

(No Model.)

C. E. PRATT.

VELOCIPÈDE.

No. 318,500.

Patented May 26, 1885.

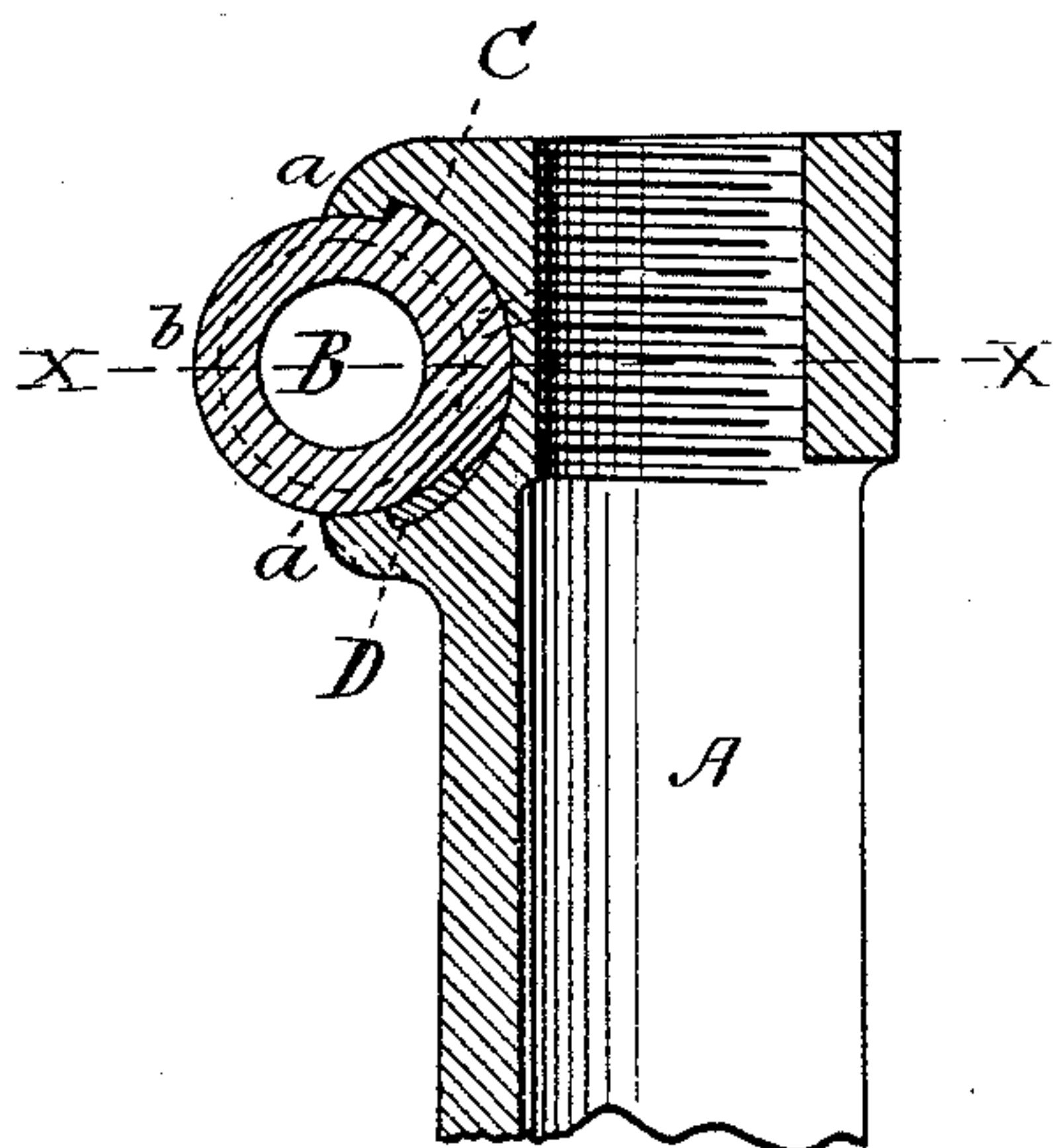


Fig. 1.

