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ROD BENDING APPARATUS.

APPLICATION FILED JUNE 19, 1911.

1,001,244.

Patented Aug. 22, 1911.

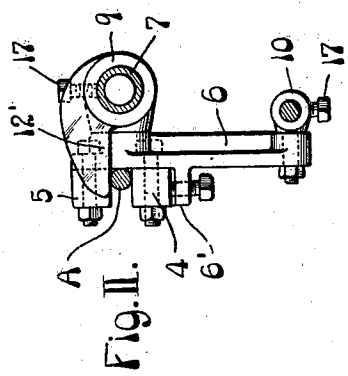

Fig. II.

Fig. I.

Attest

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UNITED STATES PATENT OFFICE.

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ROD-BENDING APPARATUS.

1,001,244. Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed June 19, 1911. Serial No. 634,064.

To all whom it may concern:

Be it known that I, EUGENE L. BROWN, Jr., a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Rod-Bending Apparatuses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an apparatus for bending rods or the like, and is more particularly adapted for use in bending reinforcing rods used in concrete structures.

Figure I is a plan or top view of a bending apparatus constructed in accordance with this invention. Fig. II is a section taken on line II—II, Fig. I.

In the accompanying drawings: A designates a portion of a rod disposed in the bending apparatus so as to bend at *a* and *b* while the bending members are moving from the position shown in full lines in Fig. I to the position shown in dotted lines. The rod A is placed between a pair of jaws 1 and 2 secured to a stationary member 3, the jaw 1 being adjustable. The jaws 1 and 2 constitute a stationary holder and are parallel to a movable holder, comprising jaws 4 and 5 carried by a link-arm, or jaw carrier, 6, the jaw 1 being adjustable. Rods 7 and 8 pivoted to the stationary member 3 are provided with collars 9 and 10, respectively, to which the link arm 6 is pivotally connected. The pivotal rods 7 and 8 are also joined by a link 11. Fixed to the rod 7, near the point 6, is an abutment 12 that engages the rod A and causes it to bend between said abutment and the nose 1′ of jaw 1 during the operation of the apparatus, and the collar 9 is provided with an abutment 12′ for causing the rod A to bend between said abutment and the nose 4′ of the jaw 4, which the parts are moving to the position shown in dotted lines. The abutments 12 and 12′ hold the rod A parallel to the pivotal rod 7 and serve as means for preventing said rod A from being curved during the bending operation.

The apparatus may be operated in any suitable manner, but preferably through the medium of a handle 13 connected to a pinion 14 which meshes with a sector 15 on the pivotal rod 7.

It will be understood that the pivotal rods 7 and 8 connected by the links 6 and 11 constitute a parallel motion device which causes the rod holding jaws 4 and 5 to remain constantly parallel to the other jaws when the first named are moving in an arcuate path during the bending operation. The bent article produced by this apparatus has parallel portions *c* and *d* connected by an inclined portion *e*, and is therefore properly shaped to form a well known type of reinforcing rod for concrete structures.

The sleeves 9 and 10 are preferably secured to the pivotal rods by set screws 17 to enable the movable holder to be adjusted toward and away from the stationary holder, thereby making it possible to vary the distance between points at which the rod operated upon is bent.

The jaws 1 and 4 are adjustable both transversely and longitudinally of the apparatus to permit of the holders being set to grip rods of different diameters and to properly present the noses 1′ and 4′ to the abutments 12 and 12′ to produce the desired bends. The transverse adjustment of said jaws is accomplished by adjusting screws 18, and the longitudinal adjustment by adjusting screws 19, said screws being operable in L-shape brackets 3′ and 6′ carried respectively by the support 3 and link arm 6.

I claim:—

1. A bending apparatus comprising two holders for the reception of the article to be bent, and movable means by which one of said holders may be moved in an arcuate path and kept parallel with the other holder during its movement.

2. A bending apparatus comprising two holders for the reception of the article to be bent, and movable means by which one of said holders may be moved in an arcuate path and kept parallel with the other holder during its movement; the said movable means comprising a pair of parallel pivotal rods, and a carrier pivoted thereto by which the movable holder is carried.

3. A bending apparatus comprising two holders for the reception of the article to be bent, and movable means by which one of said holders may be moved in an arcuate path and kept parallel with the other holder during its movement; the said movable means comprising a pair of parallel pivotal rods, and a carrier for said movable holder linking said rods to each other.

4. A bending apparatus comprising two holders for the reception of the article to be bent, and movable means by which one of

said holders may be moved in an arcuate path and kept parallel with the other holder during its movement; the said movable means comprising a pair of parallel pivotal rods, members adjustably mounted on said rods, and a carrier for said movable holder pivoted to said adjustable members.

5. A bending apparatus comprising two holders for the reception of the article to be bent, and movable means by which one of said holders may be moved in an arcuate path and kept parallel with the other holder during its movement; the said movable means comprising a pair of parallel pivotal rods, a carrier pivoted to said rods by which the movable holder is carried, and an abutment associated with one of said rods adjacent to said movable holder.

6. A bending apparatus comprising two holders for the reception of the article to be bent, and movable means by which one of said holders may be moved in an arcuate path and kept parallel with the other holder during its movement; the said movable means comprising a pair of parallel pivotal rods, a carrier pivoted to said rods by which the movable holder is carried, and abutments carried by one of said rods and located adjacent to said holders.

7. A bending apparatus comprising a stationary member, a holder for the reception of the article to be bent supported by said stationary member, a second holder, and movable means by which said second holder may be moved in an arcuate path and kept parallel with the first mentioned holder during its movement.

8. A bending apparatus, comprising a stationary member, a holder for the reception of the article to be bent supported by said stationary member, a second holder, and movable means by which said second holder may be moved in an arcuate path and kept parallel with the first mentioned holder; said movable means being provided with abutments located adjacent to said holders.

9. A bending apparatus, comprising a stationary member, a holder for the reception of the article to be bent supported by said stationary member, the said holder being provided with a nose, a carrier, a second holder on said carrier, means pivoted to said stationary member by which said carrier is carried and through the medium of which the second holder is kept parallel with the first holder during the movement of said movable means in an arc of a circle, the second named holder being provided with a nose, and abutments carried by said movable means adjacent to said holders between which and the noses of the holders the article operated upon is bent.

EUGENE L. BROWN, JR.

In the presence of—
H. G. COOK,
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