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BEAM.

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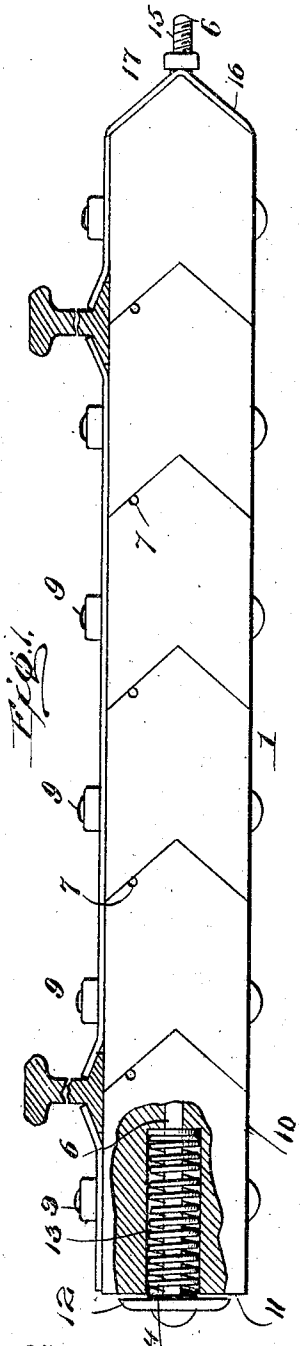


Fig. 1.

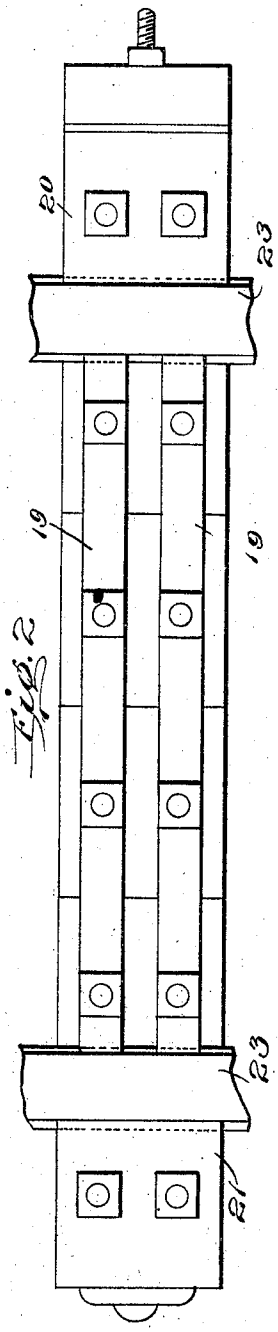


Fig. 2.

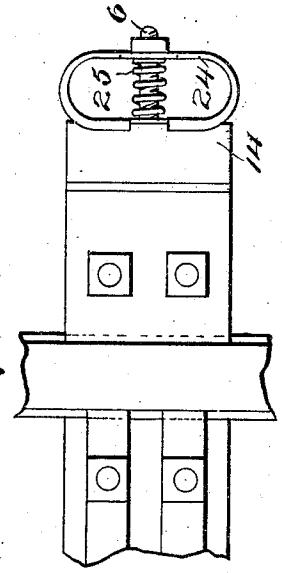


Fig. 4.

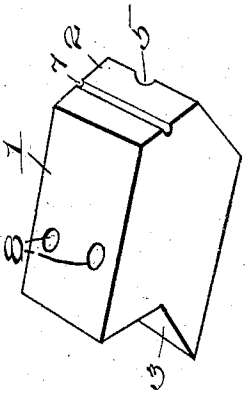


Fig. 3.

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UNITED STATES PATENT OFFICE.

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BEAM.

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Application filed September 12, 1906. Serial No. 334,361.

To all whom it may concern:

Be it known that we, GEORGE B. McLEAN and GREGORY D. McLEAN, citizens of the United States, residing at Elizabeth, county of Jo Daviess, and State of Illinois, and Powersville, county of Putnam, and State of Missouri, respectively, have invented certain new and useful Improvements in Beams; and we 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.

This invention relates to improvements in beams, and particularly to beams that may be varied in length.

The invention comprises the production of a beam of any desired material composed of a plurality of blocks adapted to coincide or fit against each other and means for securing said blocks or sections together.

The invention further comprises the production of a beam that is made up from a plurality of sections and is provided with means for securing the same together and means for allowing the securing means to continuously exert pressure upon the various blocks for holding the same yieldingly yet firmly in operative position.

The object in view is a production of beams that are made from a plurality of sections and adapted to be made of any desired length without in any way injuring the beam.

Another object in view is the production of a beam made from a plurality of sections having ways formed therein for accommodating wires when the said beam is used for a fence-post and provided also with securing means when the said beam is used for a railroad-tie.

With these and other objects in view the invention comprises certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of a beam constructed in accordance with the present invention, certain parts being broken away to disclose cushioning means used in connection with the beam. Fig. 2 is a top plan view of Fig. 1. Fig. 3 is a perspective view of one of the blocks from which the beam depicted in Fig. 1 is made up. Fig. 4 is a top plan view of one end of the beam seen in Figs. 1 and 2 with a slightly-modified form of spring or cushioning means.

