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SNAP-ON SPACER POSITIONER FOR REINFORCEMENT

Filed Aug. 28, 1963

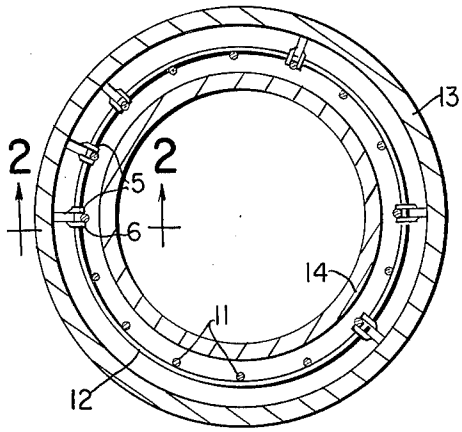

Fig. 1

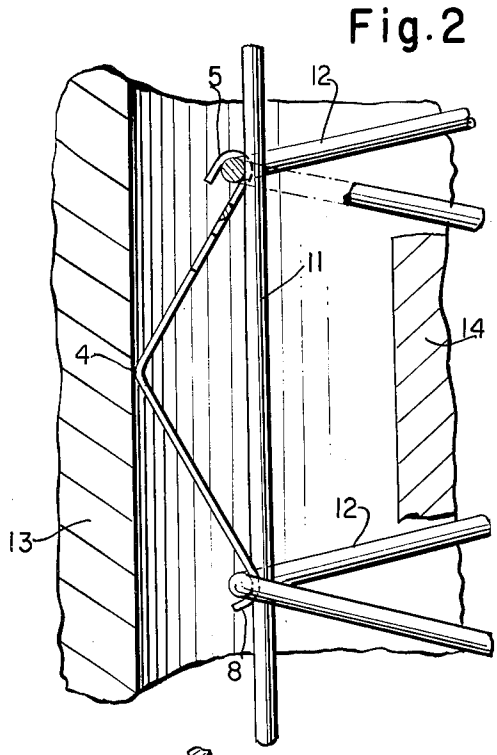

Fig. 2

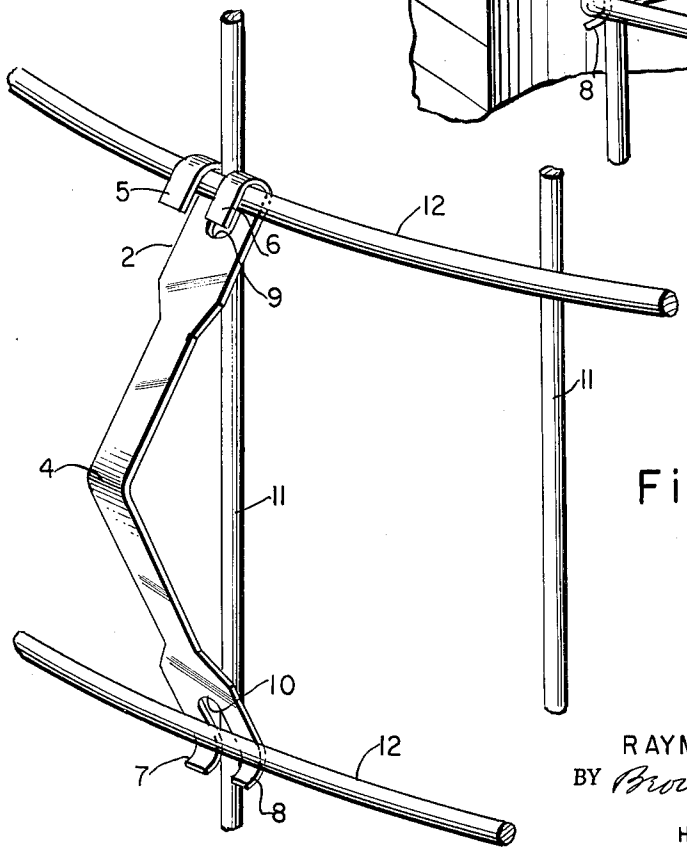

Fig. 3

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1

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SNAP-ON SPACER POSITIONER FOR REINFORCEMENT

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This invention relates to the manufacture of poured pipe, normally of concrete, but including any pipe which includes a reinforcement that necessarily must be located with respect to the mold for receiving the poured substance and thereby properly located within the material which forms the pipe itself.

The invention relates more specifically to a spacer which is positioned on the reinforcement by snapping same into position or by manipulating the spacer so that its ends engage the reinforcement in such a manner as to resist turning or twisting with respect to the reinforcement and to further be adapted to engage the reinforcement so that pressure against the spacer toward the reinforcement will serve only to more securely attach same thereto.

It will be understood that a plurality of spacers are normally used on different sections of the reinforcement so that it may be spaced as described below from the entire outer section of a mold.

It will be understood that the spacers are applied to the reinforcement prior to its placement in the mold.

My invention is an improvement over the old-style reinforcement spacer currently in use as they require welding to the proposed reinforcement. This construction is susceptible to damage as the spacers are constantly breaking at the weld or being pushed out of position which necessitates a replacement of the spacer with a consequent expenditure of time and material.

The material from which the proposed spacer is formed is not of consequence except that it must be bendable and/or distortable and further that it may be, in some cases, resilient.

An object of my invention is to provide a spacer of the character described in which the ends are of such construction as to prevent a twisting of the spacer when same is operatively engaged with the reinforcement.

Another object of my invention is to produce a spacer for reinforcement in a poured pipe which comprises a unitary strap having ends provided with bendable fingers for engagement with a reinforcement, said intermediate portion being bendable.

