar, means for maintaining said guide box while in contact with said intermediate member in a line at right angles to the axes of said rolls, means for maintaining said intermediate member while in contact with said bar in a line parallel with the axes of said rolls, and adjustable means connecting said guide box and said bar arranged to hold said guide box, said intermediate member and said bar in frictional contact.

4. The combination with a pair of rolls, of a guide supporting bar, a guide box supported on said bar, an intermediate member between said guide box and said bar, said intermediate member arranged to be adjustable on said bar and said guide box arranged to be adjustable on said intermediate member, whereby the opening in said guide box may be moved both parallel with and at right angles to the axes of said rolls, and a single member arranged to hold said guide box, said intermediate member and said bar in frictional contact, said member capable of breaking under an undue strain, thereby releasing said guide box from said supporting bar.

5. The combination with a pair of rolls, of a guide supporting bar, a guide box supported by said bar, an intermediate member between said guide box and said bar, said intermediate member arranged to be adjustable on said bar and said guide box arranged to be adjustable on said intermediate member, whereby the opening in said guide box may be moved both parallel with and at right angles to the axes of said rolls, and a bolt connecting said guide box and said bar, passing through said intermediate member.

6. The combination with a pair of rolls, of a guide supporting bar, a guide box supported by said bar, an intermediate member between said guide box and said bar, said intermediate member arranged to be adjustable on said bar and said guide box arranged to be adjustable on said intermediate member, whereby the opening in said guide box may be moved both parallel with and at right angles to the axes of said rolls, and adjustable means extending between said guide box and said bar for holding said guide box, said intermediate member and said bar in frictional contact.

7. The combination with a pair of rolls, of a guide supporting bar, a guide box supported by said bar, an intermediate member between said guide box and said bar, said supporting bar having a groove parallel with the axes of the rolls, a rib or tongue on said intermediate member fitting said groove, an upturned flange on said intermediate member having adjusting screws bearing against said guide box, said intermediate member also having a groove at right angles with the axes of said rolls, and a rib or tongue on said guide box fitting said groove on said intermediate member.

Dated this 26th day of October 1908.

THOMAS M. JEWELL.

Witnesses:
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