

1,394,255.

Patented Oct. 18, 1921.

Fig. 1

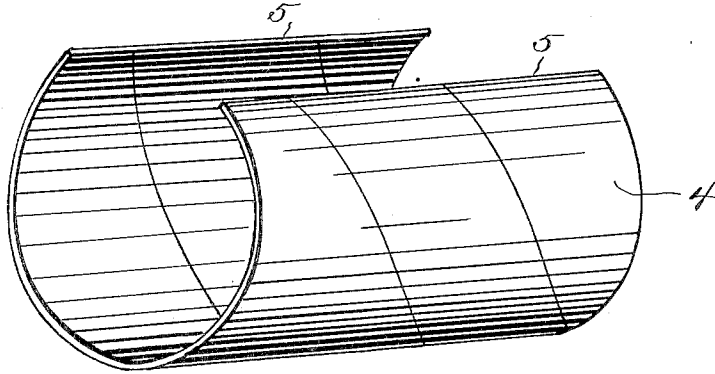


Fig. 2

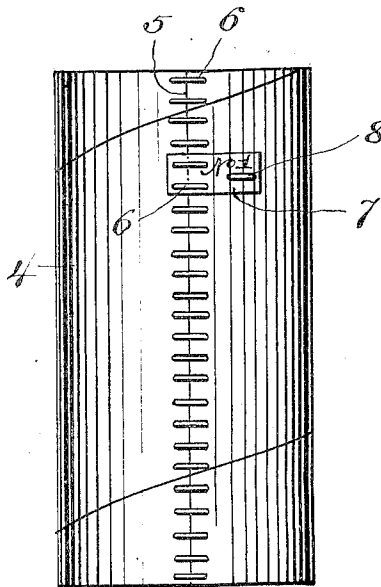
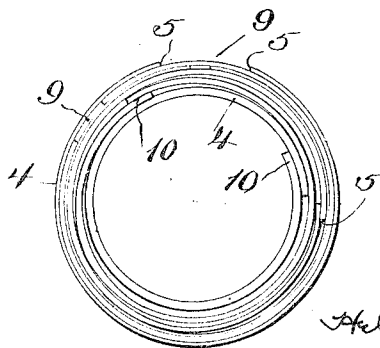


Fig. 3



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TESTING-MOLD.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HELEN M. DAVIS, a citizen of the United States of America, and a resident of Washington, in the District of Columbia, United States of America, have invented certain new and useful Improvements in Testing-Molds; and I do hereby 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 letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to molds for concrete and especially for molds of a temporary character, in which to cast standard shapes preferably cylindrical for the purpose of testing of concrete and cement mixtures.

These molds are of standard dimensions, to produce a casting as accurately as possible, conforming to the requirements of the testing machine, in which the cast shapes are to be tested. Heretofore these molds were made of metal, over size in diameter, longitudinally slit and compressed by clamps to close the slit and bring the mold to standard section. After casting the clamps are released, the natural spring of the metal opening the mold and releasing it from the casting to permit it to be withdrawn. These molds are heavy and difficult to handle on account of their weight and few of them can be conveniently carried on a single job, such as roadways, bridges, whose concrete mixture or aggregates were to be subjected to tests.

Unslit pasteboard molds have heretofore been tried. These are readily damaged, extremely bulky, requiring excessive storage space, and not being water proof under the existing conditions, absorb moisture from the concrete and therefore give improper results, besides, they will stick to the casting after it has set.

I overcome these difficulties by making the molds of thick paper, cardboard or the like, heavily coated with a water proofing substance such as paraffin, asphalt varnish, tar, casein glue and similar water proofing substances, not decomposable by the lime or basic constituents of the cement. The coating must have a smooth glossy surface to be

presented to the concrete. The coating not only penetrates the card board or paper but also stands on top of the surface in a continuous even smooth layer.

The impregnated paper or cardboard customarily has a dull or matt surface which will not withstand the hydrostatic pressure and absorbs moisture from the wet mass, or allow water to leak through, robbing the casting of moisture and rendering the test inaccurate. In order to prevent this when using paraffins, the coating should be done at temperatures near the melting point of the paraffins rather than near the boiling point so that when the mold is finished there will be a good glossy coating of paraffin standing on the whole interior surface, on the top and bottom edges as well as on the edges of the longitudinal slit. The same is true of other impregnating substances.

