J. E. MINTER.

AUTOMATIC AND INTERMITTENT BRANDER FOR SOCKET SEWER PIPES.

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Fig. I.

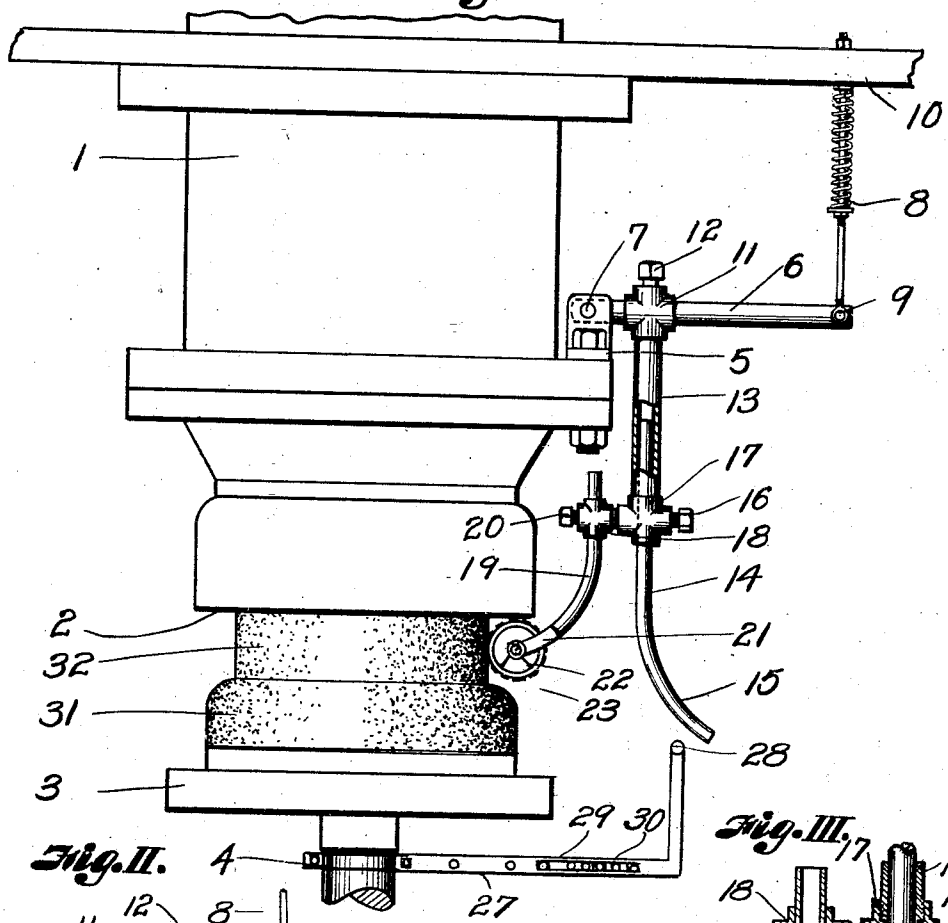


Fig. II.

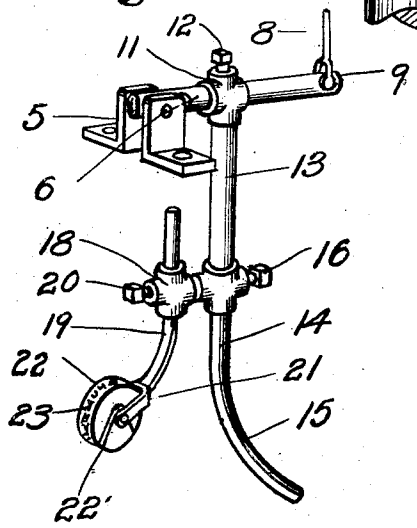
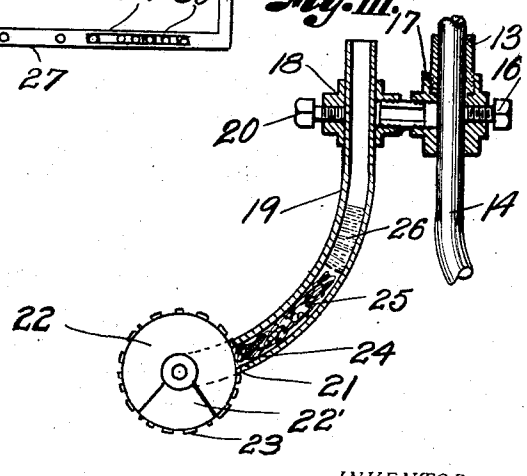


Fig. III.



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AUTOMATIC AND INTERMITTENT BRANDER FOR SOCKET SEWER-PIPES.

1,340,969. Specification of Letters Patent. Patented May 25, 1920.

Application filed August 29, 1919. Serial No. 320,678.

To all whom it may concern:

Be it known that I, JOHN E. MINTER, a citizen of the United States, residing at Columbus, in the county of Muscogee and State of Georgia, have invented certain new and useful Improvements in Automatic and Intermittent Branders for Socket Sewer-Pipes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

For the past sixty years sewer pipe with sockets or bell ends has been manufactured in increasing quantities in this country. Heretofore such pipe has always been branded by hand. Sewer pipes have never been successfully branded with an intermittent ribbon brander, such as is contemplated by this invention.

