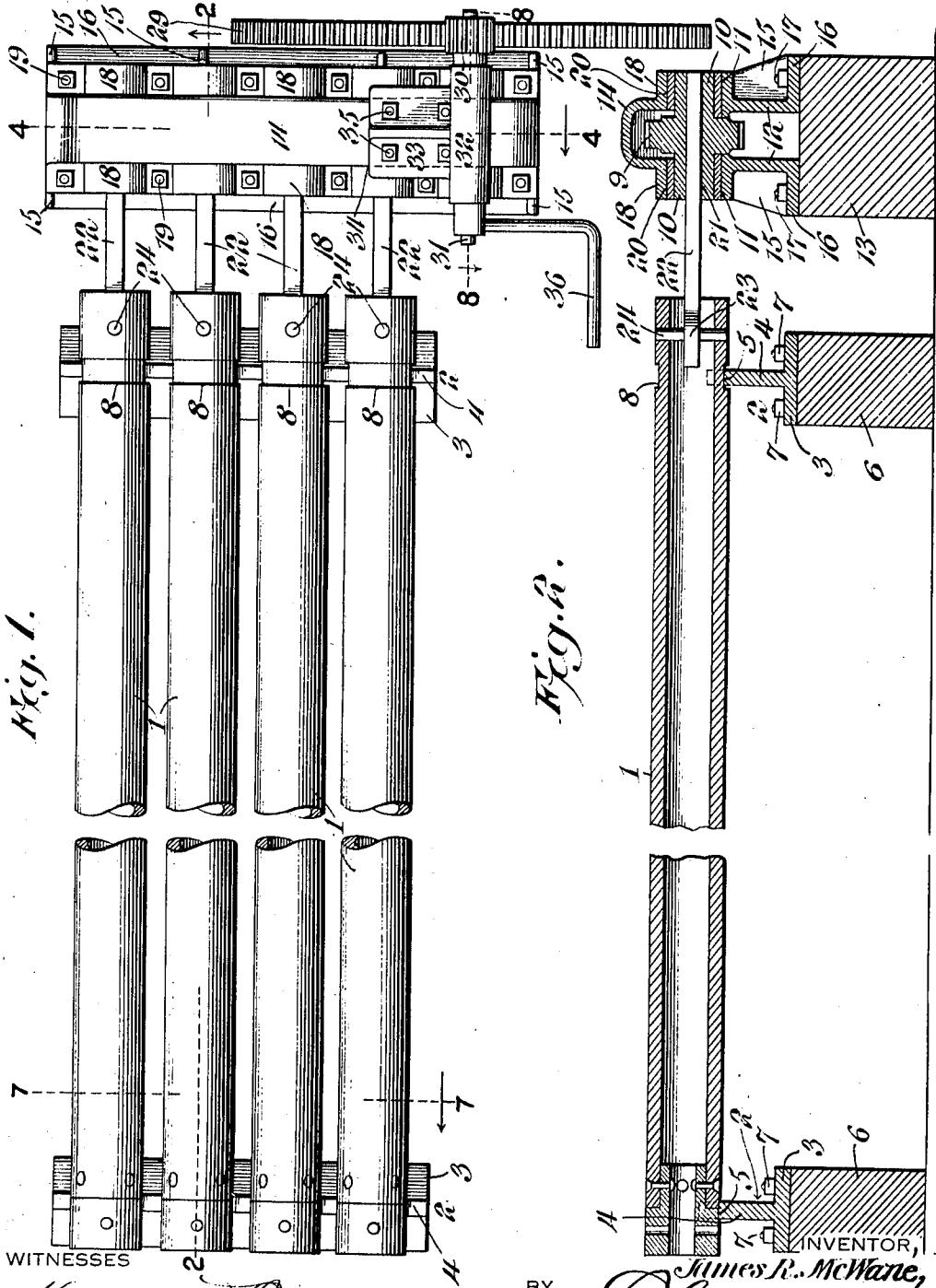


J. R. McWANE.
 MULTIPLE CORE BAR TURNING DEVICE.
 APPLICATION FILED MAY 16, 1911.

1,035,375.

Patented Aug. 13, 1912.

3 SHEETS-SHEET 1.



WITNESSES

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3 SHEETS-SHEET 2.

