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EDGING ROLL FOR ROLLING MILLS

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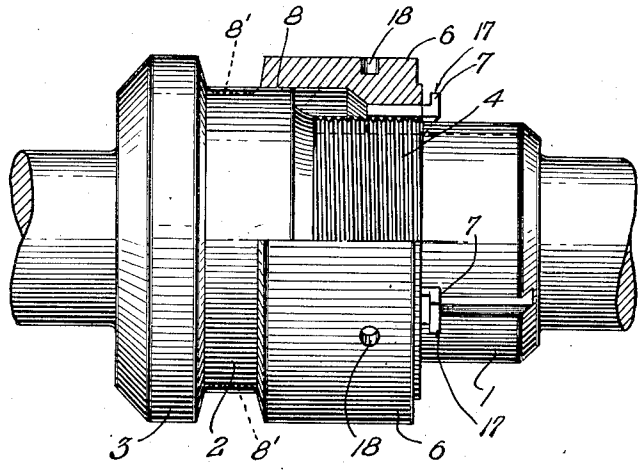


Fig. 1.

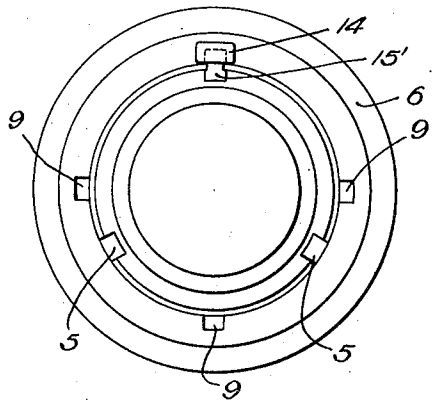


Fig. 2.

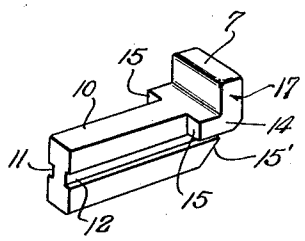


Fig. 3.

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EDGING ROLL FOR ROLLING MILLS

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2 Claims. (Cl. 80—58)

This invention relates to improvements in edging rolls for rolling mills, and more specifically to a structure including a locked adjustable collar for determining the width of the working face and includes, in combination with this development, means for preventing the tilting of the collar after the dressing of the working face of the roll.

Other features of construction include the arrangement of registering grooves, in both the roll and in the collar, adapted for cooperation with a locking pin, the latter being provided with shoulders adapted to limit the depth and with means to facilitate its removal.

Other novel features of construction will more clearly hereinafter appear when reference is made to the accompanying drawing forming a part of the invention, wherein similar reference characters designate corresponding parts throughout the several views.

In the present illustration the roll includes a body portion 1, enlarged at 2, to provide a working surface, and further enlarged at 3 to form a fixed collar. The body portion 1 is threaded at 4 adjacent the working surface 2, and is further provided with longitudinal slots 5 which may be of any desired number, as will hereinafter more clearly appear. An adjustable collar 6 is provided with internal threads which engage the threads 4 and permit the relative adjustment of said collar relative to the roll body. The opening through the adjustable collar is enlarged in diameter at 8, to correspond to the diameter of the face 8', forming the adjacent portion of the working surface. At spaced intervals the internal threaded portion of the collar is formed with longitudinal slots 9 which correspond to the slots 5 in the threaded portion of the roll, whereby, upon registration of slots in the co-related parts, a key 7 (shown in Fig. 3) may be inserted.

It will be noted that the number of slots in the roll and in the inner face of the collar are odd and even respectively, whereby multiplicity and nicety of adjustment is possible without materially defacing the joint structure. In use the collar 6 may be provided with notches or capstan holes 18, to accommodate a tool in the setting operation.

The key 7 is illustrated in perspective in Fig. 3, and includes an elongated body 10, the side walls of which are provided, substantially midway their width, with parallel longitudinally extending slots 11 and 12. The pin or key is formed with an enlarged head 14, the faces 15 of which project at right angles to the side walls of the pin, and form shoulders or stops to limit its insertion, while the under faces 15' define the limit of the depth position. The free end of the head 14 is bent upwardly at right angles as at 17, to provide a gib to facilitate the removal of the element when inserted in the slot. The position and arrangement of the longitudinal slots 11 and 12 is such that the thread ends on both the roll and collar are free from contact with this part, and mutilation is effectively prevented.

At necessary intervals the working surface which actually contacts during the rolling operation must be "dressed" as at 8', and this operation necessarily results in a reduced diameter of this point. By providing an elongated working surface it is possible to retain at all times an end guide portion having a normal diameter which snugly fits the enlarged adjacent end 8, of the adjustable collar 6. This structure eliminates the angular movement or any tilting movement of the adjustable collar, and provides a compact structure quite desirable in the art. It is to be noted that the threaded area of the roll terminates at such a point that the sleeve 8 will at all times envelop at least a portion of that part of the roll designated for guide purposes. This is brought about through designing the roll sections and the collar with a preedtermined range and relation and results in a positive safeguard against tilting of the collar.

The outer ends of the roll necks are to be fashioned in the usual manner to suit the particular application. If the roll is to be utilized in horizontal position the outer end of the neck should be formed with wabblers, while on the other hand, if it is to be vertically positioned, one end would be provided with stepped bearing and the other with a driving gear.

Other minor details of construction and arrangement of parts may be made without departing from the spirit of the invention which embodies a structure involving two major departures in the art, i. e., the provision of a roll of economical construction, wherein adjustability to very small increments is possible, and the stability of the sleeve against tilting after a dressing operation on the roll.

Modifications of the structure herein described may be suggested to those skilled in the arts to which it pertains, but my invention includes all embodiments falling fairly within the scope of the appended claims.

I claim:—

1. In an edging roll having an elongated inte-

gral cylindrical face defined at one extremity by an integral collar and at the other extremity by a shoulder, threads formed on the roll adjacent the shoulder, a collar formed with a reduced internally threaded portion at one end for engaging the threads on the roll and including an elongated sleeve portion snugly telescoping a portion of said cylindrical face as a guide to prevent tilting of said collar, the remaining portion of said cylindrical face constituting the working face and being adapted to be dressed, the sleeve portion of the collar being substantially the same length as the working face and the threads on the roll being so positioned that adjustment of the collar thereon will confine the sleeve within the longitudinal limits of the working face.

2. In an edging roll having an elongated integral cylindrical face defined at one extremity by a shoulder, threads formed on the roll adjacent the shoulder, a collar formed with an internally threaded portion for engaging the threads of the roll and including a sleeve portion snugly telescoping a portion of said cylindrical face as a guide to prevent tilting of said collar, the remaining portion of said cylindrical face constituting a working face and being adapted to be dressed, and means for locking said collar in position.

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