Another object of my invention is to produce a spacer for reinforcement in a poured pipe which comprises a unitary strap having ends wider in dimension than the intermediate portion and provided with bendable fingers for engagement with a reinforcement, said intermediate portion being bendable.

A further object is to provide a resilient spacer which can be releasably engaged with and disengaged from a poured pipe reinforcement.

Another object of my invention is to provide a spacer in which the bent section of the spacer is of a dimension described to space the reinforcement from the outer mold section.

A further object is to provide a spacer of the character described in which the above and other objects may be effectively attained as will appear from the more detailed specification which follows.

A practical embodiment of my invention is illustrated in the accompanying drawing in which:

FIG. 1 represents in cross section a pipe mold comprising inner and outer sections and a reinforcement placed therein and spaced therefrom by spacers constructed according to my invention.

2

FIG. 2 represents a detailed section on an enlarged scale taken on the line 2—2 of FIG. 1 looking in the direction of the arrows.

FIG. 3 represents in perspective a detail on an enlarged scale showing a spacer operatively engaged with a pipe reinforcement, it being understood that this represents merely a fragment of the reinforcement and that a plurality of spacers are normally used.

Referring to the several figures of the drawing, the spacer body portion is denoted generally by **1**, its upper end by **2**, and its lower end by **3**. It will be observed that the ends in this particular embodiment are shown as being wider than the bent intermediate portion, said portion being denoted by **4**.

The reason for so dimensioning the ends is to prevent twisting of the spacer with respect to the reinforcement when same are operatively engaged.

The bendable fingers on the upper end **2** of the spacer are denoted by **5** and **6**, and fingers on the lower end **3** are denoted by **7** and **8**.

The section of the upper end **2** which is cut out to form the fingers **5** and **6** is denoted by **9**, and a similar cut-out section on the lower end **3** is shown at **10**.

The several segments of the reinforcement which, in the present instance, are shown as comprising substantially rectangular spaces enclosed by a plurality of similar vertical elements **11** and horizontal elements **12**, but may be of any desired shape or configuration.

A section of pipe mold is illustrated in FIGS. 1 and 2 and said mold comprises an outer shell **13** and an inner section **14**. It will be understood that the parts of the mold are separated sufficiently to receive the reinforcement with the desired number of spacers attached thereto in order to position the reinforcement prior to the pouring of the pipe itself.

The operation of my spacer is as follows:

Assuming that it is desired to attach a spacer to the reinforcement and to space the reinforcement two inches from the outer part of the mold, the spacer **1** is bent at **4** so that the distance as illustrated in FIG. 3 between the vertical member **11** of the reinforcement and the apex of the outer side of the spacer is two inches.

The spacer is then, of course, applied to the horizontal member **12** and the fingers **5** and **6** bent to engage this member.

The spacer is then pushed back against the member **11** until same is engaged by the cut-out section **10** of end **3** and the fingers **7** and **8** bent to engage the lower member **12** as shown in FIG. 3.

As many spacers as are desired are affixed to the reinforcement either as outlined above or, of course, the bottom section may be first applied in the manner outlined above and then the section **2** with its fingers engaged with the upper horizontal member of the reinforcement.

It is feasible in certain instances to use my spacer without bending the fingers as illustrated in FIG. 3.

They may be left straight and the resiliency built into a bent spacer so that the resilient action of the spacer will force the cut-out sections **9** and **10** into substantial engagement with the vertical **11**. Since said fingers are opposed, this modification will also have the benefits, such as resistance against twisting, and security against dislodgment, of the first embodiment herein described in which the fingers are normally bent over the elements **12**.

It will be seen that I have invented a spacer which resists twisting and which will more firmly engage the reinforcement when pressure is applied against the bent intermediate section **4**, as by the mold wall **13**, as this will serve only to cause the element **11** to be more firmly engaged by the cut-out sections **9** and **10**.

If it is desired to use spacers having a substantial resiliency, they can be attached to the reinforcement by the fingers which can be pre-bent as in such case it would be necessary only to position the spacer at one end either upper or lower against the member **11** and in engagement with the element **12** and then spring the unattached end into the position shown in FIG. 3.

It is obvious that this spacer could be applied in the horizontal as well as the vertical position and, perhaps, in positions intermediate these two if the situation so required.

It is also to be understood that in manufacturing the spacer, the amount of space desired between the reinforcement and the mold may be built into the bend of the intermediate portion of the spacer.

Further, the specifications for the job which include the size of the reinforcement will also determine the proper length for the spacer.

Since it is evident that various changes may be made in the construction form an arrangement of the several parts without departing from the spirit and scope of my invention, I do not intend to be limited to the specific embodiment herein shown and described except as set forth in the appended claims.

What I claim is:

1. The combination with a reinforcement having vertical and horizontal components and a mold of a unitary snap-on spacer comprising a resilient distortable bend body portion, its flat ends, and means for securing the body to the reinforcement, said means including cut-out sections in each end of the body, spaced curved elements encompassing said cut-out sections and a plurality of horizontal and vertical reinforcement components engaged, respectively, by said spaced elements and cut-out sections and biased thereagainst by said body for holding the body to the reinforcement to position the latter in the mold when it is placed therein.

2. A snap-on spacer for reinforcements in combination with a reinforcement having horizontal and vertical components comprising a flat bendable laterally bend resilient body portion, cut-out end sections thereof, said sections being wider than said body portion and a plurality of spaced outwardly curved members extending from each end section and bent in the opposite direction from the bend in the body portion and vertical components on the reinforcement engaged at said cut-out and by and between said curved members and biased thereagainst, the spacer being held thereon in predetermined position, said curved members engaging horizontal components and said reinforcement each side of each vertical component.

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