

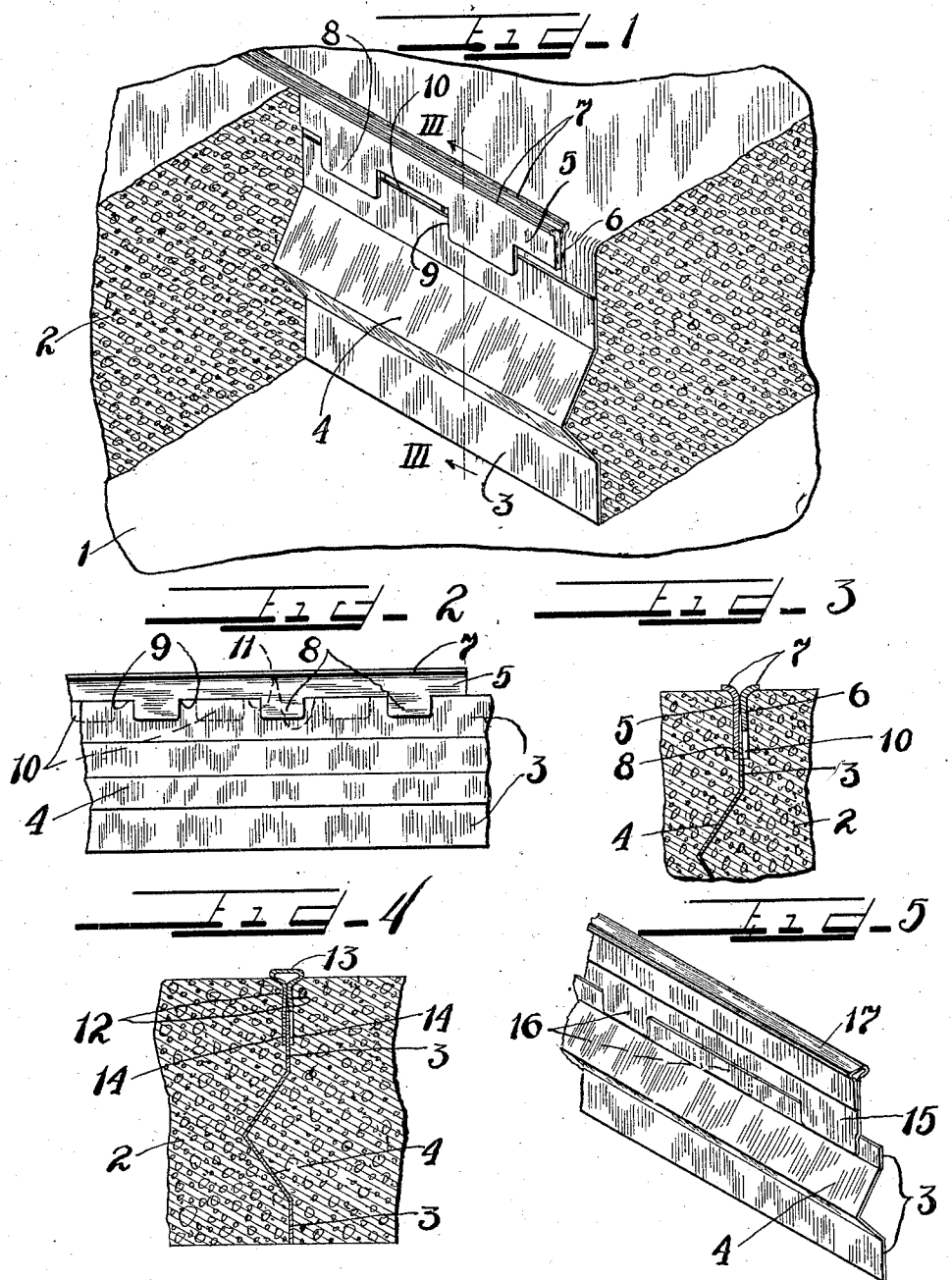
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CONTRACTION CENTER STRIP MOLD CAP

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CONTRACTION-CENTER-STRIP MOLD CAP

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In the construction of reinforced concrete roads and the like it has been found necessary to provide metallic center strips which are usually staked in position longitudinally on the center line of the road sub-grade and project upwardly with the upper edges of the center strips adapted to be positioned approximately one-half inch below the upper surface of the pavement after the concrete has been poured to cover the sub-grade and to imbed the center strips. This method of construction requires a large amount of sheet metal in the form of center strips which are ultimately left buried within the concrete forming the road.