This invention relates to branders for socket sewer pipe or hollow ware with bell-shaped ends.

One of the objects of the invention is to provide means whereby the pipe will be branded with suitable designating characters as it passes from the forming die to the receiving disk or socket former as the case may be. The pipes leave the forming press in a comparatively plastic state so that the walls are soft enough to take the impression of the brander pressed against them.

I have provided means whereby an impressing brander may be brought into contact with the wall of the clay pipe as it is issuing from the press in such manner that the forming of the pipe and the impressing of the characters thereon may be accomplished as a single operation. The brander may be so constructed that the name of the manufacturer, a trade-mark or any other designating character or characters may be impressed upon the outer wall of the pipe to designate the origin, quality, style or type so that when the pipe is burned in the kiln, the impressed character or characters will be a permanent part of the pipe.

In the drawings,

Figure I is an elevational view of a pipe forming press of approved construction to which my invention is applied.

Fig. II is a detail perspective view of the brander.

Fig. III is a view partly in section of the die support, showing a means for lubricating the perimeter of the brander.

The pipe-forming press may be of any approved construction and I have here shown a cylinder 1, having a discharge end 2, through which the pipe may be extruded upon a socket former or disk 3, supported by a vertical plug shaft 4. The brander is shown as being pivotally secured to a bracket 5, suitably supported upon the press and the brander is conveniently illustrated as consisting of a lever arm 6, pivoted to the bracket at 7, so that it may swing in a vertical plane, the upward swinging movement being resisted by the coil spring 8, one end of which is connected to the free end of the arm 6, at 9, the other end being connected to a suitable support 10. A connection 11, is slidably movable upon the lever arm 6, but it may be held in any adjusted position by a set screw 12, which passes through the top thereof and which is adapted to impinge against the lever arm 6, so as to position the depending arm 13 thereon. The depending arm 13, is shown as consisting of a tubular member to receive a vertically adjustable shifting arm 14, having a curved end 15, to be engaged by a shifting finger, to be referred to hereinafter. The arm 14, however, may be held in any vertically adjustable position by the set screw 16, which passes through the bracket sleeve 17, to impinge against it. The depending arm 13, also serves as a support for a bracket 18, in which is a vertically adjustable carrying arm 19, adapted to be held in any adjusted position by a set screw 20.

By reference to Fig. III it will be observed that the downwardly projecting branding wheel-carrying arm 19, is hollow and that the bifurcated end 21, carries a disk-shaped brander wheel 22, on the circumference of which may be suitable characters 23, and it will be further observed that the circumference passes in close proximity to the discharge end 24, of the hollow arm 19. Therefore, if the lower portion of the arm 19, is loosely packed with waste or

other packing material, as indicated at 25, and a lubricant 26 is introduced thereinto, the perimeter of the brander 22, will be lubricated by wiping contact with the packing and therefore liability of the characters sticking in the plastic wall of the pipe will be eliminated. The wheel may be weighted as at 22, to cause the beginning of the "brand" to be first impressed against the pipe at each operation.

Secured to the socket former shaft 4, is a shifter finger 28, having a head 27, provided with elongated slots 29, and 30, whereby the finger 28, may be laterally adjusted so that it may be positioned properly with respect to the curved portion 15, of the arm 14.

When the parts are assembled as shown in Fig. I, and the disk 3, is moved into close proximity with the end 2, for receiving the extruding pipe, the finger 28, will contact with the curved portion 15, and move arm 14, away from the cylinder so that the brander will be shifted from the engaging position. As the pipe begins to extrude, however, and after the socket former 3, has moved down far enough to carry the enlarged portion or flange 31, of the pipe 32, below the brander member, the finger 28, will have moved out of contact with the curved portion 15, of shifting arm 14, so that the weight of the brander, including the lever 6, arm 13, and arm 19, will swing downward by gravity and by the thrust of spring 8, so as to move the brander 22, into pipe-engaging position, as shown in Fig. I. The weight of the elements which support the pipe will be sufficient to cause an impression of the characters on the brander members into the clay wall of the pipe and this engagement will cause sufficient friction against the brander to cause it to rotate as the brander moves past it, thereby forming what is known as a "ribbon branding" upon the pipe, the perimeter of the brander being lubricated as explained above.

The inwardly swinging movement of the supports, however, will be limited by the spring 8, as will be readily apparent by reference to Fig. I.

When a length of pipe has been severed and removed, the disk 3, will again move up into pipe-receiving position, carrying with it the finger 28, which, in its upward movement, will contact with 15, and temporarily move the brander out of pipe-engaging position.

It will be apparent from the foregoing that the action of the brander will be entirely automatic and that it will move into and out of pipe-engaging position in response to the direction of movement of the pipe-receiving disk or socket former, and that liability of the branding wheel sticking in the plastic wall of the newly formed pipe will be reduced to a minimum if not wholly avoided on account of the effective system of lubrication provided for the perimeter of the branding wheel.