Such a surface has the further advantage of enabling the mold to be easily stripped or torn off of the casting leaving a true and accurate shape.

I make these tubular molds with straight sides and symmetrical cross sections, preferably but not necessarily cylinders, the customary size being six inches in diameter and twelve inches high, the smaller size, such as four by eight inches being less in demand.

The cylinders of heavy paper or cardboard, two or three ply, spirally wound or not are slit longitudinally and coated after they are slit, so that the edges of the slit become well coated and will not absorb water. This will produce edges sufficiently plastic by reason of the coating thereon to make a joint water tight for most mixtures. The object of slitting the cylindrical or other symmetrical tubular shapes is to permit them to be nested and shipped or carried nested. From ten to twenty can be nested and carried in a single package. The user connects or laces the edges of the longitudinal slit, on the job to form a butt joint by stapling the edges together by any suitable wire or sheet metal staples such as are commonly used for fastening paper together. The staples are set a half inch apart more or less. This will be sufficient for most cement and concrete mixtures. But in case a very thin mix is to be cast for testing purposes it is well to coat the joint with paraffin or other water proofing substance. This can readily be done with a paraffin

candle by allowing the drippings therefrom to run over the joint.

In using the mold on the job, a thin layer of neat cement, about a quarter of an inch thick, is placed on a sheet of glass or sheet iron and the laced mold set in this. Then the cement mix or concrete to be tested is placed in the mold until about three-quarters of the mold is filled when a stick or wire rod is used to tamp it and eliminate any trapped air. The mold is then filled to the top, struck off with a trowel, and a layer of neat cement placed on the top of the casting and struck off. The test casting is allowed to set the desired length of time, when the mold is torn off or stripped leaving a true cylinder, or other regular shape ready for testing. The mold also forms a protection for the casting during shipment. Referring to the drawing in which like parts are similarly designated, Figure 1 is a perspective view of a blank made of spirally wound tube longitudinally slit, and of a standard size. Fig. 2 is an elevation of the mold after lacing, and Fig. 3 shows several nested mold blanks.

The slit cylindrical mold blank 4 has its edges 5 brought together in a butt joint and laced by staples 6, the staples extending across the abutting edges 5. During this lacing one end of a label 7 is laced in place partly by means of staples 6 joining the abutting edges 5 of the mold, and partly by one or more additional staples 8 to hold the label against the mold and prevent it from being torn off. On this label is placed any designation, indicating the particular sample.

In nesting the blanks 4 the outermost blanks are somewhat spread apart, as indicated at 9 while the inner blanks have their edges overlapping as illustrated at 10.

When nested for shipment twenty five cylinders make only slightly more bulk than an ordinary steel mold, such as is used in laboratory work, and weigh only about half as much as a single steel mold. The bulk of twenty-five of these molds is less than one twentieth the bulk or space required for carrying unslitted paste board molds.

I claim—

1. A testing mold blank for cement and concrete mixes comprising a longitudinally slit paper or pasteboard tubular mold uniform and symmetrical throughout its length and coated with a water proofing substance, whereby a plurality of such molds may be nested.

2. A testing mold for cement and concrete mixes comprising a longitudinally slit paper or pasteboard tube, coated with a water proofing substance, and staple connections connecting the abutting edges of the slit mold to form a butt joint.

3. A testing mold for cement and concrete mixes, comprising a longitudinally slit paper or pasteboard tube, a water proofing coating thereon forming a glossy surface over the body and edges of the mold and staples connecting the abutting edges along the slit.

4. A testing mold for cement and concrete mixes, comprising a longitudinally slit spiral pasteboard tube, a water-proofing coating covering the edges and body of said tube and standing on the surface thereof, and wire staples connecting the abutting edges of the slit.

5. A cylindrical longitudinally slit spirally wound multi-ply pasteboard tubular mold, having a coating of waterproofing substance standing on its surface and edges.

6. A cylindrical, longitudinally slit spirally wound multi-ply pasteboard tubular mold having a coating of water proofing substance standing on its surface and edges, and the edges stapled together to form a butt joint and a label stapled to said mold.

7. A cylindrical, longitudinally slit spirally wound multi-ply pasteboard tubular mold having a coating of waterproofing substance standing on its surface and edges and the edges stapled together to form a butt joint and a label stapled to said mold by the staples lacing the edges of the mold together.

In testimony that I claim the foregoing as my invention, I have signed my name hereto.

HELEN M. DAVIS,