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TOP PALLET FOR PIPE FORM

Filed April 20, 1964

Fig. 1.

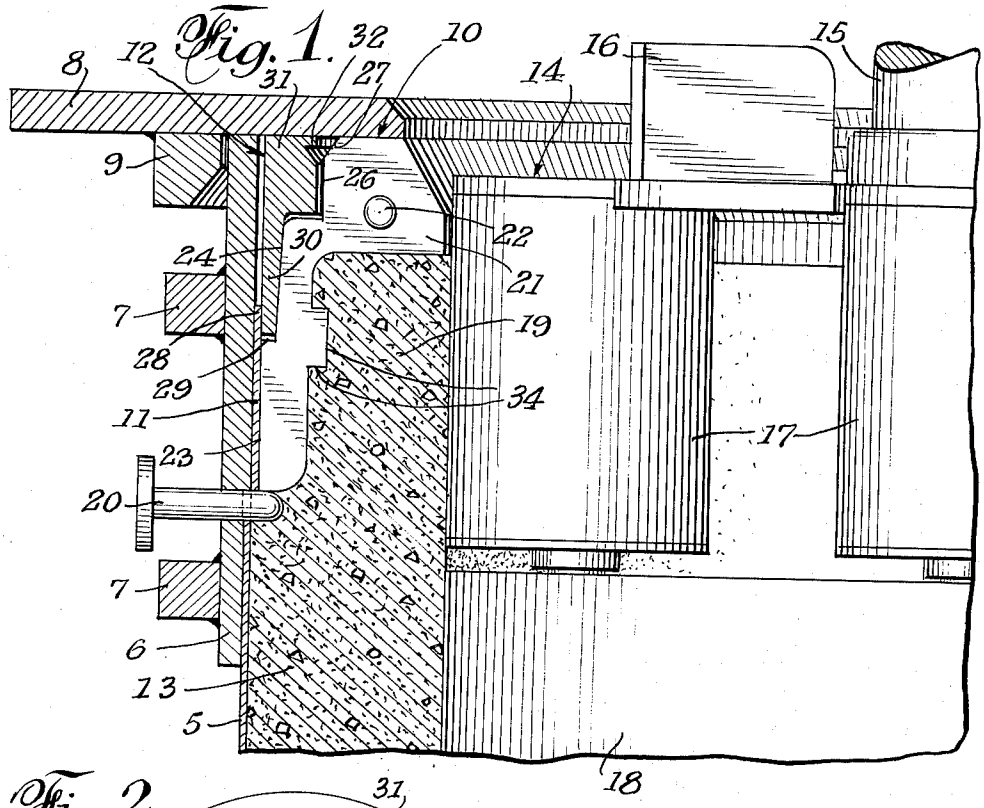


Fig. 2.

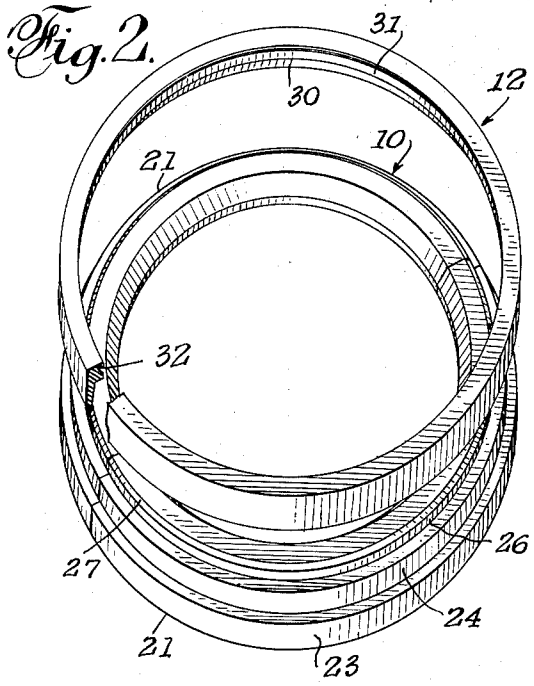
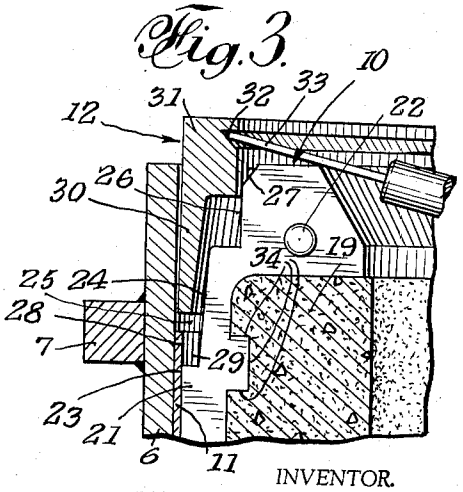


Fig. 3.



