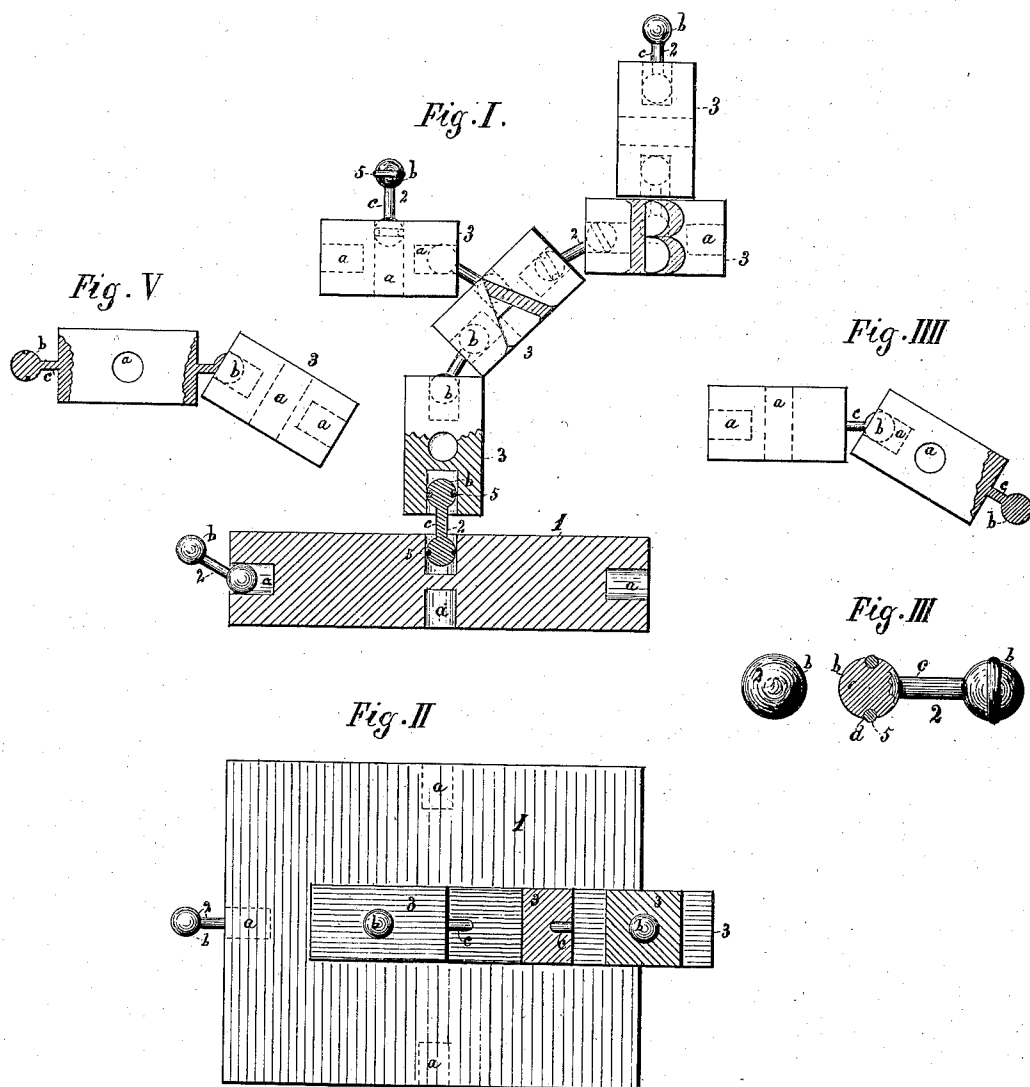


(No Model.)

A. F. C. GARBEN.  
TOY BUILDING BLOCKS.

No. 409,744.

Patented Aug. 27, 1889.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ADOLPH F. C. GARBEN, OF MINNEAPOLIS, MINNESOTA.