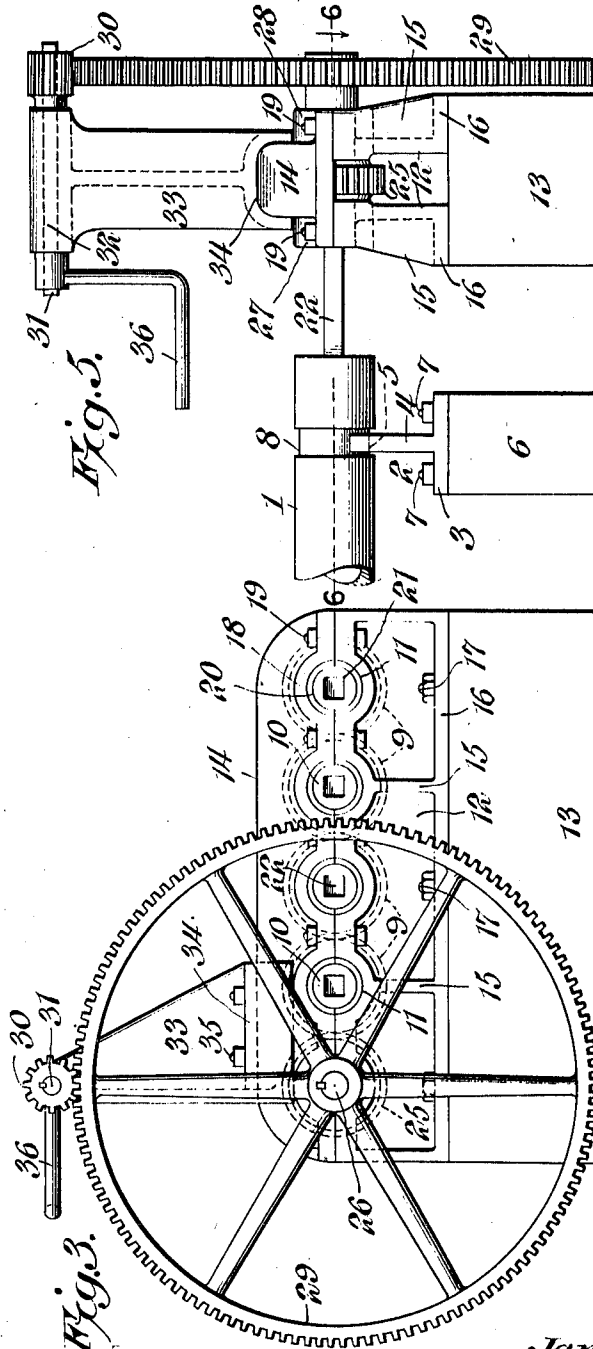


Fig. 9.

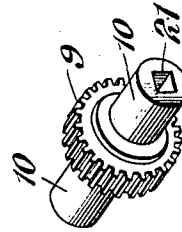
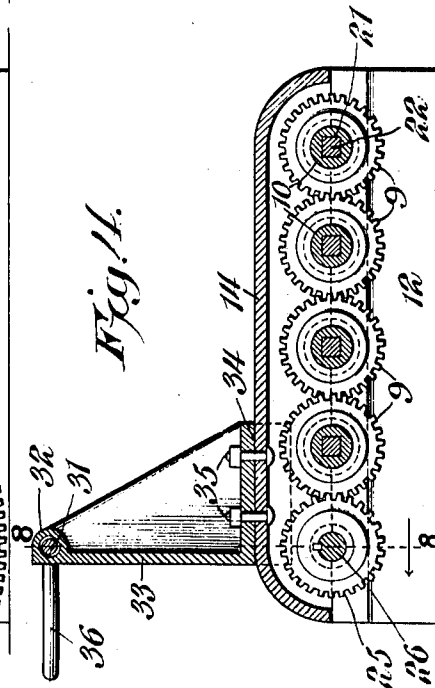


Fig. 11.



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 APPLICATION FILED MAY 18, 1911.

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3 SHEETS—SHEET 3.