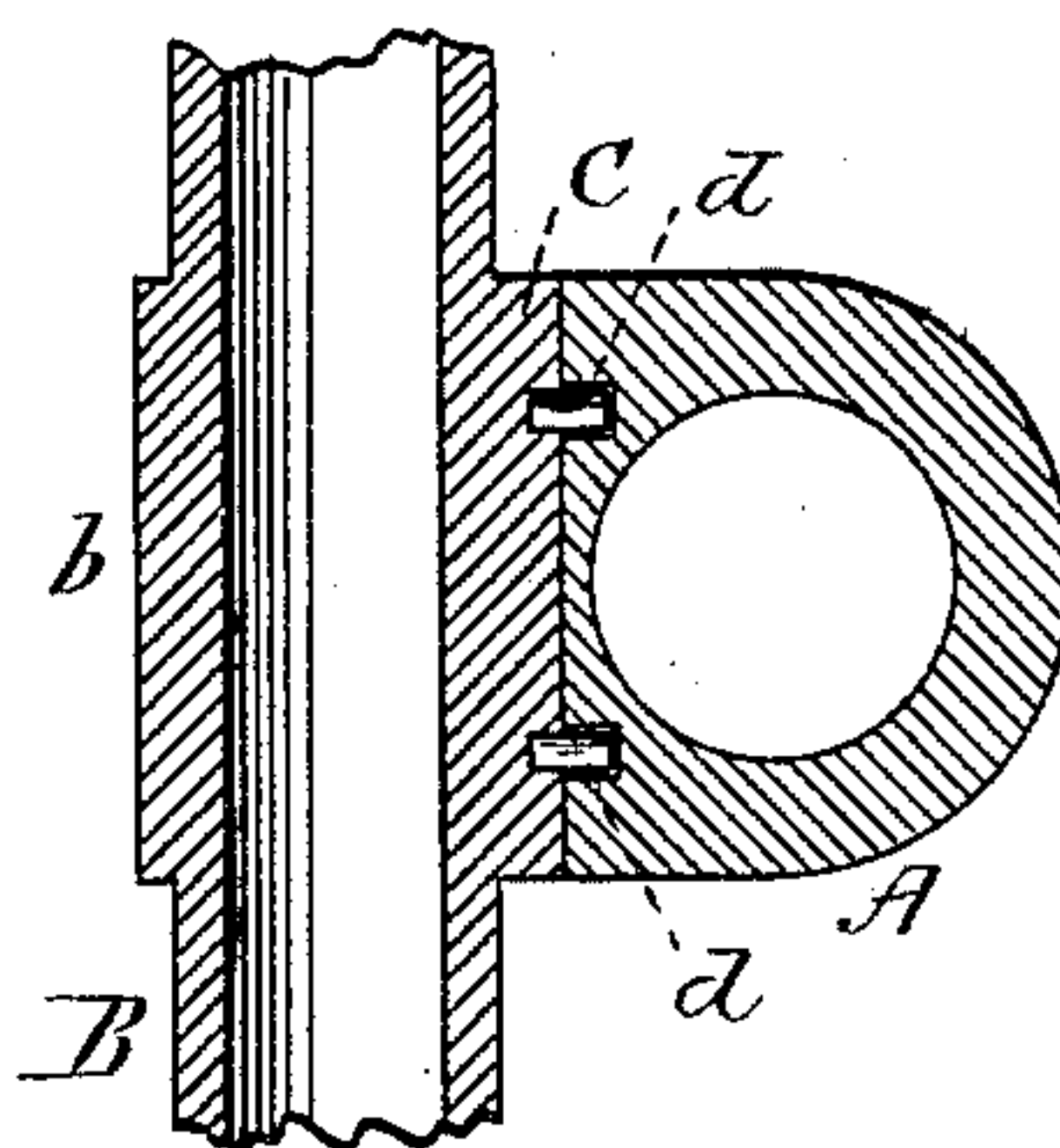


Fig. 2.



Fig. 3.