## TOY BUILDING-BLOCKS.

SPECIFICATION forming part of Letters Patent No. 409,744, dated August 27, 1889.

Application filed January 21, 1888. Serial No. 261,498. (No model.)

### *To all whom it may concern:*

Be it known that I, ADOLPH F. C. GARBEN, a citizen of the United States, and a resident of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Toy Building-Blocks, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to building-blocks designed for the amusement and instruction of children; and it has for its object to provide a set of building-blocks capable of a great diversity of manipulation, and which shall at the same time have all their parts held together with comparative rigidity.

My invention consists of the construction hereinafter fully described, and particularly pointed out in the claims.

In the drawings, like letters referring to like parts, Figure I is a view, partly in elevation and partly in section, of a set of blocks, showing a few of the various relative positions in which they may be placed. Fig. II is a plan of the same, and Fig. III is a detail showing the coupling-block detached. Figs. IV and V represent modifications.

1 and 3 represent building-blocks of any desired shape and size, preferably rectangular in shape, and may have on their faces any desirable instructive or amusing designs. For example, each block may bear some letter of the alphabet. These several blocks may all be of one size or may be of different sizes. As shown, the block marked 1 is larger than the blocks marked 3, and is used as a foundation when a wide base is required. Each block is provided on its several faces with one or more recesses *a*, which may be of any suitable form, adapted to serve as a seat for one head of the coupling-block 2. This coupling-block consists of a pair of spherical heads *b*, having a rigid connection *c*, and each head is preferably provided with a peripheral groove *d*, constituting a seat for an elastic ring 5. This ring 5, which is preferably made of rubber and round in cross-section, is slightly larger than the groove, and when in position it projects slightly above the periphery of the head *b*. The heads *b* and the recesses *a* are made of the proper size to fit each other loosely, when

the axis of the connecting-shaft *c* is in line with the axis of the recess, but snugly enough to cause the parts to bind slightly when in any other position. The elastic ring 5 serves to give frictional contact in all positions.

The blocks may be used without the packing-ring; but with it a wider range of adjustment is permitted without endangering the entirety of the structure.

The operation and use of the blocks is evident from the description already given.

The sphere-headed coupling-block gives a universal joint between every pair of recessed blocks. The result is that any two recessed blocks may be connected in line on a curve or at any angle, and be held together with sufficient rigidity to make any desired toy structure. For example, a wheel, a house with projecting balconies, a bridge, and a multitude of structures can be made, and when constructed they may be moved about without the blocks falling apart. Containing the alphabet, they may be used like ordinary alphabet-blocks or other designs—such as parts of a picture-puzzle—or sections of a map may be placed on the faces of the recessed blocks, and the coupling-blocks be used to tie the different parts together into the proper position to bring out the desired picture.

In the modifications shown in Fig. IV, each block contains one or more recesses, and is provided with a spherical head for coupling to an adjacent block, and in the modification illustrated in Fig. V one of the pair of co-operating blocks contains spherical heads projecting from its opposite faces and the other contains recesses. These modifications will both work within a limited range of adjustment; but the form shown in Figs. I to III, inclusive, is my preferred construction.

The principle common to all the forms of construction is the ball-and-socket joint or connection for uniting the adjacent blocks.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A set of toy building-blocks consisting of a series of separate blocks detachably connected together by ball-and-socket joints, substantially as described.

2. In toy building-blocks, the combination, with two or more recessed blocks having re-

cesses adapted to receive a spherical head, of a coupling-block consisting of a pair of spherical heads on opposite ends of a common stem, said heads being adapted to fit the recesses in said recessed block, substantially as described.

3. In toy building-blocks, in combination with two or more blocks, as 1 and 3, provided with recesses, as *a*, of a coupling-block 2, con-

sisting of spherical heads *b* on the opposite ends of the stem *c*, and provided with a peripheral groove *d*, and an elastic packing-ring 5, adapted to fit said groove, substantially as described, for the purpose set forth.

ADOLPH F. C. GARBEN.

Witnesses:

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