The present invention relates to beams of any desired material, but preferably that class made from cement or other like material, and is adapted to be used as fence-posts, railroad-ties, and any other purpose for which beams or pillars are required. In the drawings I have shown simply for the purpose of illustration a railroad-tie; but it will be evident that by removing the rails from the beam it is adapted for any of the purposes for which beams are used.

Referring more particularly to the drawings, 1 indicates a block made from any desired material, but preferably from cements and the like. It will be noted that the same is formed with a V-shaped portion 2 at one end and at the other end with a hollowed-out or V-shaped portion 3, that is adapted to accommodate the V-shaped portion 2 of another block. Passing through block 1, preferably centrally thereof, is a passage or aperture 5, which is adapted to accommodate a securing-rod 6 when a plurality of blocks 1 are assembled, as seen in Fig. 1. Formed in the block 1, preferably on the V-shaped portion 2, is a groove 7, which is adapted to accommodate wires for a wire fence when the beam is used as a fence-post. Formed in the block 1 at right angles to the groove 7 are a plurality of openings 8, which are adapted to accommodate securing-bolts 9 when the beam is to be used for a railroad-tie.

In providing the blocks 1 for forming a beam of any desired length I preferably provide one block, as 10, with a square portion on one end, as 11, so as to give a firm bearing for a washer 12, which through the rod 6 holds the beam together. The end block 10 is preferably made with a hollowed-out portion 13, in which is located a spring 14, which presses one end against the block 10 and the other against the washer 12, and thus holds the various blocks of the beam securely together with a yielding pressure.

As will be evident from Fig. 1, the rod 6 must be made sufficiently long to pass through the beam desired to be made, so as to bind the sections or blocks together. The bar 6 is preferably threaded at one end, as 15,

for accommodating a nut, which rests against a metallic cap 16. The spring 14 may be made of any desired strength, and, taken in connection with the rod 6 and tightening-nut 17, mounted thereon, securely holds the blocks together, but with a yielding pressure, so as to take up any wear from jarring or other causes. When the beam is used for a railroad-tie, suitable fastening-clamps 19 19, 20, and 21 are used to hold the rails 23 and 23 in place. The clamps or fastening means are preferably held in place by bolts 9, as will be clearly seen in Fig. 2.

It will be evident that other fastening means also may be used as well as the particular fastening means above indicated. The spring and hollowed-out arrangement shown in connection with the block 10 is the preferable construction; but sometimes it is found desirable to use a slightly-modified form, as shown in Fig. 4. In Fig. 4 it will be been that a cushioning means made up from a plurality of springs, as 24 and 25, is employed. Either one of these springs may be used independently or both together, as shown, according to the various requirements as the same may arise. The spring 25, as will be evident, simply rests upon the top or end of the metallic cap and surrounds the bolt 6, while the spring 24 is in the nature of a spring-bar having an opening formed at an intermediate point through which the bolt 6 passes, the ends of the bar being bent laterally into engagement with the cap, so as to have a spring action. It will thus be seen that by tightening or loosening the nut at the end of the bolt the tension of the two springs 24 and 25 can be regulated as desired.

From the use of a plurality of blocks, as 1, a beam of any desired material may be formed of any desired length, and, as will also be evident, the beam may be lengthened or shortened at any time to accomplish any desired end. When the beam is used for a fence-post, any desired type of fence may be made by simply adding or removing any desired number of blocks. In the use of the beam for ties of railways it is very desirable that the beam may be lengthened, so as to be used at the point where switches are located and extra long beams or ties are necessary. By thus producing a beam that may be built up the long beams necessary at the point at which a switch is located is provided for without the necessity of transporting a few extra long beams for use at said points.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A beam comprising a plurality of interchangeable sections, means for securing the same together, and means for cushioning the effect of said securing means.

2. A concrete beam comprising a plurality of interchangeable sections, and cushioning means for securing the same together.

3. A beam comprising a plurality of interchangeable sections formed with ways therein, a bar passing centrally of said sections for securing the same together, and a spring for cushioning the effect of said securing-bar.

4. A concrete beam comprising a plurality of interchangeable sections, a bar passing therethrough for securing the same together, and a cushioning means positioned at the end of said bar for taking up any loose motion between said sections.

5. A beam comprising a plurality of interchangeable sections, means for securing said sections together, means for taking up the lost motion between said sections, and means for adjusting the tension of said lost-motion means.

6. A beam comprising a plurality of sections, means for securing the same together, means for cushioning the effect of said securing means, and means for holding said cushioning means in position.

7. In a beam, the combination of a plurality of interchangeable sections fitting together end to end, each of said sections being provided at one end with a projection, and at the opposite end with a recess adapted to receive the projection upon the adjacent section, and means for connecting the sections together.

8. In a beam, the combination of a plurality of sections, each of which is provided with a bolt-receiving opening, and also with means for engaging a wire, and means for connecting the sections end to end.

9. In a beam, the combination of a plurality of interchangeable sections, each of said sections being formed at one end with a tongue, and at the opposite end with a recess adapted to receive the tongue on the adjacent sections, the said tongues being formed with grooves for the reception of wires, and means for holding the sections together.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE B. McLEAN.

Witnesses:
J. C. McKENZIE,
A. H. WEIR.

In testimony whereof I affix my signature in presence of two witnesses.

GREGORY D. McLEAN.

Witnesses:
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W. E. BRUNER.