

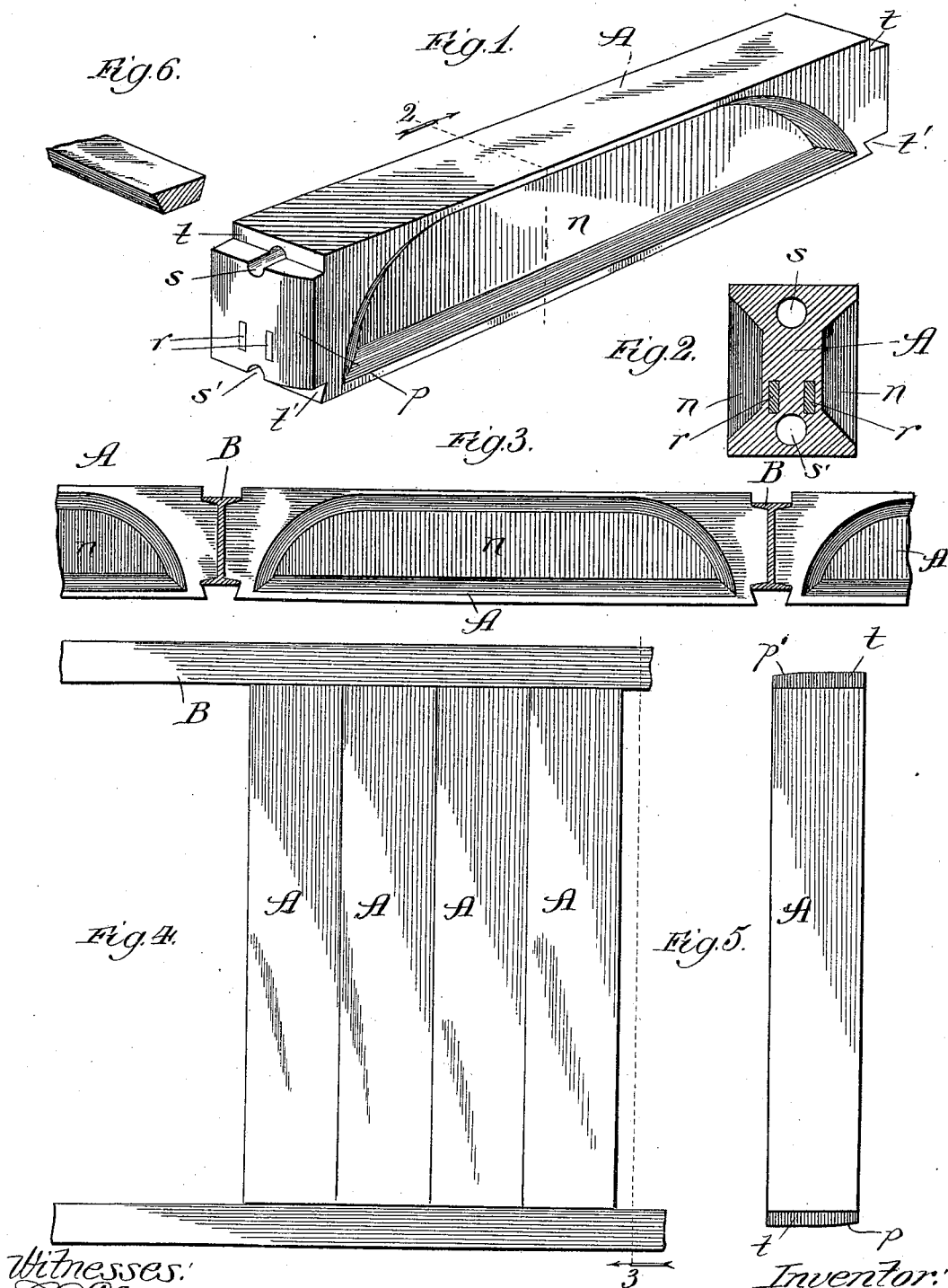
No. 645,673.

Patented Mar. 20, 1900.

J. B. SEAGER.  
BUILDING TILE.

(Application filed Aug. 9, 1898. Renewed Jan. 29, 1900.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JAMES B. SEAGER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MACKOLITE  
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## BUILDING-TILE.

SPECIFICATION forming part of Letters Patent No. 645,673, dated March 20, 1900.

Original application filed January 15, 1898, Serial No. 666,824. Divided and this application filed August 9, 1898, Serial No. 688,146. Renewed January 29, 1900. Serial No. 3,232. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. SEAGER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Building-Tiles, of which the following is a specification.

