

March 11, 1930.

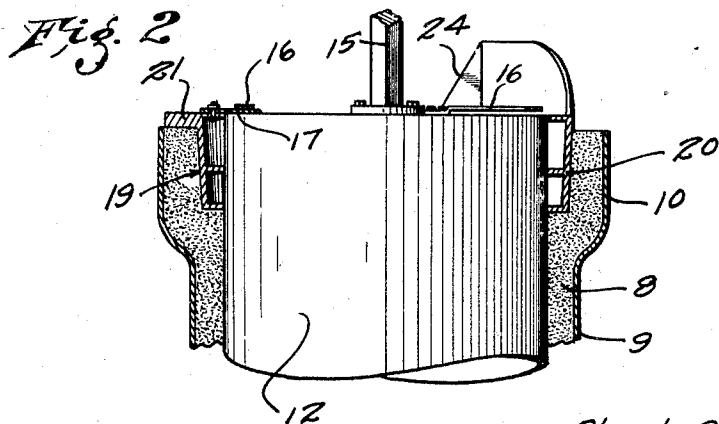
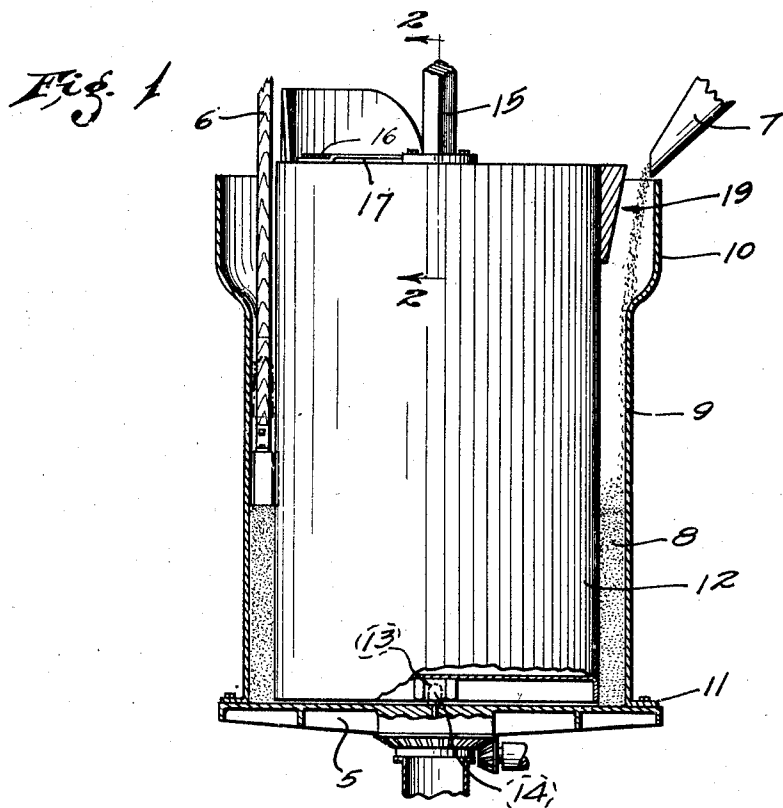
C. S. SORENSEN

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BELL PIPE MOLD

Filed March 5, 1928

2 Sheets-Sheet 1



INVENTOR.