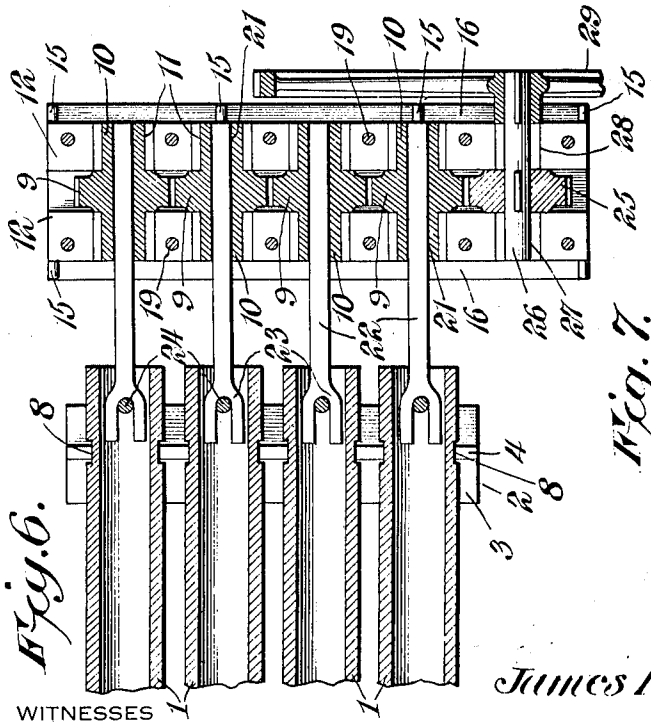
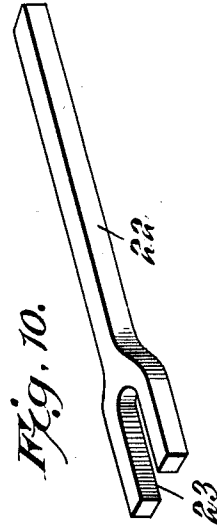
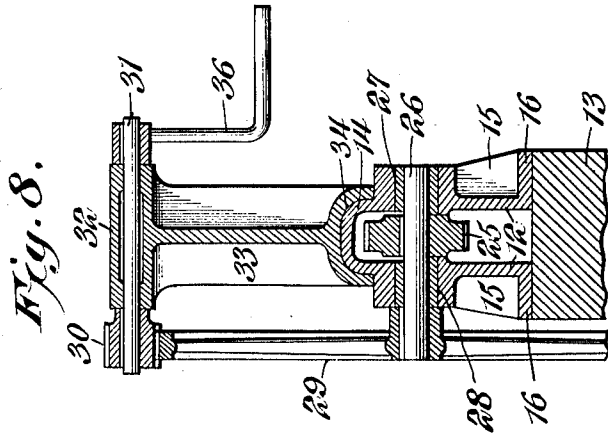
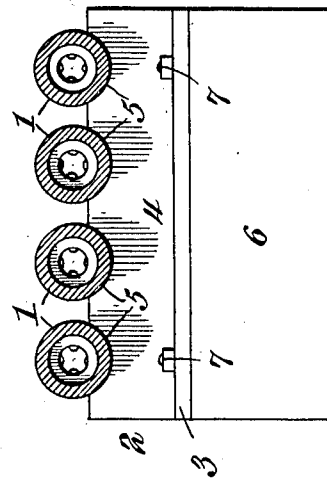


Fig. 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES R. McWANE, OF BIRMINGHAM, ALABAMA.

MULTIPLE-CORE-BAR-TURNING DEVICE.

1,035,375.

Specification of Letters Patent.

Patented Aug. 13, 1912.

Application filed May 16, 1911. Serial No. 627,596.

To all whom it may concern:

Be it known that I, JAMES R. McWANE, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented a new and useful Multiple-Core-Bar-Turning Device, of which the following is a specification.

The invention relates to a multiple core bar turning device.

10 The object of the present invention is to provide a simple, strong and efficient multiple core bar turning device, adapted to support a plurality of core bars and designed to receive the same in a heated condition immediately after the core bars have been pulled from the pipes, and capable of enabling the core bars to be readily rotated while the first coating of "skilly" is applied to them by hand.

20 A further object of the invention is to provide a device of this character, adapted to enable core bars to be quickly placed in and removed from the supporting bearings, and capable of enabling the supported core bars to be readily connected with and disconnected from gearing for imparting rotary motion to the core bars.

30 It is also an object of the invention to provide convenient operable actuating gearing, located beyond the core bars and out of the way of the "skilly" when the same is thrown upon the core bars in applying the first coating thereto.

