(No Model.)

C. DE KALB.

ADJUSTABLE CONNECTION FOR MACHINERY.

No. 487,721. Patented Dec. 13, 1892.

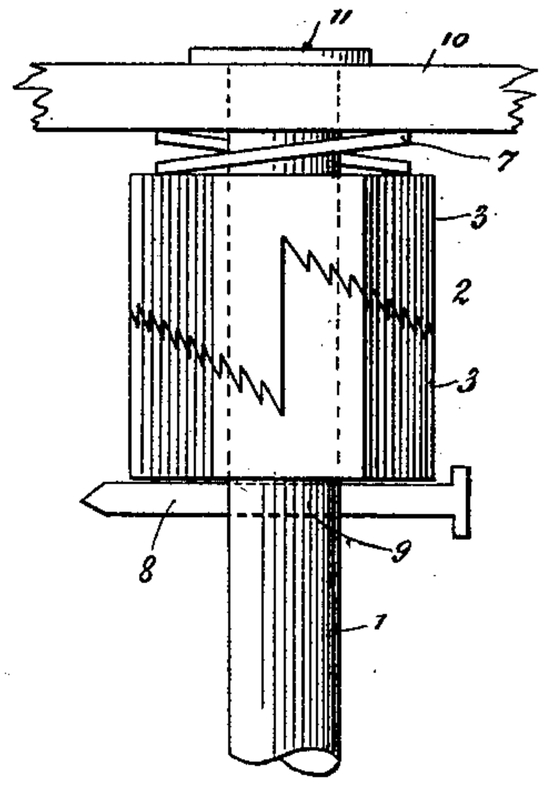

Fig 1

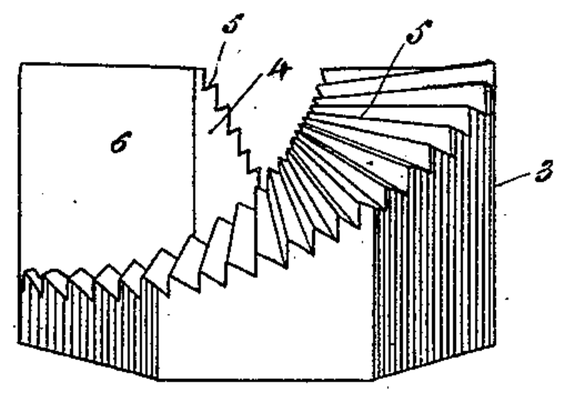

Fig 2.

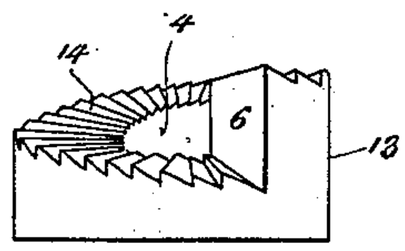

Fig. 3.

WITNESSES:
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UNITED STATES PATENT OFFICE.

COURTENAY DE KALB, OF NEW YORK, N. Y., ASSIGNOR TO SIMON BRENTANO, OF SAME PLACE, AND L. EUGENIE DE KALB, OF BOSTON, MASSACHUSETTS.

ADJUSTABLE CONNECTION FOR MACHINERY.

SPECIFICATION forming part of Letters Patent No. 487,721, dated December 13, 1892.

Application filed November 12, 1889. Serial No. 330,047. (No model.)

To all whom it may concern:

Be it known that I, COURTENAY DE KALB, residing in the city, county, and State of New York, have invented a new and useful Improvement in Adjustable Connecting Devices for Mining-Machines, &c., of which the following is a specification.

This invention relates to adjustable connections or take-ups for connecting parts of machines or structures together, and has for its object to provide an adjustable connecting device of this character which will not only securely hold the parts it connects together and be prevented from becoming loose by jarring, but which will also accommodate itself to the working of the parts which it connects, so as to prevent them from wearing loose.

