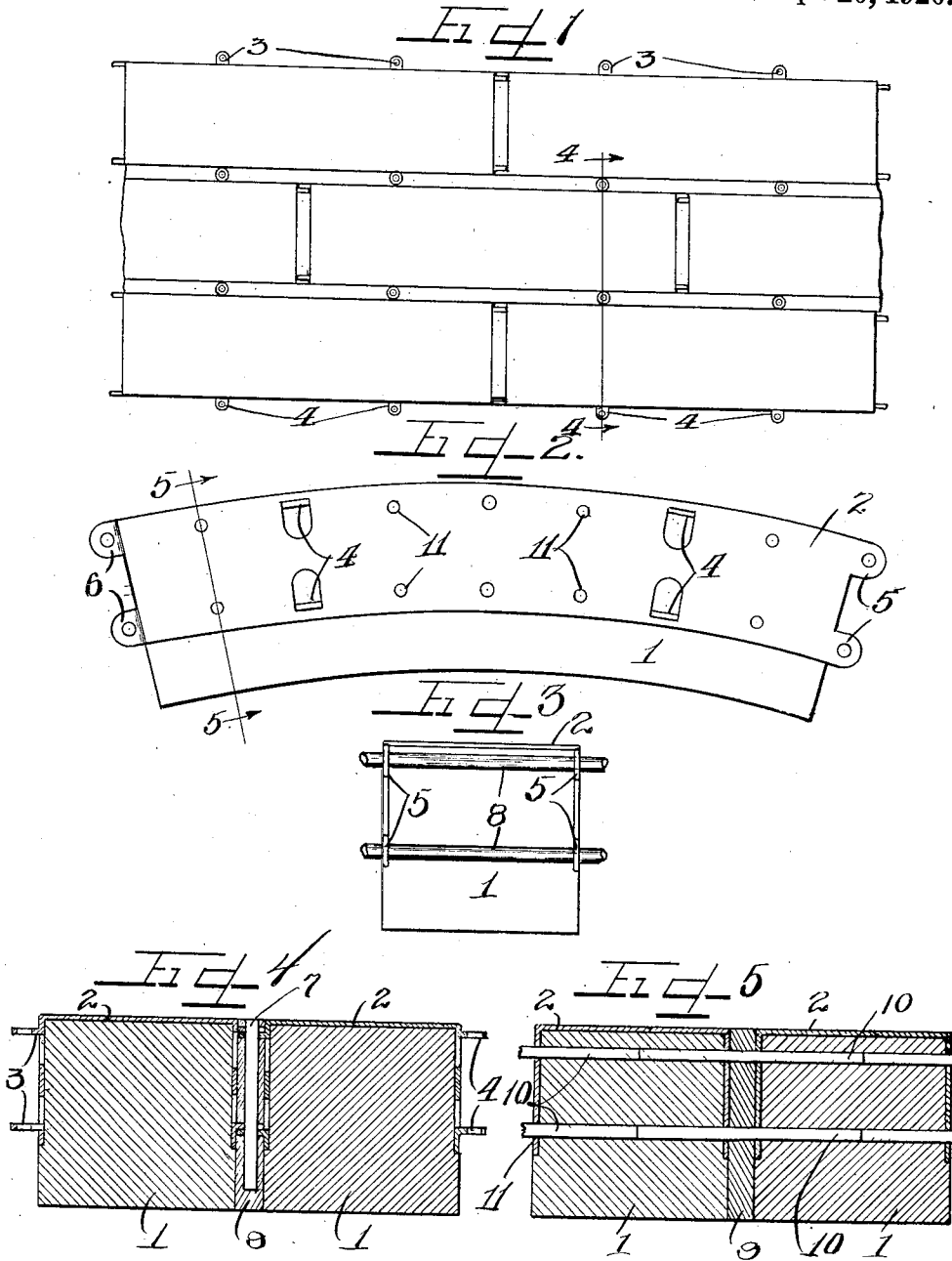


C. G. HASTINGS.
TUNNEL BLOCK.
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1,337,767.

Patented Apr. 20, 1920.



Witnesses

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TUNNEL-BLOCK.

1,337,767.

Specification of Letters Patent.

Patented Apr. 20, 1920.

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To all whom it may concern:

Be it known that I, CORNELIUS G. HASTINGS, a citizen of the United States, and a resident of the city of Glendale, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Tunnel-Blocks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to an improved type of tunnel block of inherently great strength and constructed for ready assembly with other similar blocks so as to receive an interlocking means engaged through and between the built-up blocks to afford an exceedingly rigid and accurately alined structure.