35 With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

40 In the drawings:—Figure 1 is a plan view of a multiple core bar turner, constructed in accordance with this invention; Fig. 2 is a longitudinal sectional view on the line 2—2 of Fig. 1. Fig. 3 is an end elevation. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 1. Fig. 5 is a side elevation of one end of the device. Fig. 6 is a horizontal sectional view on the line 6—6 of Fig. 5. Fig. 7 is a transverse sectional view on the line 7—7 of Fig. 1. Fig. 8 is a vertical sectional view on the line 8—8 of Fig. 1. Fig. 9 is a detail perspective view of one of the core bar rotating pinions. Fig. 10 is a similar view of one of the slidable core bar engaging prongs or members.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

The specification and drawings are a disclosure of one embodiment of the invention, 60 while the claims define the actual scope of the invention.

In the accompanying drawings in which is illustrated the preferred embodiment of the invention, the multiple core bar turning device is designed to receive core bars 1 in a heated condition, after they have been pulled from the pipes, and it is adapted to simultaneously rotate a plurality of core bars while the first coating of "skilly" is being applied thereto. The word "skilly" 70 is an arbitrary word and is used to convey the idea of any mixture, that will adhere when thrown on a hot core bar and dry sufficiently to hold the second coating of mud or loam, and that it contains a sufficient quantity of combustible material, such as manure, chopped hay, saw dust or the like, to burn out when the heat of the cast material comes on the core and subsequently 80 release the core bar.

The multiple core bar turner is designed primarily for use in the foundry plant, forming the subject-matter of a co-pending application, filed Mar. 30, 1911, Serial No. 618,015, but it may be used for supporting and rotating core bars while they are being treated in any other manner.

The core bars are supported in a horizontal position by spaced bearings 2, each consisting preferably of a horizontal base 3 and a vertical web 4, provided in its upper edge with bearing recesses 5. The spaced bearings are mounted upon suitable supports 6, being secured to the same by bolts 7, or other suitable fastening devices, which pierce the horizontal base 3. The core bars, which rest in the bearing recesses 5, are provided at one end with an annular groove 8, receiving the vertical web of the contiguous bearing 2 and forming inner and outer shoulders, arranged to engage the inner and outer faces of the web 4 of such bearing to prevent longitudinal movement and displacement of the core bars. 105

The core bars are connected at one end with a horizontal series of meshing pinions 9, provided at opposite sides with extended hub portions 10, journaled in bearing recesses 11 of spaced pedestals 12, which are 110

mounted upon a suitable support 13. The pedestals 12, which are arranged a sufficient distance apart to receive the pinions between them, are provided in their upper edges with the said bearing recesses 11, and the hub portions 10 of the pinions 9 are exteriorly rounded to form journals, which are retained in the bearing recesses 11 by a cap 14. The pedestals, which may be constructed in any suitable manner, are preferably provided with marginal flanges and vertical reinforcing or bracing webs 15, and the bottom marginal flanges 16 are secured by bolts 17, or other suitable fastening means to the upper face of the support 13. The cap 14, which is mounted upon the pedestals, is arched transversely over the space between the same, and it is provided with laterally extending flanges or portions 18, which are secured to the pedestals by bolts 19. The laterally extending flanges or portions of the cap are curved to form bearing recesses 20 to complete the bearings of the extended hub portions of the pinions or gears 9. The ends of the cap are curved downward partially around the end gears of the series and the cap, and the pedestals support and incase the gears to protect the same.

The hubs of the core bar gears or pinions 9 are provided with rectangular openings 21 to receive squared rods 22, having forked ends 23 and forming core bar engaging prongs or members. The forked ends 23 extend into the adjacent ends of the core bars 35 and straddle and engage transverse pins 24, whereby the core bars are detachably interlocked with the projecting prongs or members of the gears 9. The squared rods are slidable in the openings in the hubs of the gears, and they are adapted to be moved inwardly and outwardly to engage them with and disengage them from the transverse pins 24 of the core bars. Although the shank or bar of the prongs is shown square, it will be readily understood that they may be of any other polygonal shape, and that any other suitable means may be employed for slidably interlocking the core bar engaging prongs or members with the gears. The form shown, however, has the advantage of simplicity, cheapness and strength.

The gear 9 at one end of the series meshes with a gear or pinion 25, keyed or otherwise secured to a short horizontal shaft 26, which is journaled in opposite bearing recesses 27 and 28 of the spaced pedestals and the cap. The shaft projects beyond the outer pedestal and has a large gear 29, keyed or otherwise secured to it. The large gear 29 meshes with a pinion 30 of an operating shaft 31, which is journaled in a suitable bearing 32 of a bracket 33, mounted upon the cap 14. The bearing bracket is flanged and is provided at the bottom with a recess 34 to receive the

arched portion of the cap, and it straddles the same and is secured to the cap by bolts 35, or other suitable fastening devices. The pinion 30 is keyed, or otherwise secured to the outer end of the operating shaft, which is provided at its inner end with a crank 36, adapted to be rotated for operating the core bar turning device.

