S. P. M. TASKER.

Metal Bending Machines.

No. 205,588. Patented July 2, 1878.

Fig 1

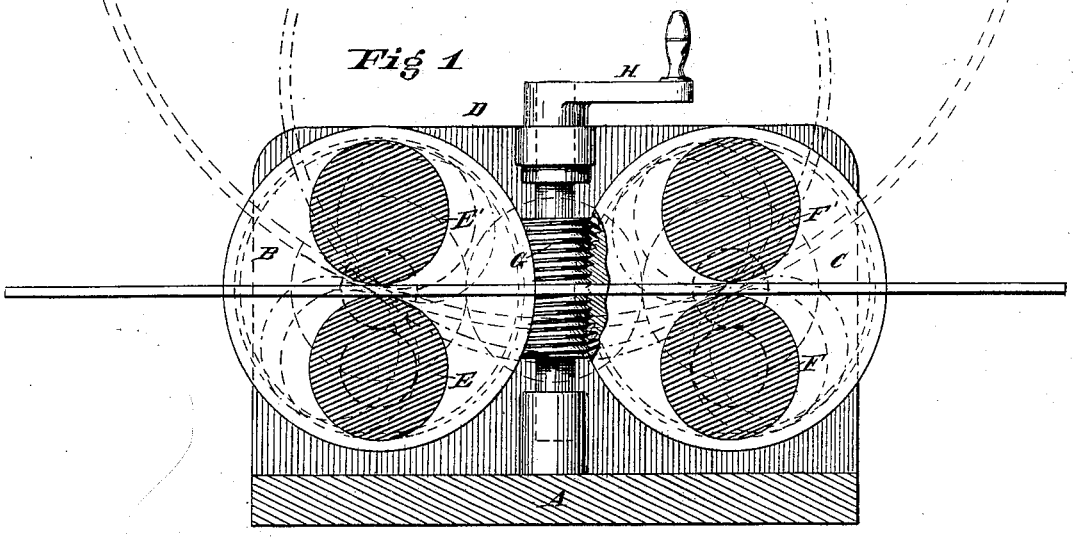
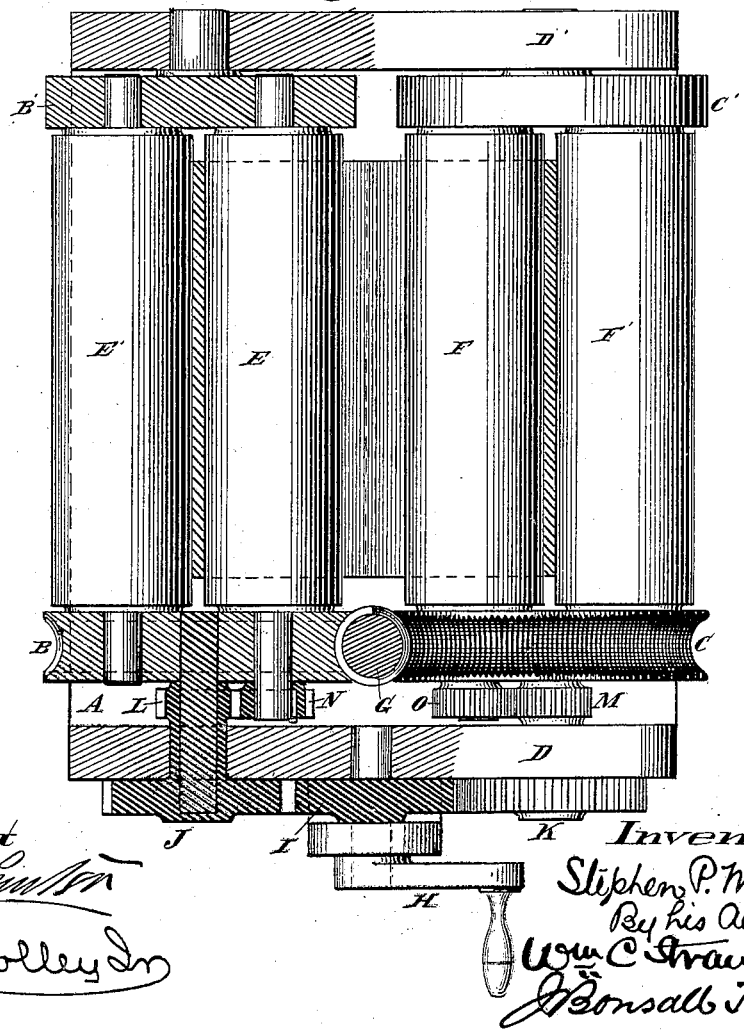


Fig. 2



Attest

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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN METAL-BENDING MACHINES.