It is an object therefore of this invention to provide a block of peculiar construction wherein the reinforcing means utilized co-act with interlocking means engaged therewith during erection of the blocks in built up relation.

It is also an object of this invention to construct a block consisting of a metal shell formed around three sides thereof and provided with suitable means for registration with other similar means on blocks laid adjacent thereto to receive interlocking devices engaged therewith to retain the blocks in built up relation and reinforce the structure as a whole.

It is furthermore an important object of this invention to construct a block consisting of concrete molded into a metal shell and said metal shell provided with mechanism to receive means engaged therewith to lock a number of said blocks together in built-up relation, and thereafter to receive concrete or the like molded therearound to afford substantially a unitary structure.

It is finally an object of this invention to construct an improved type of metal clad building block provided with metallic devices to receive interlocking means engaged therewith to retain and reinforce the blocks in built up relation.

The invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

In the drawings:

Figure 1 is a fragmentary exterior view of a portion of a tunnel built up of blocks constructed according to the principles of my invention.

Fig. 2 is a side view of one of the blocks.

Fig. 3 is an end view thereof.

Fig. 4 is a detail section taken on line 4—4 of Fig. 1.

Fig. 5 is a detail view taken on line 5—5 of Fig. 2.

As shown in the drawings:

The concrete of which each of the blocks is constructed is denoted as a whole by the reference numeral 1, and as shown, fitted around the side and exterior surfaces of each of the blocks is a channel shaped metal shell 2, having apertured tongues 3, of metal struck outwardly therefrom at one side thereof, and with other similar tongues of metal 4, slightly offset with respect to said first mentioned tongues struck outwardly from the other side of said shell. At the ends of each of the blocks, apertured ears 5, are formed as extensions of the shell 2, projecting beyond the end surface of the concrete 1, and at the other end of the blocks similar apertured ears 6, are provided, the latter of which, however, are bent inwardly adapted to interfit between the ears 5, on another block laid in built up relation therewith. Adjacent rows of blocks laid in built up relation are adapted to receive radially disposed interlocking rods 7, therethrough, whereas the ears 5 and 6, at the ends of the blocks are adapted to receive horizontally or transversely directed interlocking rods 8, inserted therethrough.

When the blocks are laid in built up relation, such as shown in Figs. 1, 4, and 5, after the interlocking rods 7 and 8, respectively have been inserted in place, a filling of concrete or grouting 9, is poured therearound, filling the interstices between the blocks. Additional alining and supporting rods 10, are also provided, such as shown in Fig. 5, which extend transversely through the blocks through a series of apertures 11, provided in the metallic shell and through passages registering with said apertures, formed in the concrete portion of each of the blocks. As clearly shown in Fig. 5, said rods 10, are inserted into place so that the abutting ends thereof are positioned sub-

stantially on the interior of each block, so that a portion of the rod 10, projects beyond and into the block next adjacent. After a row of blocks is laid up in position, the positioning of another row of blocks is facilitated by the projecting rods 10.

I am aware that various details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

1. In a tube construction the combination of a plurality of previously prepared masonry blocks, a flanged reinforcing member combined with each block, a plurality of pivot lugs on the flange member at each end of the block, for pivotally connecting the ends of adjoining blocks in spaced relation, and means on the reinforcing member at each side of the block for connecting the sides of the block with the sides of adjoining blocks in spaced relation.

2. In a tube construction the combination of a plurality of masonry blocks adapted to be mounted in adjoining circular rows to form the wall of the tube, a casing on the outer and side walls of each block, lugs at each end of the side walls of the casing for

connecting the adjoining ends of the blocks, lugs on each side wall of the casing for connecting the adjoining rows of blocks, and a plurality of rods adapted to be inserted through the side walls of the casing and into the masonry blocks of the adjoining rows for holding said adjoining rows of blocks in alinement.

3. A prepared building block comprising a masonry block, a metallic casing covering the sides and ends of the block throughout a portion only of their area thereby leaving masonry surfaces for contact with cementitious material, and lugs carried by the casing for securing the block to similar blocks.

4. A prepared building block comprising a masonry block, a metallic casing covering the top and the upper half only of the sides and ends of the block thereby leaving masonry surfaces for contact with cementitious materials, and lugs carried by the casing for securing the block to similar blocks.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

CORNELIUS G. HASTINGS.

Witnesses:

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