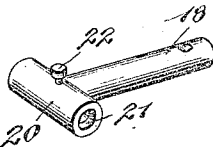
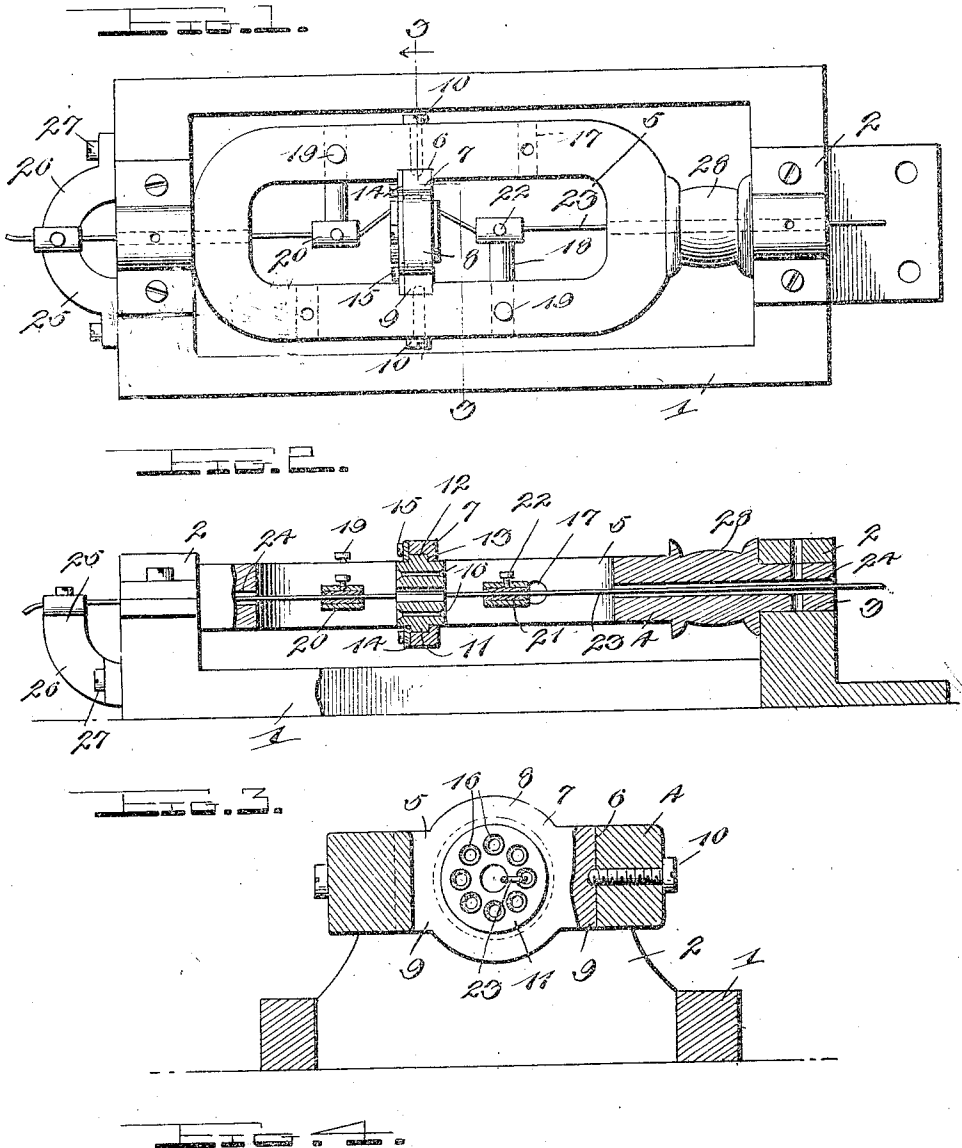


G. S. McLEAN.
WIRE STRAIGHTENER.
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1,044,899.

Patented Nov. 19, 1912.



Witnesses

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GEORGE S. McLEAN, OF WATERBURY, CONNECTICUT.

WIRE-STRAIGHTENER.

1,044,899.

Specification of Letters Patent.

Patented Nov. 19, 1912.

Application filed February 21, 1912. Serial No. 679,173.

To all whom it may concern:

Be it known that I, GEORGE S. McLEAN, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Wire-Straighteners, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to new and useful improvements in rotary wire straighteners and has for its object to provide a wire straightener of this character in which the wire while passing through the straightener axially is given a bend by means of a die or wire guide through which the wire passes, bending the wire as it passes through the die.

Another object of the invention is to provide a device of this character which will possess advantages in points of efficiency and durability, is inexpensive of manufacture and at the same time is simple in construction and operation.