In practice the "skilly," which is thrown onto the core bars by hand, is contained in a trough, or other suitable receptacle at one side of the device, and the crank handle is located at the inner side in order that the operator may be in a convenient position to see the core bars, which by their rotation are thoroughly exposed so that the coating may be easily, quickly and thoroughly applied. When the gearing is operated, each of the supported core bars is rotated in the bearings and adjacent core bars rotate in opposite directions. The individual couplings for connecting the core bars with the actuating gears enables the core bars to be readily connected with the gearing, and to be easily and quickly placed on and removed from the device. The gearing is adapted to impart a continuous rotary motion to the core bars, and it will also enable the core bars to be turned back and forth, so that any portion of their surfaces may be maintained in an exposed position to receive the material.

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

1. A multiple core bar turning device including spaced supports arranged to hold a series of core bars adjacent to each other with an intervening open space between them so as to enable "skilly" or a similar mixture to be thrown upon them by hand over the entire series and to splash from one core bar to another, and mechanism connected with the series of core bars for simultaneously turning the same.

2. A multiple core bar turning device including spaced supports arranged to hold a series of core bars adjacent to each other, with intervening open spaces between them to enable "skilly" or similar material to be thrown by hand over the entire series and splash from one core bar to another, and mechanism connected with the core bars for simultaneously imparting a continuous rotary motion to each of the core bars.

3. A multiple core bar turning device including spaced supports arranged to hold a plurality of core bars adjacent to each other with an intervening space between them to enable "skilly" or similar material to be thrown by hand to strike simultaneously a plurality of core bars, gearing for turning the core bars located beyond the same, and means for detachably connecting the core bars with the gearing.

4. A multiple core bar turning device including spaced bearings arranged to support a plurality of core bars, gears located beyond one end of the core bars, coupling members slidably mounted on the gears and movable independently inwardly and outwardly to engage them with and disengage them from the core bars, and means for rotating the gears.

10 5. A multiple core bar turning device including spaced bearings arranged to support a plurality of core bars, gears located beyond one end of the core bars and provided with central openings, prongs slidable in the openings and carried by the gears in the rotary movement thereof and movable into and out of engagement with the core bars, and means for rotating the gears.

20 6. In a multiple core bar turning device, the combination with core bars provided with grooves and having transverse pins, of spaced bearings provided with recesses to receive the core bars, one of the bearings being engaged with the grooves of the core bars, gears located beyond the core bars, prongs slidably connected with the gears and movable into and out of engagement with the transverse pins of the core bars, and means for rotating the gears.

30 7. A multiple core bar turning device including bearings arranged to support a plurality of core bars, spaced pedestals having bearing recesses, a train of gears mounted in the bearing recesses of the pedestals, a cap secured to the pedestals and forming a casing for the gears, a bracket extending upward from the cap and provided at the bottom with a recess to fit the said cap, an operating shaft supported by the bracket and having operating means at one end, gearing located at the other end of the operating shaft for connecting the same with the train of gears, and means for connecting the train of gears with the core bars.

ward from the cap and provided at the bottom with a recess to fit the said cap, an operating shaft supported by the bracket and having operating means at one end, gearing located at the other end of the operating shaft for connecting the same with the train of gears, and means for connecting the train of gears with the core bars.

8. A multiple core bar turning device including spaced bearings arranged to support a plurality of core bars, pedestals located at the outer side of one of the bearings in spaced relation thereto, a train of gears mounted in the bearings, means for connecting the gears with the core bars, a cap secured to the pedestals and covering the train of gears, a lower transverse shaft arranged at one end of the train of gears, a pinion mounted on the said shaft and meshing with the end gear of the train, a relatively large gear mounted on the lower transverse shaft at the outer end thereof, a bracket extending upward from the cap, an operating shaft supported by the bracket, a pinion mounted on the outer end of the operating shaft and meshing with the large gear, and means fixed to the inner end of the operating shaft for rotating the same.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JAMES R. McWANE.

Witnesses:

D. W. WALLACE,
W. J. LYMAN.