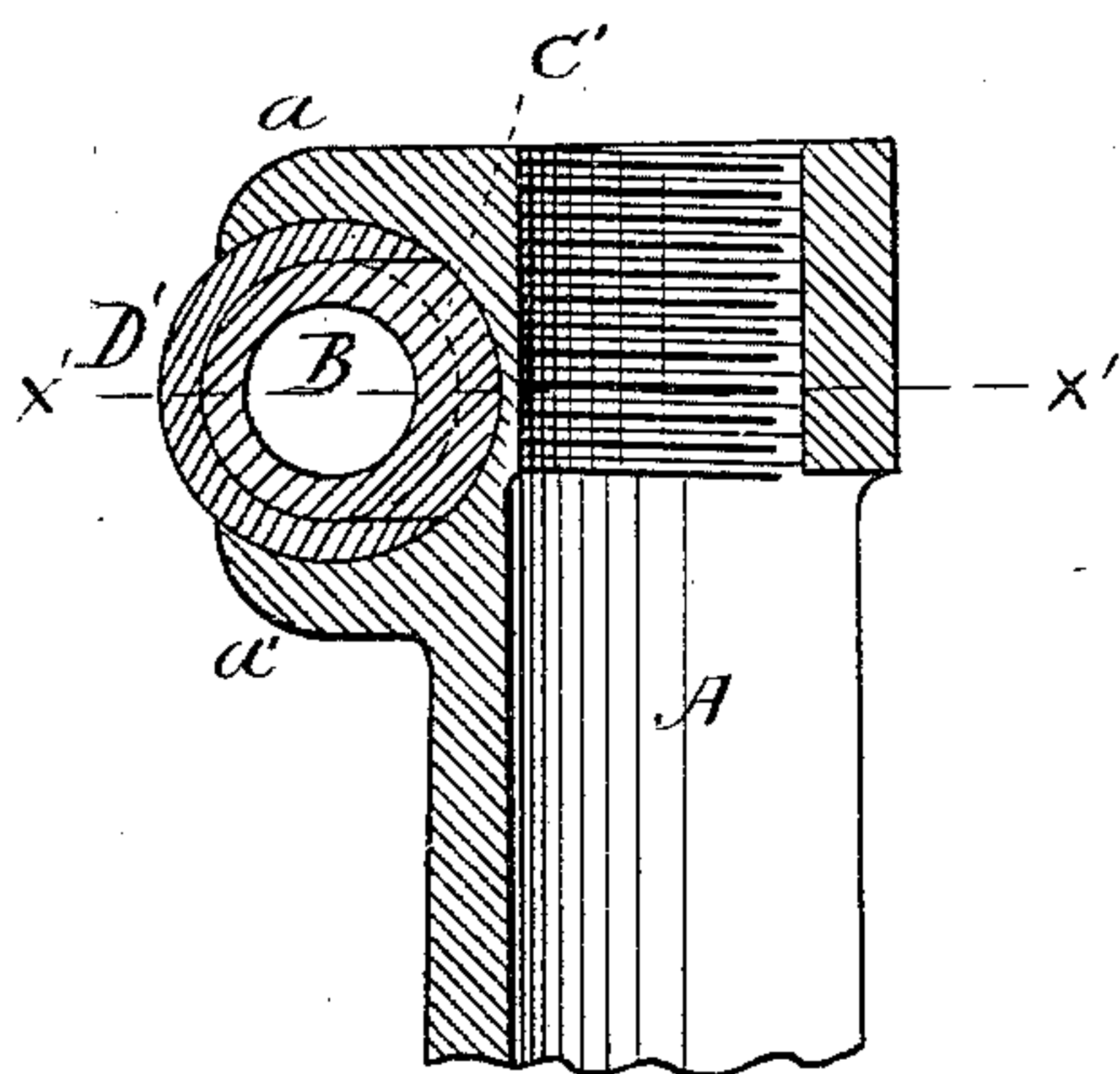


Fig. 4.