Claude S. Sorensen

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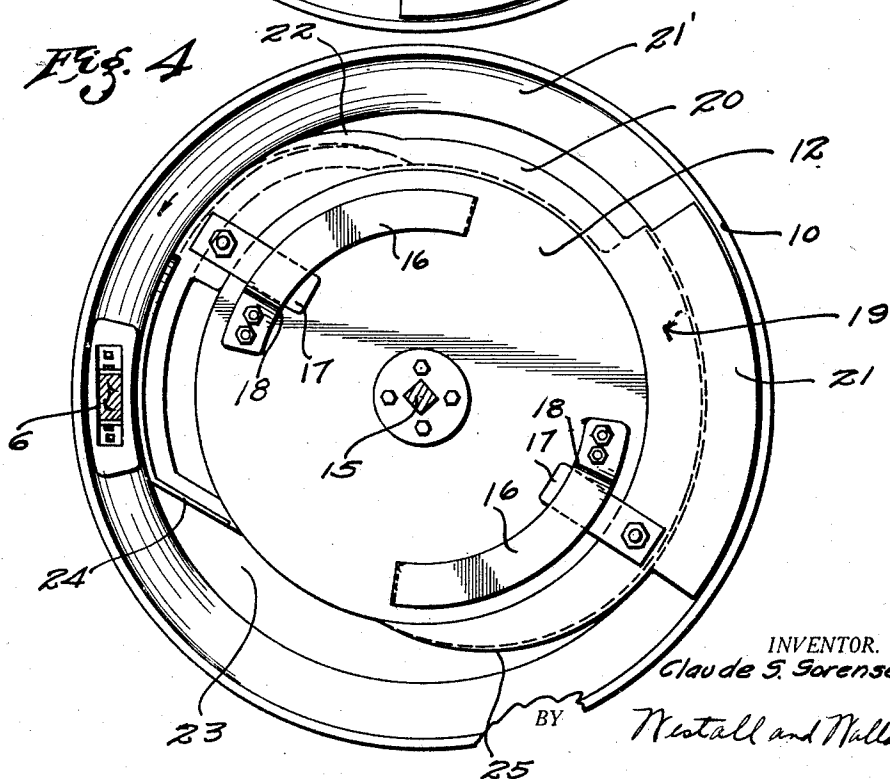
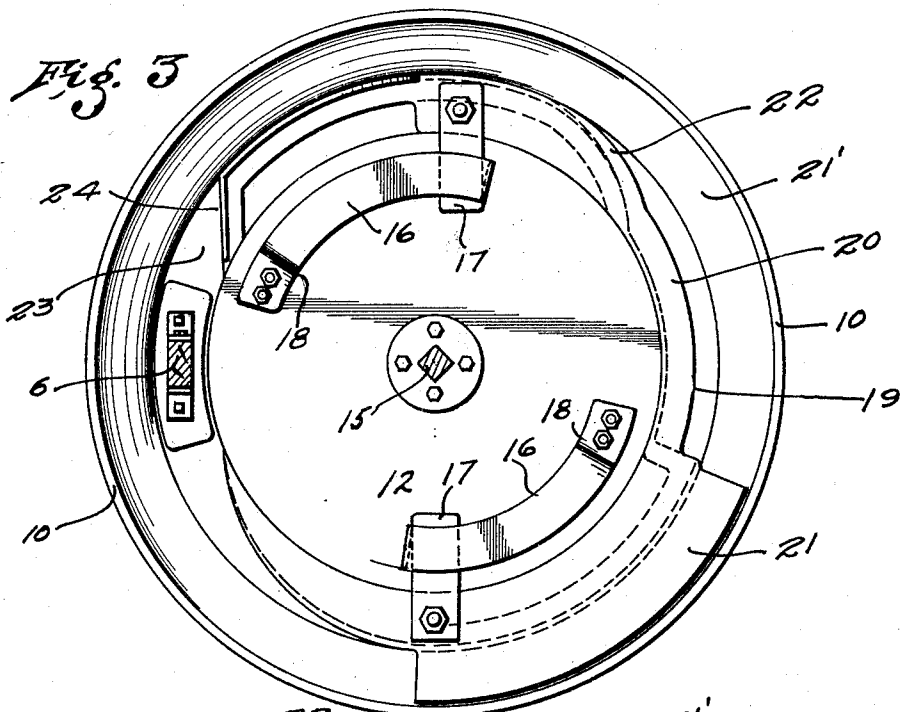
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UNITED STATES PATENT OFFICE

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BELL-PIPE MOLD

Application filed March 5, 1928. Serial No. 259,068.

This invention relates to a mold for forming bell end cementitious tubular members wherein the cementitious material is set into the mold and the material tamped while the jacket of the mold is rotated with relation to the tamping stick. A specific application of the invention is to the manufacture of bell end concrete pipes employing an upright cylindrical mold mounted on a rotatable turntable and a vertically reciprocable tamping stick.

In the forming of such concrete pipes, it is the practice to provide a mold jacket having a bell end and a cylindrical core nested therein and which is maintained substantially stationary with respect to the jacket of the mold, the latter being rotated. The tamping operation is commonly performed by a machine until the level of the bell end has been reached. Tamping is then stopped and a ring placed on the end of the core to conform with the bell end of the jacket. Tamping is then resumed in the space at the bell end of the mold. Obviously such operations require the machine to be stopped and labor employed to place the ring in position.

The present invention has for its primary object the provision of a mold for bell end pipes wherein the complete formation of the pipe and tamping may be continuously proceeded with. A more specific object of this invention is to provide a bell core ring which is positioned on the core at the beginning of operation and which will permit tamping of the body and bell end without disturbing of the mold or machine.

Other objects and advantages will be made fully apparent from the following specification considered in connection with the accompanying drawings in which:—

Fig. 1 is a vertical section through a mold jacket mounted on a turntable and showing the core in elevation, my improved ring being mounted on the core with the tamping stick in position for tamping the body of a concrete pipe; Fig. 2 is a section of the upper end of the mold showing the core in elevation as seen on the line 2—2 of Fig. 1; Fig. 3 is a plan view of the mold as seen in Fig. 1; and Fig. 4 is a similar plan view with bell

core ring and tamping stick in position tamping the bell end.

Referring with more particularity to the drawing, the mold is shown mounted upon a turntable 5, only a fragment of the latter being shown, it forming no part of the present invention. It is a common practice in tamping machines for concrete pipe to mount the mold upon a rotatable turntable, securing the jacket thereto by any suitable means so that it will be rotated with the turntable. A tamping stick 6 having a shoe at its lower end is reciprocated in the space between the jacket and core. The concrete is supplied by a chute 7 or any other suitable means. The core is shown in Fig. 1 with concrete indicated by 8 partially filling the body space between the core and mold.