To reduce the cost and amount of sheet metal required in the form of center strips to be permanently left within a concrete road and to furthermore provide a longitudinal center crack or groove in the concrete road with rounded edges formed on the concrete section on opposite sides of the center strips, this invention has been devised to provide metallic center strips of reduced height and thickness by providing removable improved mold caps having integral staggered clamping tongues or flaps adapted to be frictionally engaged on the upper margin of the center strips with the tongues alternately engaging opposite surfaces of the center strips to hold the mold caps adjustably mounted on the center strips to position the bead heads of the mold caps at a predetermined height above the top surface of the sub-grade so that after the concrete has been poured on the sub-grade to enclose the center strips and the mold caps uniform rounded edges are provided on either side of the expansion joint after the concrete has thoroughly set thereby permitting the mold caps to be removed from the road for reuse leaving the reduced center strips embedded in the road.

It is an object of this invention to provide an improved combination center strip and mold cap for concrete road construction affording an arrangement whereby the mold cap may be eventually removed when the concrete has thoroughly set leaving the center strip which is of reduced height and thickness, in the concrete thereby materially re-

ducing the amount of sheet metal required in providing a longitudinally disposed center groove with uniform rounded edges on either side of the expansion joint.

It is also an object of this invention to provide a removable mold cap for forming a longitudinal crack in a concrete road, said mold cap being constructed of a depth sufficient to permit a center strip of reduced height and thickness to be used to materially reduce the amount of metal which is required to permanently remain buried in the concrete road.

It is a further object of this invention to provide a contraction center strip with a removable and an adjustable mold cap provided with resilient tongues adapted to be alternately engaged on opposite sides of the upper margin of the center strip to properly position rounded grooves formed in the mold cap bead to be positioned at a required height above the sub-grade of the road to afford a center groove or crack with uniformly rounded edges when the mold cap is eventually removed from the concrete.

It is an important object of this invention to provide a combination center strip and mold cap with the center strip reduced in size and thickness while the mold cap which is eventually removed from the road, constructed to an increased depth and provided with a longitudinal upper bead having rounded grooves on opposite sides thereof and furthermore having the lower portion of the mold cap provided with a plurality of resilient tongues or flaps adapted to be frictionally engaged in staggered relation on opposite sides of the upper margin of the center strip to permit vertical adjustment of the mold cap with respect to the center strip thereby affording an arrangement which permits removal and reuse of the mold cap and requires a reduced amount of metal in the form of road strips to be permanently left within the concrete road.

Other and further important objects of this invention will be apparent from the disclosures in the drawings and specification.

This invention (in a preferred form) is

illustrated in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a fragmentary perspective view of a section of a concrete road having imbedded therein an improved combination center strip and mold cap embodying the principles of this invention.

Figure 2 is a fragmentary reduced side elevation of the combination center strip and mold cap showing the mold cap in its lowermost position seated upon the upper margin of the center strip.

Figure 3 is a fragmentary sectional view taken on line III—III of Figure 1.

Figure 4 illustrates a sectional view similar to that illustrated in Figure 3 but disclosing a modified form of mold cap engaged on the center strip.

Figure 5 is a fragmentary perspective view of another modified form of mold cap removably mounted in position upon a center strip.

As shown on the drawings:

The reference numeral 1 indicates a concrete road sub-grade having formed thereon a concrete crown section 2 having an improved sheet metal center strip imbedded therein and resting upon the top surface of the sub-grade to afford a contraction joint forming device together with an improved removable mold cap which is adjustably engaged upon the upper margin of the center strip.

