

E. H. PROFFITT.
CORE BAR.
APPLICATION FILED AUG. 9, 1912.

Patented Apr. 8, 1913.

1,058,465.

Fig. 1.

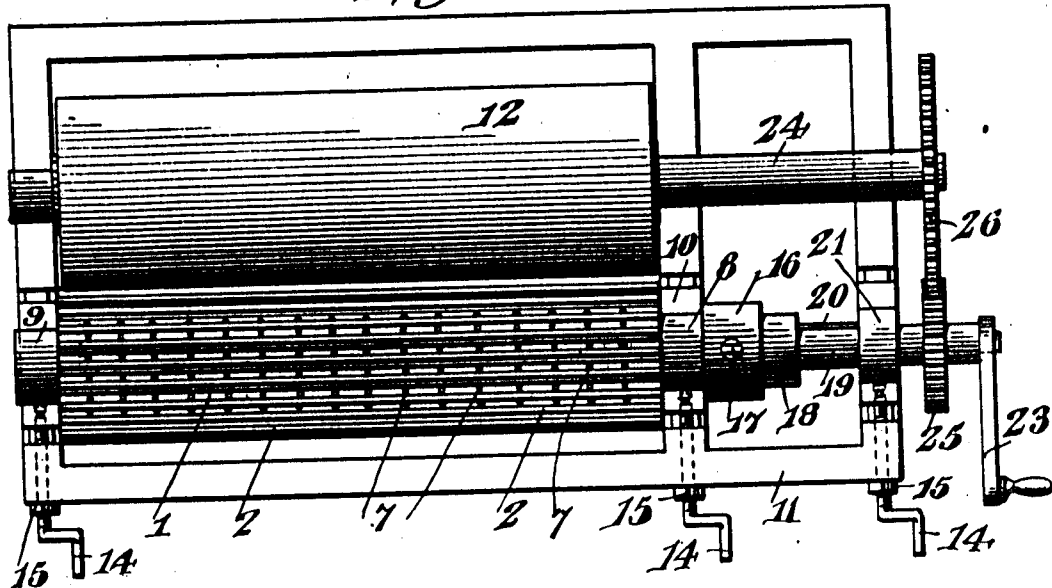


Fig. 2.

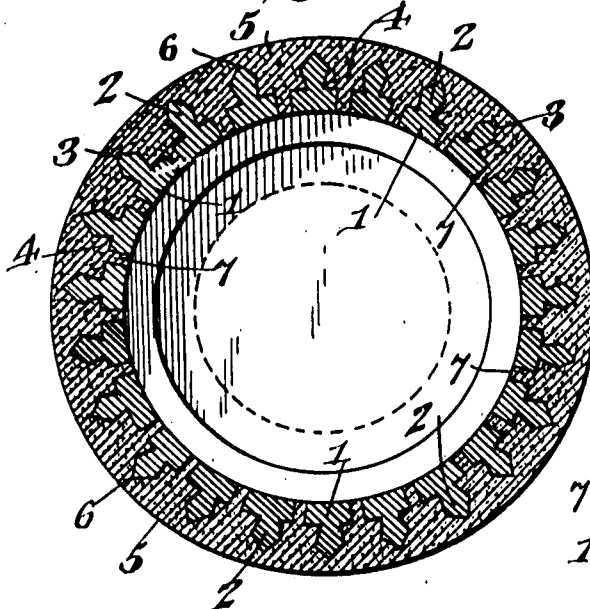


Fig. 3.