Specification forming part of Letters Patent No. **205,588**, dated July 2, 1878; application filed May 25, 1878.

To all whom it may concern:

Be it known that I, STEPHEN P. M. TASKER, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Machine for Bending Metal Tubes, of which I hereby declare the following to be a full, clear, and exact description, and sufficient to enable those skilled in the art to which my invention appertains to make and use it, reference being had to the accompanying drawing, forming part of this specification, of which—

Figure 1 represents, in central sectional elevation through the rolls, an apparatus embodying my invention; and Fig. 2, the same apparatus in plan and partial horizontal section.

Similar letters of reference indicate corresponding parts wherever used.

My invention relates to that class of devices which are employed for bending sheet metal into tubes; and has for its object a machine of such class which is capable, by adjustment, of forming tubes of different and various curvatures and diameters; to which end it consists substantially as hereinafter set forth and claimed.

Referring to the drawings, the following is a description of the construction of my apparatus:

A is the frame-work, of any fit material and construction, and consisting essentially of two side uprights, D D′, supporting between them the bending mechanism. B B′ C C′ are two sets of rotatable roll-supporting disks, B′ C′ being provided with outwardly-projecting axles passing through and journaled in the upright D′, and B C loosely hung upon the inner extremities of the roll-actuating shafts, which are journaled in the upright D, whereof more hereinafter.

E E′ F F′ are two pairs of rolls, the shafts of which are journaled through the disks.

It is obvious from the above construction that any rotation of the two sets of disks will alter the relative position of the two pairs of rolls, and consequently the curvature of the sheet metal which passes between them, to effect which change of position in the rolls a worm-wheel shaft, G, is provided, being erected in suitable bearings between the disks B C, and gearing with both disks by means of teeth upon their periphery. The said shaft is conveniently operated by means of a crank-handle, H, or the like.

By operation of the worm-wheel shaft the disks are rotated toward each other or rotated apart.

Upon the outer face of the upright D is journaled a driving spur-wheel, I, operated by a hand-crank, pulley, or the like, and meshing with two other spur-wheels, J K, the shafts of which pass through and are journaled in said upright, and the inner extremities of which form the axles upon which are hung and rotate the disks B C. These shafts are also provided between the upright and the disks with pinions L M engaging with other pinions, N O, upon the projecting shafts of the rolls E F. From and by means of the above gearing motion is imparted to the rolls E F. The rolls E′ F′ are idler-rolls.

It will be readily understood that the adjustment of the above gearing is such, the pinions L M being central to the axes of the disks, as to permit the rotation of the rolls E F, whatever the position of the disks may be.

Such being the construction of my apparatus, it is operated as follows: The disks and rolls being, by means of the worm-wheel shaft, brought into the position represented in Fig. 1—that is to say, both rolls of each pair directly in vertical line—the sheet or skelp is run between the rolls, and the worm-wheel shaft then operated to such extent as to set the disks with their rolls to any desired inclination, substantially as indicated by dotted lines in Fig. 1, each pair of rolls being to such extent inclined inward toward the other as to give the desired curvature to the skelp when passed through them. Motion is then imparted through the train of gearing, before described, to the driving-rolls E F, and the skelp bent into a tube and subsequently removed in the usual manner.

It is obvious that by a simple adjustment of the disks the rolls can be so set as to bend skelp into tubing of any desired size.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In an organized machine for bending sheet metal into tubes, two pairs of rolls, E E′ F F′, adapted to be inclined each pair inward toward the other, substantially as shown and described.

2. As a device for both supporting and inclining the two pairs of rolls E E′ F F′, the disks B B′ C C′ and the worm-wheel shaft G, the whole arranged and operated substantially as shown and described.

STEPHEN P. M. TASKER.

Witnesses:
W. C. STRAWBRIDGE,
JOHN JOLLEY, Jr.