S. P. M. TASKER.

MACHINE FOR BENDING TUBE SKELPS.

No. 106,295. Patented Aug. 9, 1870.

INVENTOR

WITNESSES.

United States Patent Office.

STEPHEN P. M. TASKER, OF PHILADELPHIA, PENNSYLVANIA.

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IMPROVEMENT IN MACHINES FOR BENDING TUBE-SKELPS.

The Schedule referred to in these Letters Patent and making part of the same

I, STEPHEN P. M. TASKER, of the city of Philadelphia and State of Pennsylvania, have invented certain Improvements in Machines for Bending Metal Tube-Skelps, of which the following is a specification.

My invention mainly consists in the combination of three grooved rolls, for giving the finished form to the skelps.

Two of these rolls run in the same plane, and have grooves in one edge for forming the requisite portion of a circle, to partly close the skelp, the bending of which had been commenced by another device.

In conjunction with these two rolls a third roll is used, which runs in a plane at right angles to said rolls.

The groove in this roll completes a circle with the grooves of the other two, so that the combined operation of the three rolls gives a finished bending of the skelp.

The invention further consists in the combination of the three rolls above described with two other rolls, one of which has an annular groove and the other a similar tongue, to partly bend the skelp before it enters the first-mentioned rolls, as hereinafter described.

To enable others skilled in the art to which my improvement appertains to make and use my invention, I will now give a detailed description thereof.

In the accompanying drawing which makes a part of this specification—

Figure 1 is a plan view of the improved machine.

Figure 2 is a side elevation of the same.

Figure 3 is a front view.

Figure 4 is a vertical section at the line *x x* of fig. 3.

Figure 5 is an end view of a flat skelp, for forming a butt-joint tube.

Figures 6, 7, and 8 are end views of the butt-joint skelp, in the different stages of the bending operation.

Figure 9 is an end view of a flat skelp, for forming a lap-joint tube.

Figures 10, 11, and 12 are end views, which the lap-joint skelp assumes in the different stages of the bending process.

Like letters in all the figures indicate the same parts.

A is the bed-plate of the improved machine, and

B B, the housens.

C is a horizontal shaft, on which is situated the roll D, which has an annular groove, *a*, in its periphery.

C′ is a shaft, connected with the shaft C by means of gear-wheels E and E′ on one end of the shafts.

On the said shaft C′ there is a roll, D′, which is provided with an annular tongue, *b*, which runs in the groove *a* of the wheel D.

G is the driving-shaft connected with the motive power.

On one end of the shaft is the driving-wheel H, which gears into the wheel E on the shaft C, and communicates motion to the said shafts C and C′, and thereby to the rolls D and D′, above described, whereby the skelp, as it is carried forward by the revolutions of said rolls in the direction of the arrows, is brought into the form represented in figs. 6 and 10.

For giving the form to the skelps seen in figs. 7 and 11, I use the horizontal rolls J J on the upper ends of the shafts K K, the said rolls having grooves, *d d*, in their upper corner, as represented in fig. 3, so as to form the requisite portion of a circle, to give that form to the skelps.

And for finishing the bend, I use the roll J′ on the shaft K′, the said roll being at right angles to the rolls J J and its groove *d*′, completing the circle with the grooves *d d*.

Consequently the combined action of the three rolls, J J and J′, finishes the bending of the skelp, for either butt or lap-joints, as represented in figs. 8 and 12.

The shafts K K are geared together by means of the wheels L L, and motion is communicated from the driving-wheel H through the spur-wheel M, on one end of the short horizontal shaft N, and the miter-wheels O O—one on the other end of said shaft N, and the other on the lower end of one of the shafts K.

Motion is communicated to the shaft K′ by means of the gear-wheels P P, one on the said shaft and the other on one end of the shaft C, the other end of the shaft having a geared connection with the driving-wheel H, as before described.

I use suitable guides for conducting the skelp between the rolls and mandrels, for maintaining the internal form of the skelps; but as the arrangement of such guides and mandrels is well known in the arts, I have deemed it unnecessary to give a particular description thereof.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the grooved rolls J J and J′ on shafts K K and K′, driven by suitable mechanism, the said rolls being constructed, arranged, and operating substantially in the manner and for the purpose set forth.

2. The combination of the said rolls J J and J′ with the rolls D and D′, the two sets of rolls being arranged and operating in relation to each other, for bending the skelp at one operation, substantially as described.

In testimony that the above is my invention, I have hereunto set my hand and affixed my seal this 13th day of June, 1870.

STEPHEN P. M. TASKER. [L. S.]

Witnesses:

THOMAS J. BEWLEY,

STEPHEN USTICK.