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TOP PALLET FOR PIPE FORM

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This invention relates to a top pallet construction for vertical pipe forms in which cement or concrete pipes are centrifugally cast. More specifically, the invention deals with means for locking a pipe end-forming ring and for facilitating release of the form from the cast pipe after the latter has suitably cured.

Vertical pipe forms cast pipes with their ball ends down, it being the spigot-forming top pallet which embodies the improvements of the present invention to facilitate removal of the spigot-forming ring of said pallet and removal of the cast pipe from the form.

An object of the invention is to provide a novel cap ring-locking means that is readily removable to release the cap ring.

This invention also has for its objects to provide such means that are positive in operation, convenient in use, easily installed in a working position and easily disconnected therefrom, economical of manufacture, relatively simple, and of general superiority and serviceability.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description, and which is based on the accompanying drawing. However, said drawing merely shows, and the following description merely describes, one embodiment of the present invention, which is given by way of illustration or example only.

In the drawing, like reference characters designate similar parts in the several views.

FIG. 1 is a broken vertical sectional view of a form for centrifugal casting of cement or concrete pipes, with a roller head in pipe-packing and -smoothing position, the spigot-forming top pallet being in operative pipe casting position in the form.

FIG. 2, to a smaller scale, is an expanded perspective view of the present cap ring and its position-retaining ring.

FIG. 3 is a broken sectional view of said top pallet in the process of effecting loosening and dislodgement of the pallet from the spigot that has been formed on the pipe.

The drawing shows a form jacket or liner 5 that, at its upper end is provided with a top ring 6 that is provided with vertically spaced reinforcing rings 7. A top form holder 8 is centered on the ring 6 by means of a flange ring 9 welded to the under face of the holder ring. The present improvements comprise, generally, a split cap ring 10, an insert ring 11 around the cap ring and affixed by welding to the inner face of the top ring 6, and a wedge ring 12 that fits within the insert ring 11 and locks the split cap ring 10 in operative position preparatory to formation of a cast cement or concrete pipe 13 by means such as the roller head 14 shown in FIG. 1.

Said roller head 14 does not form part of this invention and is here shown as an exemplary means that, while being rotated and moved axially in an upward direction by means of the shaft 15, spreads aggregate by means of slinger or spreader vanes 16, packs said aggregate into the jacket 5 by means of rollers 17, and smoothens the packed wall of the pipe 13 by means of a cylindrical smoothing skirt 18. Thus, said roller head 14, or any other device for effecting the same formation of a pipe in the form, due to the drag imposed by the rollers 17 and the skirt 18, creates forces on the pipe that not only press outwardly but also in a direction to dislodge the cap ring

from the form. The above generally-described elements 10, 11 and 12 are provided, first, for resisting such dislodgement and, second, to facilitate the removal of the cap ring from the spigot 19 that has been formed on the pipe 13, as above described. Suitable retractable pins 20 are entered through holes in the jacket to locate the cap ring in the top of the form.

The present cap ring 10, preferably of cast metal, comprises a molding ring formed of two equal semi-circular half rings 21 that are separably connected by centering dowels 22 to retain vertical register or alignment of said half rings. The cap ring is provided with an outer cylindrical surface 23 that fits the insert ring 11, a downwardly and outwardly conically tapered surface 24 diameterically smaller than the surface 23, defining an annular space 25 between the surface 24 and said insert ring 11, and located above the surface 23, a rabbet 26 in said cap ring above the upper smaller edge of the conical surface 24, and a chamfer 27 at the upper edge of said rabbet. The above surfaces and the surfaces of the rabbet are all outer surfaces.

The insert ring 11 is thin-walled as is the jacket 5, the cap ring 10 fitting therein. Said ring 11 is smaller diametrally than the jacket so that upon removal of the pipe 13 from the form, the jacket of the latter will not frictionally engage the cap ring (which is of smaller diameter than the outer diameter of the pipe) and exert an undesired drag on the cap ring which may cause damage to the spigot portion 19 of said pipe. The upper end 28 of said insert ring 11 extends above the top edge of the cylindrical surface 23, said ring end 28 cooperating with the conically tapered surface 24 to form an annular seat 29.

The wedge ring 12 is also metallic and is of a cross-sectional form that has a lower, thinner ring portion 30 having an outer surface to slidingly fit within the end 28 of the insert ring 11 and an inner tapered surface that has a wedging fit with the surface 24 of the cap ring when the end of said ring portion is inserted into the mentioned annular seat 29, as shown in FIG. 1. It will be clear that this wedging fit of the elements 10 and 12 will cause the former to be tightly held in operative position. The wedge ring 12 has an upper end 31 that is substantially thicker than the portion 30, the same fitting, with clearance, in the rabbet 26 of the cap ring.