What I claim and desire to secure by Letters-Patent is:

1. The combination with a pipe forming machine having a reciprocatory table, of a brander having a normal tendency to move toward the machine, and means actuated by the reciprocatory table for moving the brander away from the line of discharge of the pipe forming machine.

2. The combination with a socket sewer pipe or hollow ware with bell-shaped ends forming machine, of a brander swingingly supported and movable into engagement with the wall of the pipe exuding from the machine, and means for imparting a reverse movement to the brander away from the machine.

3. The combination with a socket sewer pipe or hollow ware with bell-shaped ends forming machine, of a brander having free swinging movement toward the discharge end of the machine to contact with the exuding tile, and means for positively, intermittently moving the brander away from the discharge end of the machine.

4. The combination with a socket sewer pipe or hollow ware with bell-shaped ends forming machine in which the tile is exuded upon a reciprocatory table, of a brander movable into pipe engaging position when the table moves away from the forming mechanism and having movement out of pipe engaging position when the table moves toward the pipe forming mechanism.

5. The combination with a socket sewer pipe or hollow ware with bell-shaped ends machine for forming pipe lengths provided with enlarged ends, of a brander for branding indicia upon the main portion of the pipe and movable into contact therewith, and means for holding the brander out of contact with the enlarged portion of the pipe as it passes the brander, said means being effective to release the brander into pipe engaging position after the enlarged portion has passed.

6. The combination with a machine for forming socket pipe or hollow ware provided with bell-shaped ends, of a brander adjacent to the discharge end of the pipe forming machine, and means having movement synchronous with a part of the pipe forming machine to move the brander away from the discharge end thereof when the bell-shaped end of the pipe is moving through a horizontal plane, passing through the brander.

7. The combination with a machine for forming clay pipe with a bell-shaped end, of a transversely movable brander having pipe engaging movement, and means for

temporarily holding the brander out of contact with the bell-shaped end.

8. A brander for clay pipe, comprising a horizontal lever, a brander suspended therefrom, an outwardly curved depending rod carried by the lever, and means for engaging the curved portion of the rod to impart a vertically swinging movement to the lever and a laterally swinging movement to the brander.

9. A brander for clay pipe comprising a horizontal lever, a brander bracket adjustable thereon, a brander wheel carried by the bracket, and an arm on the bracket to be engaged so as to swing the branding wheel out of pipe engaging position.

10. A brander for clay pipes with bell-shaped ends comprising a horizontal lever pivoted at one end, a rod depending from said lever, a brander support vertically adjustable on said rod, and a brander carried by the support.

11. A brander for clay pipes with bell-shaped ends comprising a horizontal lever pivoted at one end, a rod depending from said lever, a brander support and lubricating device vertically adjustable on said rod, and a brander wheel carried by the support.

12. In a clay pipe, with bell-shaped ends, brander, a laterally swinging hollow support having a bifurcated lower end with a lubricating port at the bifurcated portion, and a brander wheel carried by the bifurcated portion.

13. In a clay pipe, with bell-shaped ends, brander, a laterally swinging lubricating device having a lubricant discharging port at one end, and a clay engaging and brander wheel pivoted to the lubricating device and rotatable about its axis adjacent to the discharge port.

14. The combination with a bell-ended clay pipe forming machine, of a follower included in the machine for receding away from the forming mechanism to support the forming pipe, a brander for impressing indicia upon the clay pipe, and means responsive to the movement of the follower for temporarily holding the brander out of pipe engaging position during the initial travel of the follower away from the pipe forming mechanism so that the brander will not come in contact with the bell portion of the pipe.

15. The combination with a machine for forming clay pipe with a bell end, of a brander for branding indicia upon the pipe, means normally urging the brander into contact with the pipe, and means for temporarily opposing the brander-urging means during the initial passage of the bell-shaped portion of the pipe from the machine.

16. The combination with a machine for forming clay pipe with a bell end, of a brander for branding indicia upon the pipe, an expansion spring normally urging the brander into contact with the pipe, and means for temporarily opposing the spring during the initial passage of the bell-shaped portion of the pipe from the machine.

17. The combination with a machine for forming clay pipe with a bell-shaped end, of a pipe engaging brander mechanism, comprising a pivoted member, a brander wheel carried thereby, a spring urging the pivoted member into branding position, and means for opposing the spring.

18. The combination with a clay pipe forming machine having a reciprocatory socket former, a spring-actuated brander element to impress indicia upon the clay pipe, and means responsive to the socket former to actuate the brander against the action of the spring.

19. A brander element for clay pipes, a bracket supporting it, a spring for urging the brander into pipe contacting position, a reciprocatory table for receiving the pipe, and means on the table for temporarily moving the brander out of pipe contacting position.

20. In combination, a clay pipe forming machine having a reciprocatory table, a pivoted depending bar having a curved free end, a pipe brander wheel carried by the bar, a spring urging the bar and wheel into pipe contacting position, and means on the reciprocatory table for moving the bar and wheel out of pipe contacting position.

In testimony whereof I affix my signature.

JOHN EASTER MINTER.