C. E. BEECHER AND J. SYMONS.

BEATING ENGINE.

APPLICATION FILED FEB. 24, 1919.

1,324,223

Patented Dec. 9, 1919.

Fig. 1.

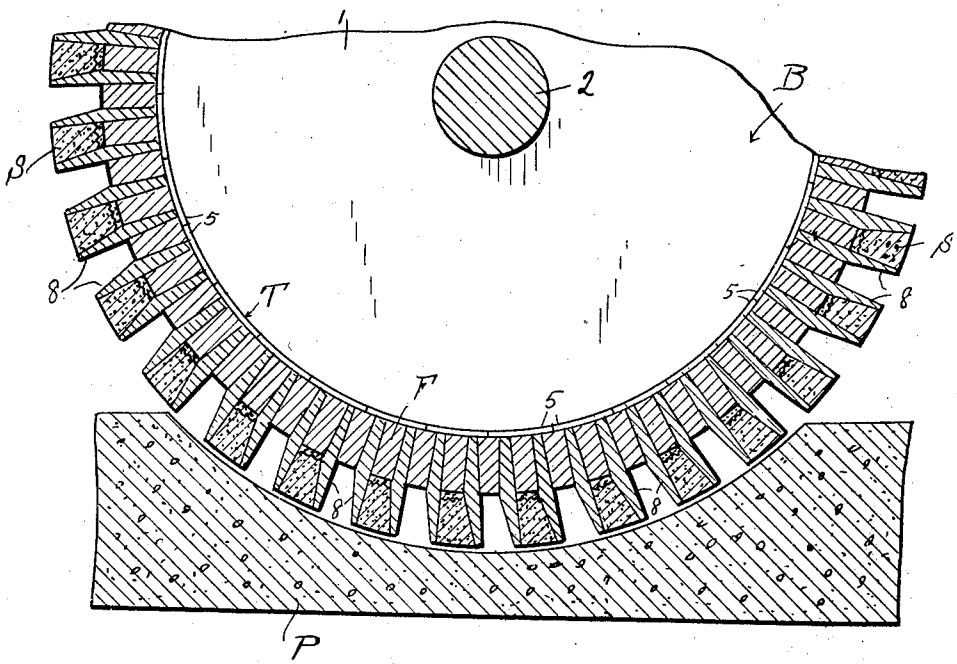


Fig. 2.

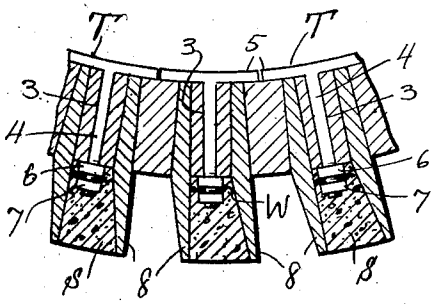
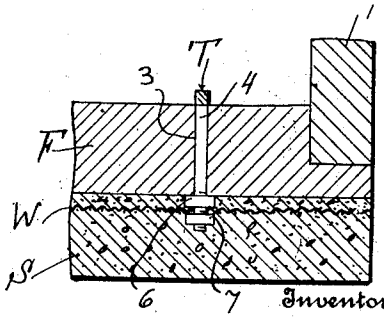


Fig. 3.



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BEATING-ENGINE.

1,324,223. Specification of Letters Patent. Patented Dec. 9, 1919.

Application filed February 24, 1919. Serial No. 278,870.

To all whom it may concern:

Be it known that we, CHESTER E. BEECHER and JOHN SYMONS, citizens of the United States, residing at Conshohocken, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Beating-Engines, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in beating engines, and has relation more particularly to a beating roll and bed plate employed for stuff working, and it is an object of the invention to provide a novel and improved bar for the roll and a bed plate comprising a mixture of cement and flint whereby the working surfaces of said bar and plate are maintained roughened and the lasting qualities thereof materially increased.

It is also an object of the invention to provide a roll having novel and improved means whereby the bars are conveniently applied and effectively maintained in working position.

The invention consists in the details of construction and in the combination and arrangement of the several parts of our improved beating engine whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of our invention will hereinafter be definitely claimed.

