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TUBE COLD-StraIGHTENING MACHINES HAVING TOP ROLLS MOUNTED IN A HINGEABLE COVER

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This invention relates to tube cold-straightening machines having top rolls mounted in a hingeable cover.

In one known construction the separation plane of the rolls (by which is meant the plane of separation of the top rolls from the bottom rolls) is disposed horizontally. In this design it is necessary to lift the cover of the machine along with the top rolls in order to effect a separation of the rolls, followed by subsequent lowering of the unit.

According to the present invention, the operation of a tube cold-straightening machine having top rolls mounted in a hingeable cover is considerably simplified by the fact that the separation of the top or upper rolls from the lower or bottom rolls is caused by the hinged movement carrying the upper rolls below the lower rolls.

This is done without first raising the upper rolls.

Further according to the invention, the cover is fixed to pivotally mounted shoes or arms the pivots of which are located below the bottom rolls of the machine. In this way the operation of dismantling the top rolls when maintenance work is necessary, such as the changing of the rolls or the replacement of the roll bearings, is simplified and facilitated.

The accompanying drawings illustrate one constructional embodiment of the invention by way of example.

In the drawings:

Figure 1 shows the machine in the working position of the top rolls and cover, i.e. relatively to the bottom rolls; and

Figure 2 shows the machine with the top rolls and cover in the lowered (separated) position.

In the drawings the tube to be straightened is marked 1, the bottom rolls, which are driven in a suitable manner, are marked 2 and the top rolls which effect the straightening of the tube in conjunction with the bottom rolls, are marked 3. 4 is the hingeable cover of the machine in which the top rolls 3 are mounted, and 5 are two vertical arms on which the hingeable cover 4 is fixed and which can rotate about pivot pins 6 which, as shown, are located below the bottom rolls. 7 are clamping bolts by means of which the cover is rigidly held to the machine framework 8 in the working position of the parts.

As is clearly evident from the drawings, the top rolls 3 hinge downwardly with the cover 4 to the position in which they appear in Figure 2 so as in the lowered (Figure 2) position to be readily accessible. As a result of the downward hinging of the cover the bottom rolls 2 can also easily be reached for any possible dismantling operation.

What we claim as our invention and desire to secure by Letters Patent of the United States is:

1. A tube cold-straightening machine the combination of a U-shaped frame of which the legs lie horizontally one above the other, at least one lower roll fastened on the inner face of the lower leg of the frame, at least one upper roll, and a cover in which said upper rolls are carried, the cover adapted to be fastened to the upper leg of the frame when the lower and upper rolls are in working position, in combination with members pivoted on the machine framework below the lower rolls and pivotally supporting the cover, whereby the upper rolls and cover can be pivoted as a unit from their working position to a lower position effecting separation of the upper and lower rolls,

2. In a tube cold-straightening machine a U-shaped frame of which the legs lie horizontally one above the other, at least one lower roll fastened on the inner face of the lower leg of the frame, at least one upper roll, a cover in which said upper rolls are carried, the cover adapted to be fastened to the upper leg of the frame when the lower and upper rolls are in working position, and clamping means adapted to fix the cover to the upper leg of said frame, in combination with two members pivoted below the lower rolls pivotally supporting the cover and the upper rolls and adapted to lower the upper rolls and cover to a position separated from the lower rolls and below the same, for the purposes described.

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