25 With the above and other objects in view the invention consists in the novel features of construction and the combination and arrangements of parts hereinafter more fully described, pointed out in the claims and shown in the accompanying drawings in which,

Figure 1 is a top plan view; Fig. 2 is a longitudinal sectional view; Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1, and Fig. 4 is a perspective view of one of the arms and sleeves which receives the bushings through which the wire passes.

Referring more particularly to the drawings 1 indicates the base of the device adapted to be secured down in any suitable manner. Vertically disposed bearings 2 are arranged at each end of said base and adapted to receive the bushings 3 formed on the body member 4, said body member being of a general rectangular shape and provided with a centrally arranged elongated opening 5. Centrally arranged recesses 6 are formed in the sides of said body member at each side of the opening 5, said recesses being adapted to receive the ends of the die holding member 7. This die holding member comprises a central circular body portion 8 having the extending end portions 9 adapted to be arranged in the recesses 6 in the body member, said ends being held in place by means of the set screws 10. A central

straightening die 11 is provided, having a centrally arranged annular flange 12 formed on the outer periphery thereof and adapted to abut against the shoulder 13 in the member 7 and a circular plate 14 is secured to the die member and adapted to engage the other side of the annular flange to hold said die securely in place, said plate being held rigidly in place by means of the set screws 15. The die 11 is provided with a plurality of circularly arranged transverse openings 16 having their ends formed conical so that the wire may be easily inserted therein.

The side portions of the body member are provided with spaced openings 17 adapted to receive the inwardly extending arms 18 which are securely held in place by means of the set screws 19. Sleeves 20 are formed on the outer ends of the arms 18 adapted to receive the apertured bushings 21 which are held securely in place by means of the set screws 22. The apertured ends of said bushings being formed conical shape or flaring so as to readily receive the wire. These arms 18 are secured in opposite sides of the body member and arranged on each side of the die 11 so that the wire 23 first passes through one of the bushings, up through one of the openings 16 in the die and then down through the other bushing. The bushings 3 are provided with the centrally arranged bores 24 which communicate with the central opening 5 and through which the wire 23 passes.

The wire after passing through the guide member 25 passes through the bore in one of the bushings 3 and then through one of the bushings 21, through one of the openings in die 11, then through the other bushing 21 and out through the bore 24 in the opposite end of the machine to the machine employed in drawing the wire through.

The guide member 25 is supported by means of the curved arms 26 which are secured to the base 1 by means of the set screws 27.

It is quite essential in the operation of the device that the wire should be coated with oil as it passes through one of the bores 24 for the reason that while the body member and the bushings 21 turn at a very high speed, the wire and the die 11 do not turn at all, the wire being straightened by the turning movement of the body 4 and bushings 21 bending the wire as it is drawn through. A pulley 28 is mounted on one of

the bushings 3 adapted for a belt to provide for the rotation of the body member.

The purpose for revolving the flier frame around the stationary die 11 is to prevent the wire from wearing a groove in the bushings 21 as would be the case if the wire was drawn straight through the machine while the frame and die remain stationary. Thus it will be seen that the revolving of the frame or body member 4 causes the bushings 21 to travel around the wire so as to cause an even wear upon the bushings and prevent the frictional wear of the wire from forming a groove in the bushings.

In the drawings it will be seen that the bushings 21 are centrally located in the elongated opening 5 so that as the body 4 rotates around the die 11 the wire passing through the die and holding said die against rotary movement.

While I have shown and described the preferred form of my invention it will be obvious that various changes in the details of construction and in the proportions may be resorted to for successfully carrying my invention into practice without sacrificing any of the novel features or departing from the scope thereof.

What I claim is:

1. In a device of the character described, the combination with a base, a body member rotatably mounted thereon, having a

centrally arranged elongated opening formed therein, side portions of said body being provided with centrally arranged recesses facing said opening, of a die holding member comprising a central circular portion having a similar shaped opening, and outwardly extending end portions arranged in said recesses, an annular shoulder formed in the central portion, the die having an annular flange adapted to abut against said shoulder, and a circular plate secured to the holding member and adapted to engage the other side of the annular flange to hold said die in place.

2. In a device of the character described, the combination of a die holding member comprising a central circular portion having a similar shaped opening and outwardly extending end portions, an annular shoulder formed in the central portion, a die having an annular flange adapted to abut against said shoulder, and a circular plate secured to the holding member and adapted to engage the other side of the annular flange to hold said die in place.

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

GEORGE S. McLEAN.

Witnesses:

MARTIN L. CAINE,
S. H. GRATER.