

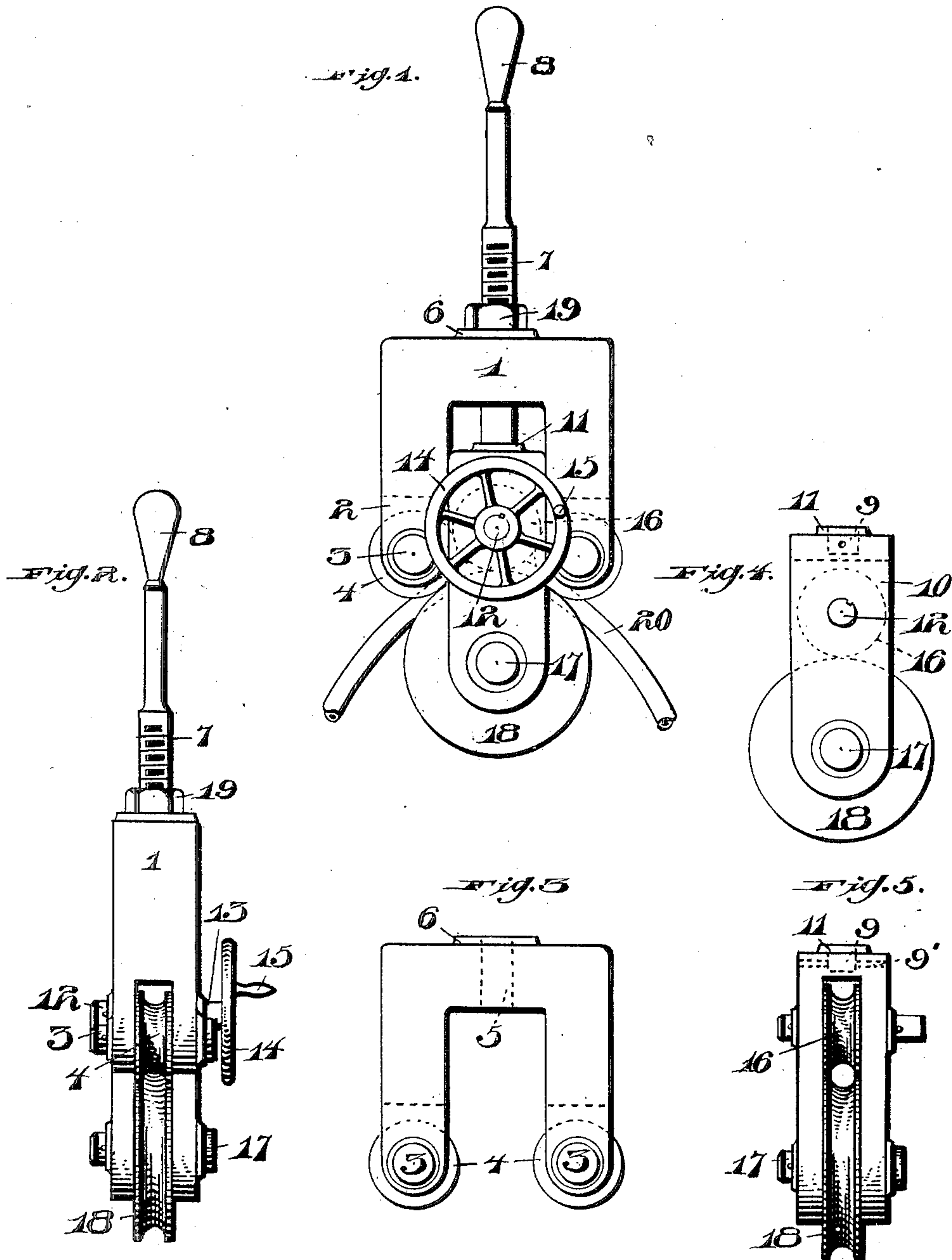
No. 659,936.

Patented Oct. 16, 1900.

W. E. MORRIS.  
PIPE BENDING MACHINE.

(Application filed June 18, 1900.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM E. MORRIS, OF SOUTH CONNELLSVILLE, PENNSYLVANIA.