The jacket comprises a cylindrical body portion 9 and a bell end 10. At the bottom of the jacket is a foot member 11 for securing the jacket to the turntable. This may be of any suitable construction such as is well known in the art.

Mounted within the jacket and supported upon a post is the core 12. The core has socket 13 in which is disposed a post 14 forming a centering device and permitting rotation of the latter. A core shaft 15 is provided whereby the core may be removed from the mold. Secured to the upper face of the core are arcuate clamps 16 preferably of spring metal and having a portion spaced from the face of the core to receive arms 17 and yieldably hold the latter in position. Shoulders 18 are formed at the front ends of the clamps to limit the angular position of the bell core ring 19 to which the arms 17 are secured. The bell core ring comprises a body 20 adapted to be disposed circumferentially of the ends of the core for forming the internal wall of the bell end. There is an end face wall 21, overhanging the space at the bell end of the mold. This wall is an arcuate segment so as to provide an opening for the operation of the tamping stick and for the filling of the mold with concrete. The filling space is indicated by 21' and at the rear thereof is a troweling wall 22 to move the concrete outwardly during the bell form-

ing operation. The bell core ring is formed with a longitudinal passage 23 in alignment with the space between the body of the core and the body of the jacket for the accommodation of the tamping stick during tamping of the body of the pipe. This passage has its rear wall formed by the ramp 24, and its front wall inclined peripherally as indicated by 25, it also providing a secondary troweling surface.

It will be noted that the bell core ring is detachable, there being in effect a bayonet connection between the core and ring. At the beginning of the formation of the pipe, the ring is placed on the core in the position shown in Fig. 3. The tamping stick is reciprocated in the space 23, the jacket being rotated. When the body of the pipe has been built up to the bell end, the operation will cause the ramp 24 to press against the tamping stick, and the latter will be forced outwardly to the position shown in Fig. 4 where tamping is performed for the bell end. The formation of the pipe is continuous requiring no stoppage in the operation, and the positioning of the tamping stick is automatic.

What I claim is:—

1. A mold for forming bell end cementitious pipes and tamping of the same comprising a main core normally stationary, a jacket rotatable with relation to said main core, a bell core ring on said main core having a longitudinally extending passage aligned with the body space between said jacket and core for accommodating a tamping stick characterized by the ring being turnable on said core including means to limit the angular travel of said ring.

2. A mold for forming bell end cementitious pipes and tamping of the same comprising a main core normally stationary, a jacket rotatable with respect to said main core, a bell core ring having a segmental arcuate wall overhanging the end of the bell, said extension having a longitudinally extending passage aligned with the body space between said jacket and core for accommodating a tamping stick characterized by the ring being turnable on said core including means to limit the angular travel of said ring.

3. A mold for forming bell end cementitious pipe and tamping of the same comprising a main core normally stationary, a jacket rotatable with relation to said main core, and a bell core ring on said core having a longitudinally extending passage aligned with the body space between said jacket and core for accommodating a tamping stick, said passage having a rear peripheral ramp wall characterized by the ring being turnable on said core including means to limit the angular travel of said ring.

4. A mold for forming bell end cementitious pipe and tamping of the same comprising a main core normally stationary, a jacket

rotatable with respect to said core, and a bell core ring having a segmental arcuate wall overhanging the end of the bell, said bell ring core having a longitudinally extending passage aligned with the body space between said jacket and main core for accommodating a tamping stick and said passage having a rear ramp wall characterized by the ring being turnable on said core including means to limit the angular travel of said ring.

5. A mold for forming bell end cementitious pipe and tamping of the same comprising a main core normally stationary, a jacket rotatable with relation to said core, and a bell core ring on said main core having a longitudinally extending passage aligned with the body space between said jacket and main core for accommodating a tamping stick, said passage having a rear ramp wall and a front inclined trowel wall characterized by the ring being turnable on said core including means to limit the angular travel of said ring.

6. A mold for forming bell end cementitious pipe and tamping of the same comprising a main core normally stationary, a jacket rotatable with relation to said main core, and a bell core ring having segmental arcuate wall overhanging the end of the bell, said ring having a longitudinally extending passage aligned with the body space between said jacket and core for accommodating a tamping stick and said passage having a rear ramp wall and a front inclined trowel wall characterized by the ring being turnable on said core including means to limit the angular travel of said ring.

7. A mold for forming bell and cementitious pipes and tamping of the same comprising a main core normally stationary, a jacket rotatable with relation to said main core, a bell core ring on said main core having a longitudinally extending passage aligned with the body space between said jacket and core for accommodating a tamping stick characterized by the ring being turnable on said core and detachable therefrom and including means to limit the angular travel of said ring.

8. A mold for forming bell and cementitious pipes and tamping of the same comprising a main core normally stationary, a jacket rotatable with relation to said main core, a bell core ring on said main core having a longitudinally extending passage aligned with the body space between said jacket and core for accommodating a tamping stick characterized by the ring being turnable on said core and including means to yieldably secure said ring or said core and to limit rearward travel of said ring on said core.

In witness that I claim the foregoing I have hereunto subscribed my name February, 1928.

CLAUDE S. SORESENSEN.