

No. 612,489.

Patented Oct. 18, 1898.

J. DEAN.
EXPANSION BOLT FASTENING.

(Application filed June 1, 1897.)

(No Model.)

FIG. 1.

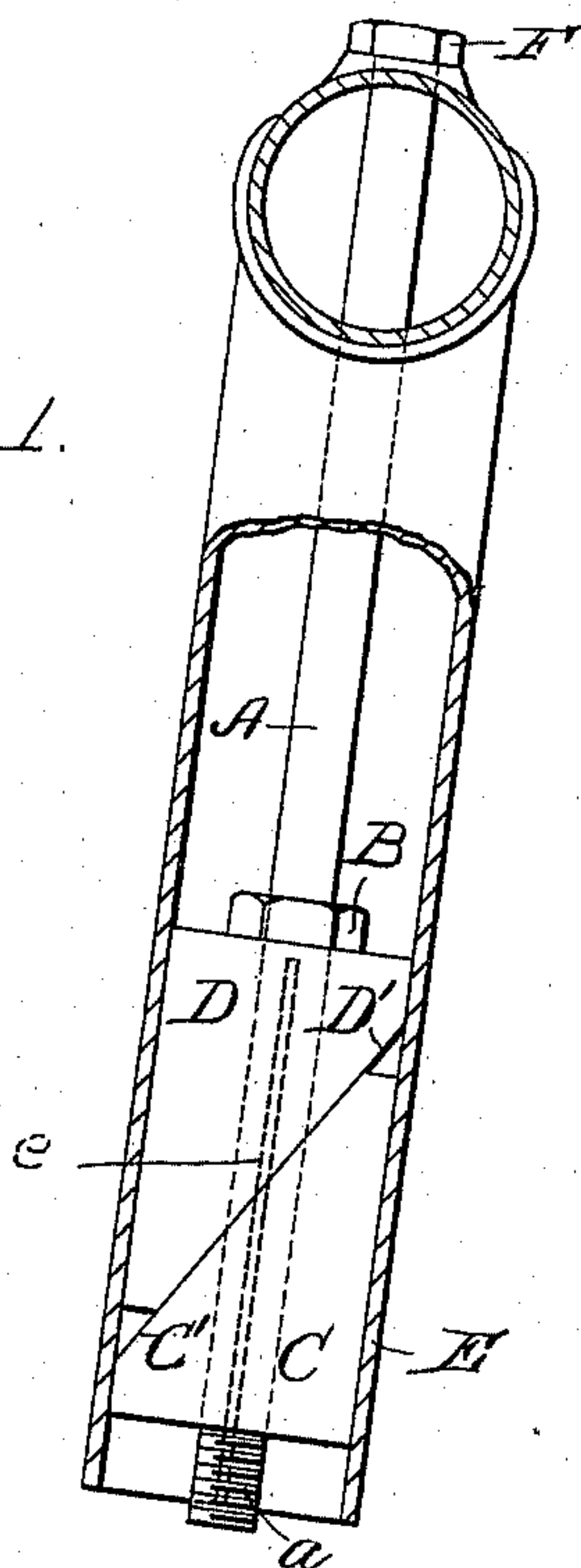


FIG. 2.