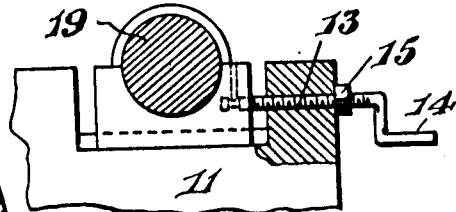
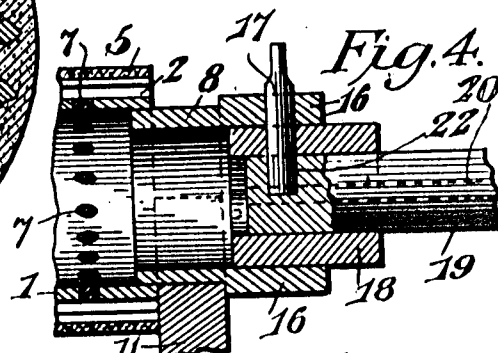


Fig. 4.



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WITNESSES

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UNITED STATES PATENT OFFICE.

EDWARD HILL PROFFITT, OF RADFORD, VIRGINIA, ASSIGNOR OF ONE-HALF TO
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CORE-BAR.

1,058,465.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD H. PROFFITT, a citizen of the United States, residing at Radford, in the county of Montgomery and State of Virginia, have invented a new and useful Core-Bar, of which the following is a specification.

The invention relates to improvements in core bars.

The object of the present invention is to improve the construction of tubular core bars and to eliminate expensive hay rope in the making of the first coat and for casting pipes and other hollow bodies, and to provide a simple, efficient and comparatively inexpensive core bar, equipped with means for holding a first coat of combustible material, such as saw dust, and capable of enabling such coat to be rapidly and uniformly applied to the core bar when the latter is in either a cold or heated condition.

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 drawing, and pointed out in the claims here-to appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a plan view of a core bar, constructed in accordance with this invention, and an apparatus for applying the first coat to the core bar. Fig. 2 is an enlarged transverse sectional view of the core bar, showing the first coat applied to the same. Fig. 3 is a detail sectional view of one of the bearings of the apparatus. Fig. 4 is a detail sectional view of a portion of the apparatus, illustrating the means for detachably connecting the core bar with the operating shaft.

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

In the accompanying drawing in which is illustrated the preferred embodiment of the invention, 1 designates a tubular core bar, designed for casting pipe and provided at intervals with integral exterior longitudinal ribs 2, having slightly tapered inner portions presenting flat inwardly converging

side faces 3 and forming intervening dove-tailed grooves or spaces 4, into which the combustible material 5 constituting the first coat is compressed. The first coat, which may consist of any suitable comminuted combustible material, such as saw dust, ground leaves, etc., and a suitable binder, such as molasses and water, is designed to take the place of expensive hay rope. While the flat side faces of the inner portions of the ribs are arranged at a slight angle to each other to dovetail the material between the ribs, the latter may, however, have parallel side faces at their inner portions, or constructed in any other suitable manner so as to retain the material on the core bar. The outer portions of the longitudinal ribs are tapered to a sharp longitudinal outer edge 6 to facilitate the pulling of the core bars, the sharp outer edges being adapted to cut their way through the core bar material when the core bars are pulled.

The core bar 1 is provided at intervals in the bottom of the grooves or spaces between the ribs with combined vent and anchor openings 7. These openings, which may be either round, square, or any other preferred form, are adapted to receive portions of the first coat, the material thereof being pressed into the openings 7 when the first coat is applied to the core bar by the means hereinafter described. The openings coöperate with the ribs in holding the material of the first coat to the core bars. The ribs are embedded in the first coat, which is preferably of a thickness in excess of the height of the ribs so as to extend slightly beyond the same, as clearly illustrated in Fig. 2 of the drawing.

The core bar is provided with smooth terminal portions 8 and 9 to fit adjustable bearings 10 slidably mounted in a supporting frame 11 and adapted to be adjusted transversely thereof to move the core bar toward and from a pressure roller 12 to vary the thickness of the first coat. The slidable bearings, which may be guided in any suitable manner, are adjusted by screws 13 provided at their outer portions with crank handles 14 and connected at their inner ends to the adjustable bearings, lock nuts 15 being preferably mounted on the outer portions of the adjusting screws to secure the bearings in their adjustment.