The improved means for forming a continuous straight groove of substantially uniform width longitudinally along the center or crown of the concrete road comprises a plurality of center strips mounted in longitudinal abutting alignment on the sub-grade with each of said center strips comprising a plurality of flat metal flanges 3 disposed in substantially the same plane and integrally connected by means of a longitudinally disposed intermediate trough or V cross sectioned middle section 4. The improved center strip of this invention is adapted to be constructed of light weight metal and is of a height materially less than that usually employed in concrete road construction work. When in position the center strip has the lower edge thereof seated upon the top surface of the concrete road sub-grade while the upper longitudinal edge of the upper flange 3 of the center strip is positioned a considerable distance below the eventual top surface or level of the crowned section of the concrete road.

The present invention has been devised as a means for materially reducing the amount of metal required to permanently remain imbedded in the crown section of a concrete road to reduce the cost of road construction work by providing removable mold caps which are adapted to be adjustably engaged on the upper flanges of the center strips to fill the space between the upper edge of the center

strips and the top surface of the crown section of the road.

Each of the improved mold caps comprises a pair of adjacently positioned metal plates 5 and 6 which are spot welded together and have the upper edges thereof curved or rolled outwardly to form curved bead strips 7 which form a longitudinal bead or head along the upper portion of the mold cap. Integrally formed on the lower marginal edge of the mold cap side plate 5 are a plurality of tongues or flaps 8 which are separated by notches or pockets 9. Integrally formed on the lower margin of the mold cap plate 6 are a plurality of tongues or flaps 10 separated by notches or pockets 11. As clearly illustrated in Figures 1 and 2 of the drawings the tongues or flaps 8 on one side of the mold cap are staggered with respect to the tongues or flaps 10 formed on the opposite side of the mold cap to afford an arrangement whereby the improved mold cap may be adjustably engaged on the upper margin of the top flange 3 of the center strip as illustrated in Figure 1. The tongues 8 are adapted to be engaged on one side of the top flange of the center strip while the tongues 10 are engaged adjacent the opposite side of the top flange of the center strip thereby resiliently and frictionally clamping the mold cap adjustably upon the upper edge or margin of the center strip. This arrangement permits the mold cap to be first slightly engaged on the center strip after which the mold cap may be slightly tamped so that the same will frictionally slide downwardly on the center strip a predetermined amount to properly position the bead or head of the mold cap at a predetermined elevation above the top surface of the road sub-grade 1. This provision of an adjustable and removable mold cap for use in combination with a metal center strip permits the center strip to be formed of thin sheet metal and of a reduced height so that the amount of metal permanently remaining in the concrete road construction is materially reduced thereby reducing the cost of construction without in any way sacrificing the quality or durability of the road structure.

With a center strip and a mold cap supported in vertical position upon the road sub-grade concrete is poured upon the sub-grade on opposite sides of the road strip until the upper level of the crown section is obtained. The concrete projects into the groove afforded by the center strip intermediate channel section 4 and the packs in the recesses provided by the mold cap with the bead head of the mold cap projecting slightly above the crown surface of the road. After the concrete has been permitted to set a predetermined length of time the mold cap is removed from the top of the center strip leaving a groove of uniform width longitudinally along the center of the crown of the road.

The upper edges of the road sections on opposite sides of the mold cap are uniformly rounded affording an enlarged mouth or entrance to the center groove. After the concrete has hardened the center groove is filled with pitch or any other suitable material to provide the customary black center line of the road. The removed mold cap is adapted to be repeatedly reused.

Figure 4 illustrates a modified form of mold cap of a unitary construction comprising a pair of adjacently disposed plates 12 which are rigidly secured together by brazing or other suitable means and are integrally connected at their upper margins by a head or bead 13. The bead head 13 provides rounded grooves on opposite sides of the mold cap to permit uniformly rounded edges to be formed in the sections of concrete formed on opposite sides of the center strip and mold cap. Integrally formed in spaced relation on the lower longitudinal margin of each of the mold cap side plates 12 are a plurality of tongues or flaps 14 with the tongues or flaps 14 on one side of the mold cap staggered with respect to those on the opposite side. The spaces provided between the tongues or flaps on each side of the mold cap are of sufficient length and are gauged according to the thickness of the metal of which the center strip is constructed.