In the accompanying drawings, Figure 1 illustrates the invention, showing its parts secured in place. Fig. 2 is a detail view of one of the parts of the device. Fig. 3 is a perspective view of a modified form of the detail shown in Fig. 2.

In carrying out this invention I employ an unthreaded bolt 1, a sectional block 2, of hexagonal shape, as shown, or other suitable shape, and composed of the adjustable interlocking sections 3, formed with a cylindrical passage-way 4 for the bolt 1, and with preferably double segmental spiral-shaped and oppositely-serrated interlocking surfaces 5, terminating in elevated ends 6, adapted to abut against each other to limit the locking movement of the sections 3. In conjunction with the bolt 1 and sectional block 2 is employed a metallic elastic washer 7, preferably in the form of a spiral, and when the device is in use located on the bolt between the sectional block 2 and the adjacent portion of the parts of the structure which the adjustable connecting device secures together. The sectional block 2 and the washer 7 are retained on the bolt by any suitable means, secured to the latter in front of block 2—as, for example, by means of a pin 8, passed through a hole 9 in bolt 1. The pin 8 may be secured to bolt 1 by being bent over upon it or otherwise secured thereto.

Instead of employing interlocking-sections 3 with double segmental spiral oppositely-serrated interlocking surfaces 5 sections 13 may be used, each formed with a single spiral oppositely-serrated surface 14, as shown in the modification in Fig. 4.

To show the arrangement of the parts in locked position, the bolt is illustrated as extending through a piece of timber 10, with its head 11 resting against one side of the piece of timber.

In adjusting the parts of the device to locking position the elastic washer 7 having been placed on the bolt 1 next to the side of the timber 10 opposite to that on which the head 11 is located, and the sectional block 2 with its sections together slid onto the bolt 1 next to the washer 7, and the pin 8 secured to bolt 1 in front of block 2, one of said sections 3 is held by a wrench or other suitable means and the other section is turned by means of a wrench, so that the spiral-shaped adjacent surfaces of the sections bearing against each other cause the sections to move endwise on the bolt in opposite directions, the inclined plane of one section sliding on the inclined plane of the opposite. The elastic washer 7 admits of this movement, and being compressed thereby serves to hold the parts firmly in position. This action serves to draw together tightly two parts of a structure, which parts in practice would occupy the position of the timber 10 on the bolt. When the movable section 3 is turned, as above described, sufficiently, the sections 3 will be held in adjusted position by the locking of their serrated surfaces 5. The elastic washer 8 serves both to hold the sections 3 from turning on one another and becoming loose from jarring, and also to afford a yielding bearing for the two parts of the structure held by the bolt when they have a tendency to move apart and become loose from jars and strains. In the case of nuts and bolts there are inclined planes on the nut and bolt called "threads." In this device the inclined planes are transferred to the adjustable locking-sections 3, giving the same action in co-operation with the pin, bolt, and washer.

This invention is especially adapted to mining machinery where there is great jar and

strain, such as in ore-crushers, serving at the same time to prevent the parts from becoming loose. It may also be used with fish-plates to form railroad-joints.

I claim—

1. In an adjustable connecting device, as herein set forth, a block-section having a perforation for a bolt and a double segmental spiral-shaped serrated surface, substantially as shown and described.

2. An adjustable connecting device, as herein set forth, consisting of an unthreaded bolt, an elastic washer, a block with a bolt-hole movable lengthwise on the bolt and composed of sections formed with spiral interlocking meeting surfaces movable upon each other, whereby they can be adjusted upon each other, and means for retaining the block and washer on the bolt.

3. An adjustable connecting device, as herein set forth, consisting of an unthreaded bolt, an elastic washer, a block with a bolt-hole movable lengthwise on the bolt and composed of sections with double segmental spiral interlocking meeting surfaces, whereby the sections can be adjusted upon each other, and means for retaining the block and washer on the bolt.

In testimony whereof I have hereunto subscribed my name.

COURTENAY DE KALB.

Witnesses:

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EDWARD W. CODY.