The core bar and the pressure roller ex-

tend longitudinally of the frame in close proximity to each other, and the material, which may be supplied from any suitable source, is fed to the core bar and is pressed 5 against the same and forced into the grooves and openings thereof by the pressure roller. The core bar and the pressure roller are simultaneously rotated by the means hereinafter described, which cause the adjacent 10 portions to move downwardly.

The end 8 of the core bar is provided with a tubular extension 16, which is adapted to be secured by a pin 17, or other suitable fastening device, to a slidable coupling 15 sleeve 18, mounted on an operating shaft 19, and slidably interlocked with the same by a feather or spline 20. The operating shaft 19, which is journaled in a suitable bearing 21 of the frame at one end thereof, extends 20 longitudinally of the same, and the sleeve is slidable along the shaft 19 to carry it into and out of the tubular extension 16 of the core bar. The pin 17 pierces the tubular extension and the sleeve and engages a 25 transverse socket 22 in the inner portion of the operating shaft 19.

The operating shaft, which extends beyond one end of the supporting frame, is equipped with a crank handle 23, or other 30 suitable operating device, and it is connected with the shaft 24 of the pressure roller by gearing consisting of a pinion 25 and a gear wheel 26. The pinion 25 is mounted on the outer portion of the operating shaft 35 and the gear 26 is suitably fixed to the adjacent end of the shaft 24 of the pressure roller. In practice the teeth of the gears will be of sufficient length to permit a limited adjustment of the core bar without carrying the gears out of mesh. When the 40 handle 23 of the operating shaft is turned, the core bar and the pressure roller will be simultaneously rotated, the adjacent portions moving in the same direction but at 45 different speeds due to the difference in the diameter of the gears.

The combustible material may be applied to the core bar when the latter is either in a heated or cold condition, and the retaining means obviates the necessity of baking 50 the material on the core bar to retain it thereon. After the first coat has been applied to the core bar and the material dried, the core bar is ready to receive the ordinary 55 second coat, which will be applied to the core bar in the usual manner.

What is claimed is:—

1. A tubular core bar provided with an annular series of spaced longitudinal ribs arranged to be embedded in the material of the

first coat, whereby a mixture containing comminuted combustible material may be applied to the core bar in a cold or heated condition, said ribs having sharp longitudinal outer edges adapted to cut their way 65 through the core material when the core bar is pulled.

2. A tubular core bar provided with exterior longitudinal ribs spaced apart and having flat side faces and forming intervening 70 grooves for holding a coat of comminuted combustible material in which the ribs are embedded to retain the same on the core bar.

3. A core bar provided with longitudinal 75 ribs spaced apart to form intervening grooves arranged to receive a mixture of combustible material for holding the same on the core bar, said ribs being provided with tapered outer portions forming sharp 80 edges adapted to cut a way through the core bar material when the core bars are pulled.

4. A tubular core bar provided with exterior longitudinal ribs forming intervening 85 grooves arranged to receive and hold a mixture of combustible material to retain the same on the core bar, the latter being also provided at the spaces between the ribs with combined vent and anchor openings communicating with the interior of the tubular core bar and adapted to also receive 90 portions of the said material to assist in holding the same.

5. A tubular core bar provided with an annular series of exterior longitudinal ribs 95 of uniform size spaced apart and presenting inwardly diverging side faces to form dovetailed grooves for retaining a mixture of combustible material on the core bar.

6. A core bar having spaced exterior longitudinal ribs provided at their inner portions 100 with flat side faces and having their outer portions tapered to a sharp edge, said core bar being also provided between the ribs with openings. 105

7. A tubular core bar provided on its outer periphery with longitudinal ribs which are disposed radially with relation to the center of the bar, said ribs being separated by spaces which spaces are wider at the base 110 of the ribs than at an intermediate point thereof.

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

EDWARD HILL PROFFITT.

Witnesses:

HENRY T. ROBERTS,
J. S. WRIGHT.