My invention relates to an improved building-tile for use more especially in the floors of steel-constructed buildings, the present application being a division of application Serial No. 666,824, filed by me on the 15th day of January, 1898, for an improvement in machines for manufacturing tiles.

My primary object is to provide a tile possessing a determinate structure by which a uniformity in the product is secured and possessing also the attributes of lightness and great strength and capable of being cheaply manufactured. My further object is to provide a tile reaching from I-beam to I-beam and capable of being introduced readily between the I-beams after the latter are fixed in place.

In the drawings, Figure 1 is a view in front perspective of my improved tile; Fig. 2, a transverse section taken on line 2 of Fig. 1; Figs. 3 and 4, conventional views showing the manner in which the tiles are supported by the I-beams of a building, the section shown in Fig. 3 being taken, as indicated, at line 3 of Fig. 4; Fig. 5, a top plan view of a single tile; and Fig. 6 a broken perspective view of one of the wedge-like blocks or strips of gypsum used in completing the incasement of the I-beam at its base, as will be understood from a view of Fig. 3.

A is the finished tile supplied in the course of manufacture with upper and lower end grooves  $t$  and  $t'$ , respectively, to accommodate the I-beam flanges, upper and lower longitudinal perforations  $s$  and  $s'$ , respectively, located centrally of the width of the tile, longitudinally-extending laths  $r$ , slightly above and flanking the perforation  $s'$ , rounded vertical edges  $p$  and  $p'$  at two diagonally-opposite corners of the tile, and channels  $n$ , giving to the tile the approximate I-beam cross-section shown in Fig.

2 and the elongated arched recess appearance shown in Fig. 3.

The purpose of the perforations is to lighten the tile, that of the laths to strengthen and toughen it, especially for handling purposes, and that of the diagonally-opposite rounded corners to permit the tile to be slipped into place between the fixed I-beams of the building. The proper conformation of the tile end is substantially that of a plane surface perpendicular to the axis of the tile blending with a cylindrical surface whose axis is a line perpendicular to the top surface of the tile and intersecting the longitudinal axis of the tile at its center.

The tile preferably is composed of gypsum, being made from measured quantities of water, calcined gypsum, and such other chemicals in small proportion as it may be desirable to use, all thoroughly mixed together.

Figs. 3 and 4 show the manner in which the tiles are supported by the I-beams B of a building. The I-beams are in turn supported in any usual manner at a distance apart of from four to six feet, which distances about mark the limits in length of the tiles in practical construction. The mode of inserting the tiles, as will be readily understood, is to place the tile at such an angle as to bring the rounded corners into contact with the webs of the beams, after which the tile may be shifted to extend directly crosswise of the beam.

So far as I am aware, it has not been possible previous to the present invention to produce a tile having as its principal base plaster-of-paris of sufficient length to render it practicable to have the tiles reach from I-beam to I-beam. I am aware that a tile has been produced in which this construction has been employed involving an arched form and not having the plane top and bottom surfaces of the present improved tile. To the best of my knowledge the greatest length of tile for floor construction which it has been possible to attain with a tile of the description mentioned is twenty-four inches, while with my improved product I readily attain a length

of from four to six feet. Moreover, the arched form of tile mentioned is open to the objection that it leaves the floor uneven and makes it necessary to fill in with cinders or the like to even the floor up, which is very objectionable.

It will be readily understood that with a construction involving the use of tiles which reach from I-beam to I-beam the difficulty which has heretofore been experienced of a lateral thrust upon the I-beams incident to the arched formation where a number of tiles are used in the arch is largely, if not entirely, obviated. The great increase in the length thus attained in a gypsum tile is attributable in a large degree to the I-beam formation, and those having a knowledge of mechanics will readily understand the advantage of a construction which increases so materially the vertical radius of gyration.

What I claim as new, and desire to secure by Letters Patent, is—

1. A floor-tile A having gypsum as its principal base, of substantially an I-beam cross-

section, the recesses  $n^5$  producing said I-beam cross-section being vaulted or arched longitudinally of the tile, said tile having non-arched upper and lower surfaces or flanges and being provided with end formations conforming to the sides of the steel I-beams of buildings upon the lower flanges of which it is adapted to rest, substantially as and for the purpose set forth.

2. A floor-tile of gypsum or the like extending from I-beam to I-beam and provided with ends conforming to the sides of the I-beams on the lower flanges of which the tile is supported, the ends lying partially in substantially a vertical cylindrical surface affording two diagonally-opposite rounded corners which serve to permit the tile to be introduced between the fixed I-beams at one angle and shifted to their permanent position, substantially as and for the purpose set forth.

JAMES B. SEAGER.

In presence of—

R. T. SPENCER,  
D. W. LEE.