Figure 5 illustrates another modified form of mold cap which is also of unitary construction and embraces a single plate 15 the lower margin of which is notched to afford a plurality of spaced tongues or flaps 16. The upper margin of the mold cap plate 15 is bent around upon itself to form a bead or longitudinally disposed head 17 affording rounded grooves on opposite sides of the bead for the purpose of forming rounded uniform edges on the upper section of the concrete forming the crown portion of the road. One margin of the bead or head 17 is directed downwardly to lie adjacent the plate 15 and is adapted to be rigidly secured thereto by brazing or other suitable means. In this form of the device the mold cap is only provided with one row of tongues or flaps 16 spaced a sufficient distance apart to permit the tongues to be engaged on the upper margin of the center strip with said tongues alternately disposed on opposite sides of the top flange of the center strip as is clearly illustrated in Figure 5. With the arrangement shown the mold cap may be set in position with the tongues only slightly engaging the upper flange of the center strip to permit the mold cap to be tampered to move the same downward required distances depending upon the level at which it is desired to position the top bead head 17 of the mold cap.

Attention is called to the fact that in providing removable and adjustable mold caps of the improved type hereinbefore described

said mold caps may be made of sheet metal so formed that the plates forming part of the mold cap may be of any desired depth so that the tongues or flaps when in position may be engaged on the upper flanges of the center strip. With this arrangement it will be noted that the center strip may be of reduced thickness and height thereby materially reducing the amount of metal required in the construction of a road for the purpose of providing a definite weakness in the pavement allowing the concrete to crack in a straight continuous plane or line. After the forming of the center crack or groove the same is adapted to be filled with a bituminous substance to provide a permanent marked line through the center of the pavement. The improved mold cap being constructed to permit removal of the same permits the mold cap to be repeatedly reused on center strips which may be of reduced size and which are permanently left in the concrete road structure.

It will of course be understood that various details of construction may be varied through a wide range without departing from the principles of this invention, and it is therefore not purposed limiting the patent granted hereon otherwise than necessitated by the scope of the appended claims.

I claim as my invention:

1. A contraction center strip mold cap comprising a body portion, a bead head formed thereon and providing rounded grooves on opposite sides of the mold cap, and a plurality of tongues formed on the body portion adapted to be engaged on a center strip with the tongues engaged in staggered relation on opposite sides of said center strip.

2. A contraction center strip mold cap comprising a body portion, a bead head integrally formed on the upper longitudinal margin thereof to provide rounded grooves, and a plurality of spaced tongues integrally formed on the lower longitudinal margin of said body portion.

3. A contraction center strip mold cap comprising a body portion, a bead integrally formed thereon having rounded outwardly deflected portions to provide uniform rounded edges on either side of a concrete joint, and extensions integrally formed on the body portion and spaced from one another a distance sufficient to permit the extension to be removably engaged in staggered relation upon the upper margin of a contraction center strip.

4. A contraction center strip mold cap comprising a plate, spaced projections integrally formed on one longitudinal margin thereof and a deflected bead member integrally formed on the other longitudinal margin thereof.

5. The combination with a contraction center strip, of a mold cap removably en-

gaged thereon having a top bead projecting on opposite sides thereof and also having a plurality of spaced tongues integrally formed thereon adapted to be engaged in staggered relation on opposite sides of the upper margin of the center strip.

6. The combination with a contraction center strip, of a mold cap having rounded grooves on opposite sides thereof, and resilient members integrally formed on the mold cap adapted to be frictionally engaged on the center strip to permit the mold cap to be adjusted with respect to the center strip.

In testimony whereof I have hereunto subscribed my name at Chicago, Cook County, Illinois.

ROBERT R. ROBERTSON.

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