## PIPE-BENDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 659,936, dated October 16, 1900.

Application filed June 18, 1900. Serial No. 20,749. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. MORRIS, a citizen of the United States of America, residing at South Conneltsville, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Pipe-Bending Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in pipe-bending machines, although the same can be used for bending or straightening various styles of structural iron by the adaptation of various  
15 styles of bending or straightening rolls.

The invention has for an object to provide such a machine of simple, durable, and efficient construction and one through the medium of which an operator may bend pipe of  
20 various diameters into various desired shapes with the exercise of a minimum amount of effort and labor.

Other objects and advantages of the invention will be readily understood from the accompanying description, taken in connection with the annexed drawings, in which—

Figure 1 is a front elevation of my improved pipe-bending machine. Fig. 2 is a side elevation thereof. Fig. 3 is a front elevation of  
30 the supporting-yoke for the auxiliary bending-rolls. Fig. 4 is a front elevation of the adjustable supporting-hanger for the main bending-roll and driving-roll. Fig. 5 is a side view of the adjustable supporting-hanger  
35 for the main bending-roll and driving-roll.

Referring to the drawings by reference-numerals, 1 indicates a supporting-yoke having a pair of bifurcated ends, as at 2, in each of which is removably journaled a shaft 3,  
40 carrying an auxiliary grooved bending or straightening roll 4. The yoke 1 is further provided with an opening 5, extending there-through, its upper end surrounded by a boss 6.

Mounted within the opening 5 and extending  
45 above and below the same is a screw-threaded adjusting-rod 7, formed with a handle 8 at its upper end and connected at its lower end in a recess 9, formed in the upper end of the adjustable bifurcated hanger 10. The hanger  
50 10 is provided with a transversely-extending opening 9' in the upper part thereof to receive

suitable fastening means for securing the end of the rod 7 within the recess. The upper end of the hanger 10 is formed with a boss 11, which surrounds the rod 7, as shown.

55 Journaled in the hanger 10 is a shaft 12, which extends outwardly on one side thereof, as at 13, and is connected to the hand-operating wheel 14, provided with a crank or handle 15, although the shaft 12 may be operated  
60 in any suitable manner. Mounted upon the shaft 12, within the bifurcated end of the hanger 10, is a grooved driving-roll 16.

Removably journaled within the hanger 10, below the driving-roll 16, is a shaft 17, having  
65 mounted thereon within the hanger 10 a main grooved bending or straightening roll 18, which is or may be of a larger diameter than the driving-roll 16.

Mounted upon the rod 7 is a nut 19 for adjusting the width of the pass to meet the requirements of the different diameters of pipe or other metal bars, T-irons, or angle-irons formed between the auxiliary and main bending-rolls, and the size thereof is obtained by  
75 the use of different sizes of main bending-rolls, the latter being removably secured to the hanger 10. The reference-numeral 20 indicates a piece of pipe arranged within the pass during the operation of bending.  
80

The operation of my improved device is as follows: Assuming that the pipe is in position as shown in Fig. 1, the hand-wheel is rotated in either direction, driving the pipe through the pass until the proper bend is  
85 formed. By screwing upon the nut 19 the hanger is adjusted with relation to the yoke so that the proper size of pass can be formed between the main and auxiliary bending-rolls.

It will be evident that when the hand-wheel  
90 14 is operated the driving-roll will revolve and force the pipe through the pass in either direction until the proper bend is made, at the same time transferring motion to the auxiliary bending-rolls.  
95

Instead of providing the driving mechanism with the shaft 12 the form may be connected to the shafts 3 and 17, if desired.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my  
100 invention.



Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a device of the character described, the  
5 combination with the supporting-yoke having bifurcated ends, and a grooved bending-roll journaled in each of said ends, of a hanger mounted within the supporting-yoke, a screw-rod mounted in said yoke and connected to  
10 said hanger, a nut engaging said rod for adjusting the hanger, a shaft journaled in the hanger with its one end extending beyond the

hanger, means connected to the extended end of said shaft for rotating the same, a grooved drive-roll mounted upon the shaft within the hanger, and a grooved straightening-roll journaled in the hanger beneath the drive-roll, substantially as shown and described.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM E. MORRIS.

Witnesses:

W. E. CUNNINGHAM,  
CHAS. H. WETMORE.