The inner cylindrical face of the wedge ring end 31 is provided with a groove 32 which is opposite to the chamfer 27 of the cap ring. The same is, therefore, easily accessible to a pry tool 33 which may be inserted thereinto to pull the ring 12 upwardly, as shown in FIG. 3, and loosen said ring so that the cap ring halves may be separated and removed from the spigot 19.

In practice, the form is first withdrawn from the cast pipe. Then, the ring 12 is removed to enable removal of the cap ring.

It will be clear from the foregoing that the inner spigot-defining surfaces 34 of the cast pipe will remain accurate and undamaged, since the present improvements obviate forces on the cap ring that may tend to cause such damage.

While the foregoing has illustrated and described what is now contemplated to be the best mode of carrying out the invention, the construction is, of course, subject to modification without departing from the spirit and scope of the invention. Therefore, it is not desired to restrict the invention to the particular form of construction illustrated and described, but to cover all modifications that may fall within the scope of the appended claims.

Having thus described this invention, what is claimed and desired to be secured by Letters Patent is:

1. A top pallet for a concrete pipe-casting form having

an outer jacket with an outer reinforcing top ring, said pallet comprising:

(a) an insert ring of smaller diametral size than the form jacket and affixed to the inside of the top ring,

(b) a two-part cap ring fitted into said insert ring and cooperating with the latter ring to form a top-open annular seat, said cap ring, on its inner face being provided with surfaces to define a spigot portion on the end of a pipe cast in said form, said cap ring parts being adapted to be separated laterally for removal from the spigot portion of said pipe,

(c) an outer conically tapered surface on the cap ring extending upwardly from said annular seat and spaced inwardly from the insert ring, and

(d) a wedge ring engaged with said conically tapered surface to engage and hold the cap ring fixedly within the insert ring, the wedge ring being provided with a portion extending into said annular seat.

2. A top pallet according to claim 1 in which the wedge ring is provided with a conical surface that is complementary to the outer tapered surface of the two-part cap to wedge the latter into fixed operative position.

3. A top pallet for a concrete pipe-casting form having an outer jacket with an outer reinforcing top ring, said pallet comprising:

(a) an insert ring of smaller diametral size than the form jacket and affixed to the inside of the top ring,

(b) a two-part cap ring fitted into said insert ring and cooperating with the latter ring to form a top-open annular seat, said cap ring, on its inner face being provided with surfaces to define a spigot portion on the end of a pipe cast in said form, said cap ring parts being adapted to be separated laterally for removal from the spigot portion of said pipe,

(c) an outer conically tapered surface on the cap ring extending upwardly from said annular seat and spaced inwardly from the insert ring,

(d) a wedge ring engaged with said conically tapered surface to engage and hold the cap ring fixedly within the insert ring, the wedge ring being provided with a portion extending into said annular seat, and

(e) the cap ring having an outer upper rabbet, and the wedge ring being provided with an upper portion thicker than the portion that extends into the annular seat, said upper portion residing in the cap ring rabbet.

4. A top pallet for a concrete pipe-casting form having an outer jacket with an outer reinforcing top ring, said pallet comprising:

(a) an insert ring of smaller diametral size than the form jacket and affixed to the inside of the top ring,

(b) a two-part cap ring fitted into said insert ring and cooperating with the latter ring to form a top-open annular seat, said cap ring, on its inner face being provided with surfaces to define a spigot portion on the end of a pipe cast in said form, said cap ring parts being adapted to be separated laterally for removal from the spigot portion of said pipe,

(c) an outer conically tapered surface on the cap ring extending upwardly from said annular seat and spaced inwardly from the insert ring,

(d) a wedge ring engaged with said conically tapered surface to engage and hold the cap ring fixedly within the insert ring, the wedge ring being provided with a portion extending into said annular seat,

(e) the cap ring having an outer upper rabbet, and the wedge ring being provided with an upper portion thicker than the portion that extends into the annular seat, said upper portion residing in the cap ring rabbet, and

(f) the inner surface of said thicker portion of the wedge ring being provided with pry recesses for engagement by a pry tool for releasing engagement of the wedge ring from the cap ring.

References Cited by the Examiner

UNITED STATES PATENTS

3,114,956	12/63	Gannaway	25—39
3,141,223	7/64	Steio	25—39

FOREIGN PATENTS

651,419	10/62	Canada.

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