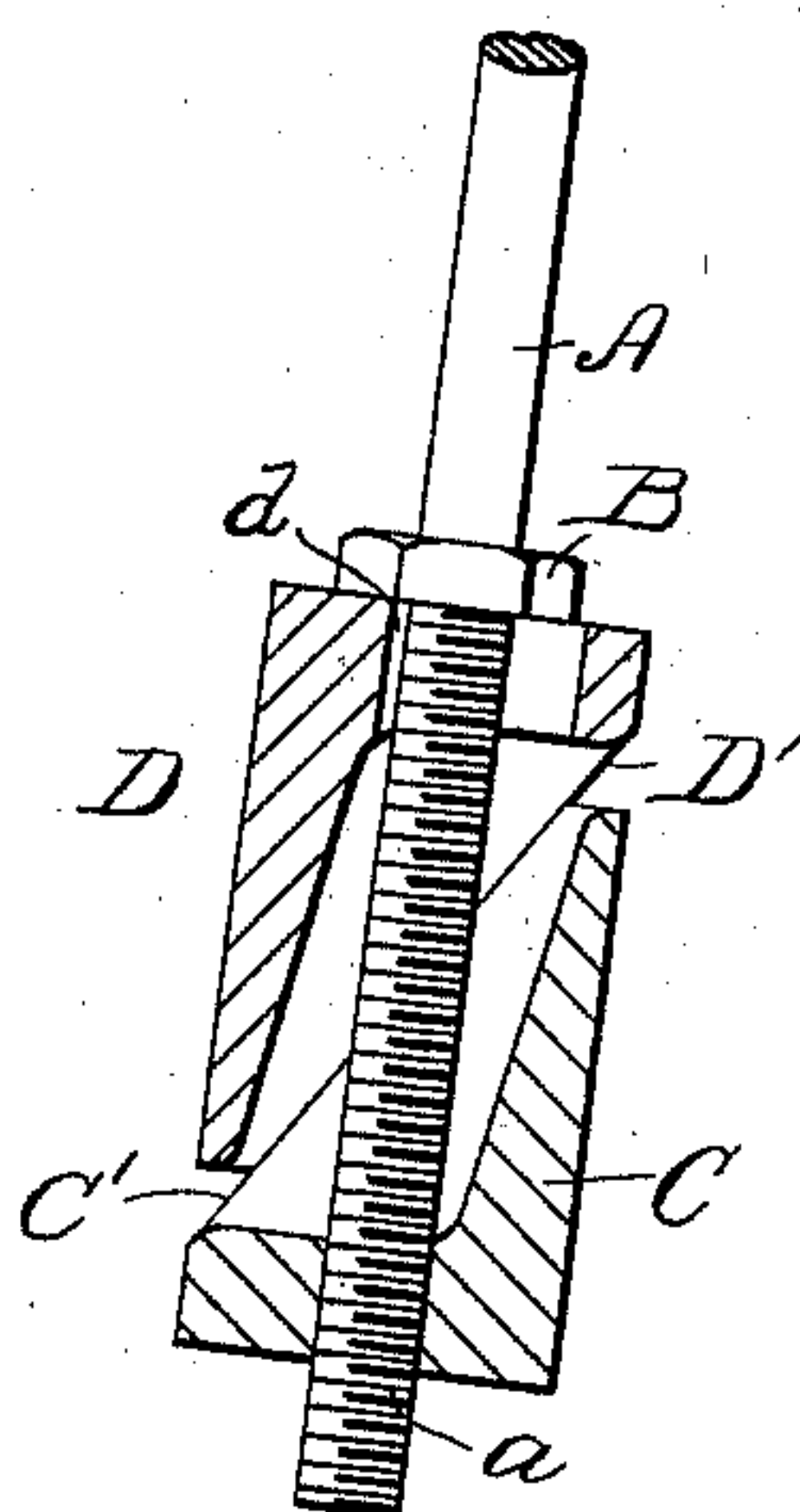
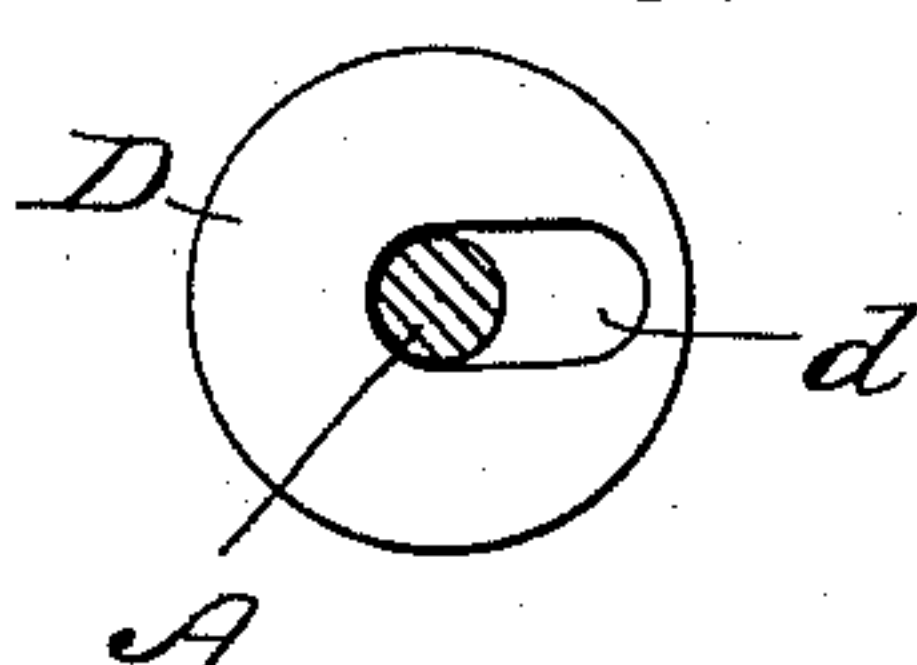


FIG. 3.