In order that our invention may be the better understood, we will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a fragmentary sectional view taken through a beating roll and bed plate constructed in accordance with an embodiment of our invention;

Fig. 2 is an enlarged fragmentary view taken through the peripheral portion of the beating roll and illustrating the anchoring means for the molded slabs or bars; and

Fig. 3 is a fragmentary sectional view taken longitudinally through a molded slab or bar and its concomitant parts.

As disclosed in the accompanying drawings, B denotes a beating roll coacting in a conventional manner with a bed plate P and which roll B and plate P coact in a well known manner to reduce the stuff treated to the proper consistency. The beating roll B comprises the heads 1 suitably fixed to the shaft 2 of a beating engine, and which are connected by the filler strips F preferably of wood and equidistantly spaced circumferentially of the roll. Each of the strips F is provided with a longitudinally spaced opening 3 directed radially of the roll B, and through each of said openings 3 is disposed the shank 4 of a T bolt T. The head 5 of the bolt bridges the spaces at opposite sides of the filler strip F while the shank 3 terminates outwardly of the strip. Threaded upon the extended portion of the shank 4 is a clamping nut 6 which engages the outer face of the strip F and serves to maintain the bolt T in assembled position.

Disposed over the outer face of the filler strip F is a wire mesh W which is clamped to the extended portion of each of the bolts B outwardly of the nut 6 by the second nut 7. In other words the mesh W is clamped between the nuts 6 and 7 and positioned slightly outward of the strip F.

Interposed between the strips F in a conventional manner are the feeder bars 8 and between which our improved bars or slabs S are adapted to be formed. Each of our improved bars or slabs S is formed of a mixture of cement and flint which is molded on each strip F between adjacent bars 8 and which mixture is packed in substantially dry. This mixture of cement and flint affords a bar or slab which does not wear smooth, as the cement being softer than the flint, allows the small particles or pebbles of the flint to project just enough to maintain a roughened surface. In actual practice the wearing qualities of this composition is highly desirable, as the composition becomes as hard as the flint itself, so that the slab may be employed for a protracted period of time.

The bed plate P may be of any desired type for coaction with the roll B, but this plate P is also formed of a mixture of cement and flint for the same purposes and advantages as has hereinbefore been recited relative to the bars or slabs S.

From the foregoing description, it is thought to be obvious that a beating engine constructed in accordance with our invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated,

and it will also be obvious that our invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason we do not wish to be understood as limiting ourselves to the precise arrangement and formation of the several parts herein shown in carrying out our invention in practice except as hereinafter claimed.

We claim:

1. A beating roll comprising an annular series of bars forming pockets therearound, the bases of certain of the pockets having a reticulated fabric secured thereto but spaced therefrom, and an abrasive slab within said pockets and in which the reticulated fabrics are embedded.

2. A beater roll including a plurality of circumferentially spaced filler strips, substantially radially disposed bolts directed through said strips, reticulated fabrics disposed over the outer surfaces of certain of said strips, bolts disposed through said strips for holding said fabrics in applied position but spaced relative to the strips, and abrasive members carried by said strips and in which the fabrics are embedded.

3. A beater roll comprising a plurality of circumferentially spaced filler strips, bolts disposed substantially radially through said strips, clamping nuts engaged with the bolts and coacting with the strips for holding the bolts in applied position, reticulated fabrics overlying said strips and engaged with the bolts whereby the fabrics are supported outwardly of the strips, an abrasive material carried by said strips in which the fabrics are embedded.

4. A beater roll including a plurality of circumferentially spaced filler strips, substantially radially disposed T bolts directed through said strips, the heads of the bolts being arranged inwardly of the strips and reticulated fabrics disposed over the outer surfaces of said strips and secured to the bolts in spaced relation to the strips, and abrasive members carried by said strips and in which the fabrics are embodied.

5. A beater roll including a plurality of circumferentially spaced filler strips substantially radially disposed T bolts directed through said strips, the heads of the bolts being arranged inwardly of the strips and reticulated fabrics disposed over the outer surfaces of said strips and secured to the bolts in spaced relation to the strips, and abrasive members carried by said strips and in which the fabrics are embodied, said heads of the bolts extending transversely of the bolts and bridging the spaces at opposite sides of each of the strips.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

CHESTER EARL BEECHER.
JOHN SYMONS.

Witnesses:
J. JACOBSON,
WM. P. BEECHER.