WITNESSES.

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EXPANSION-BOLT FASTENING.

SPECIFICATION forming part of Letters Patent No. 612,489, dated October 18, 1898.

Application filed June 1, 1897. Serial No. 638,991. (No model.)

To all whom it may concern:

Be it known that I, JOHN DEAN, a citizen of the United States, residing at Racine, county of Racine, State of Wisconsin, have invented
5 a certain new and useful Improvement in Expansion-Bolt Fastenings; and I 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 pertains to
10 make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to new and useful improvements in the construction of expansion-
15 bolts; and it consists in the matters hereinafter described, and pointed out in the appended claims.

The various features of my invention will be fully described with reference to the accompanying drawings, in which—
20

Figure 1 is a sectional view of a bicycle handle-bar and post and illustrating my improved device as applied thereto. Fig. 2 is a sectional view of the expansion device. Fig.
25 3 is a detail plan view of one of the parts.

In carrying my invention into practice I employ a bolt A, threaded at one end, as at *a*, and provided adjacent to said threaded part with a suitable shoulder or stop B, the particular form of shoulder or stop illustrated in the
30 drawings being a nut screwed onto the threaded end *a* of the bolt A. Two wedge-faced blocks C and D are engaged with the screw-threaded end of the bolt A, as shown in the
35 drawings, the former being threaded onto the end of the bolt and the latter loosely fitted around the same and engaging with the shoulder or stop B, and having an elongated aperture *d* for the passage of the bolt therethrough
40 and arranged to permit of a lateral play of said block upon the bolt.

The two blocks C D are fitted within a suitable expansible ferrule or sleeve, the particular form of construction illustrated in the
45 drawings being a metallic tube E, slotted, as at *e*, to permit of the desired expansion or spread of the lower end of the same.

The upper end of the bolt is provided with a suitable head F or other means for engagement
50 with a wrench or other tool for forcibly turning the bolt. It follows from this construction that by rotation of the bolt A the

block C will be drawn up within the sleeve or ferrule, with its inclined or wedge face C' in contact with the corresponding face D' of
55 the block D, whereby the said block D will be caused to move somewhat in a lateral direction and past the block C, and said blocks will be forcibly crowded against the walls of the ferrule or sleeve, so as to spread the lat-
60 ter to a desired extent.

The particular device illustrated in the drawings is more especially designed for the attachment of bicycle handle-bars to the steering-heads of bicycles, although it is ob-
65 vious that it is equally well adapted for the attachment of seat-posts to bicycle-frames. Furthermore, it will be understood that the ferrule or sleeve may, where the device is applied to uses other than those before men-
70 tioned, be made of any suitable material—such, for instance, as lead, leather, or the like—and that the tubular post E may be dispensed with. In such cases the operation of the device will be precisely the same as
75 before described, the ferrule or sleeve being inserted in a socket and the bolt operated to expand the blocks C and D and the ferrule or sleeve within the socket, and thereby make
80 a secure fastening.

It will be observed that by the peculiar arrangement of the elongated aperture *d* in the block D as the blocks C and D are forcibly
85 drawn together by the action of the bolt A a considerable degree of lateral movement of said block D will be permitted as the inclined or wedge faces of the blocks move past each other, so that the blocks will be brought
90 very forcibly against the inside surfaces of the ferrule or sleeve and the latter will be expanded and held in firm and secure engagement with the outer tube or socket within which it is engaged.

By my improvement I am enabled to provide a very simple, strong, durable, and satisfactory form of expansion-bolt fastening
95 which consists of very few parts and is not liable to disarrangement.

Having thus described my invention, what I claim as new, and desire to secure by Letters
100 Patent, is—

1. A fastening device comprising a suitable bolt threaded at the lower part thereof, a stop adjacent to the upper termination of said

threaded portion, and two wedge-faced blocks, both secured to the threaded part of said bolt, one of said blocks having an elongated aperture whose walls loosely surround said
5 bolt, and the other block having a threaded bore in engagement with the threaded part of said bolt.

2. A fastening device comprising a suitable bolt, threaded at one end and provided with
10 a stop adjacent to said threaded end, two wedge-faced blocks one loose upon said bolt

and capable of lateral movement, and the other screw-threaded thereto and an expandible ferrule or sleeve fitting upon the outside of said blocks.

In testimony whereof I sign this specification in the presence of two witnesses.

JOHN DEAN.

Witnesses:

JOHN E. WILES,
GEORGE DEAN.