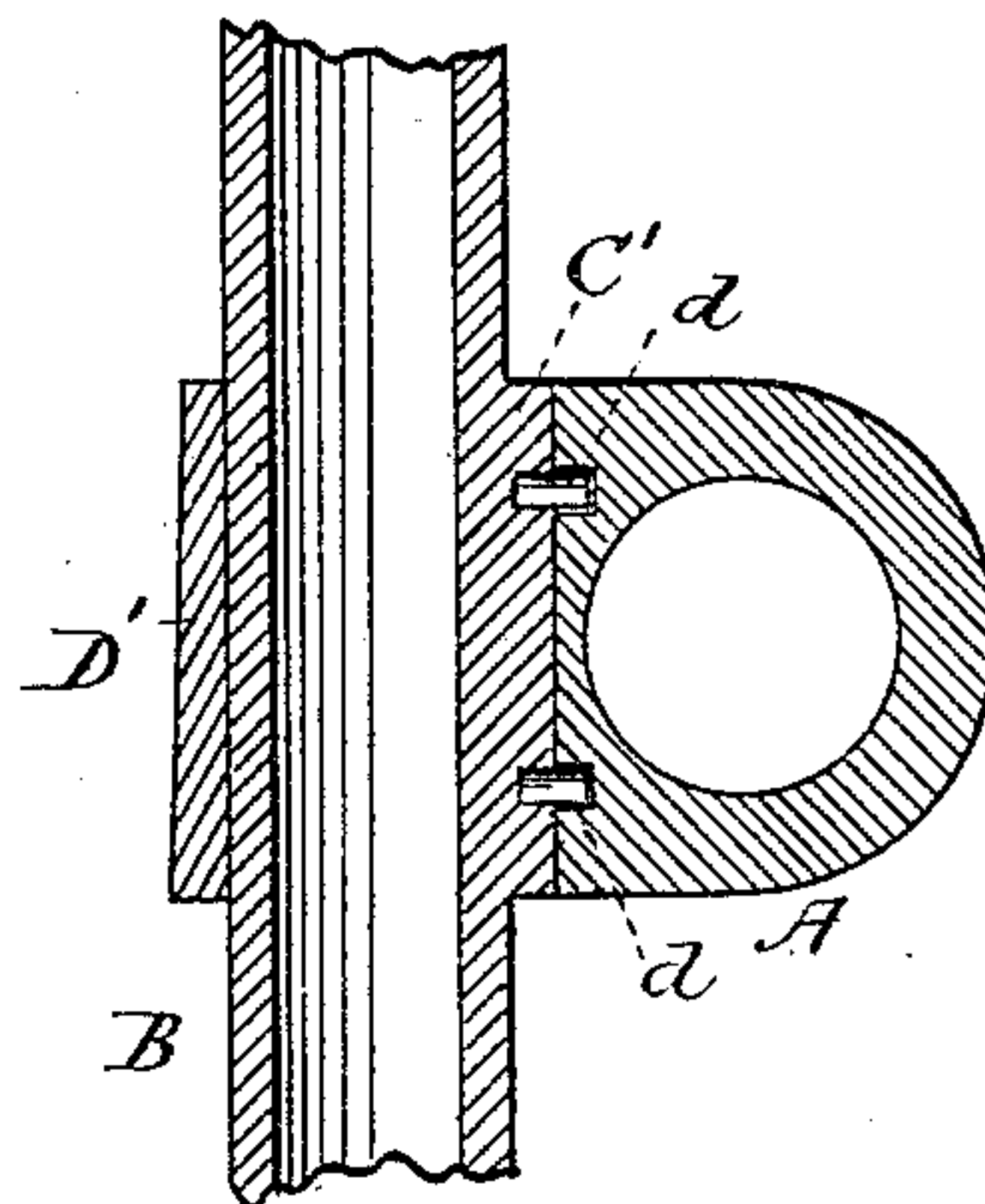


Fig. 5.

WITNESSES

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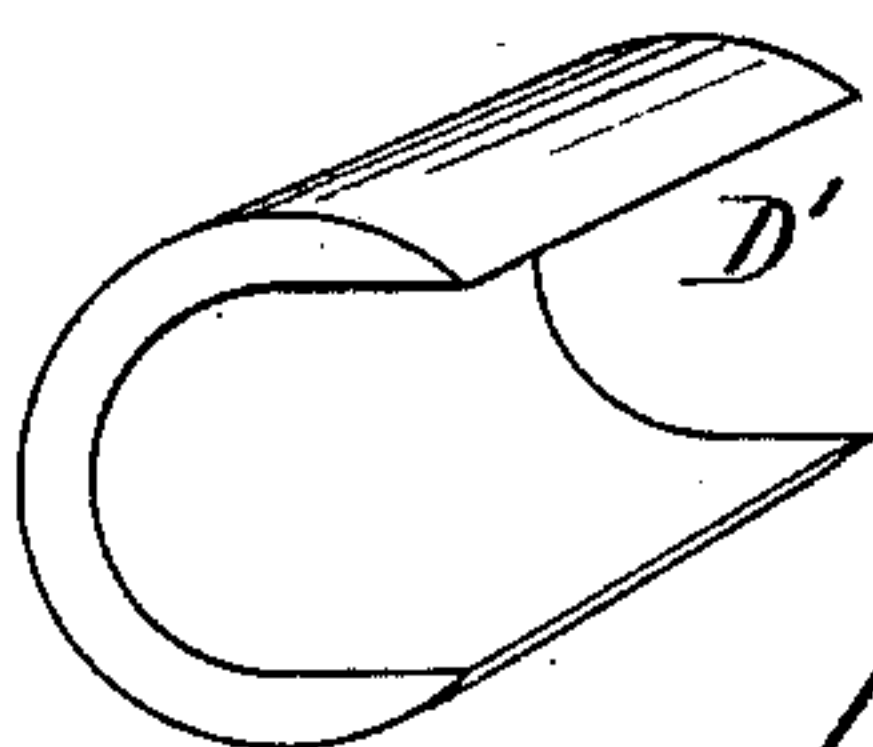


Fig. 6.

INVENTOR

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VELOCIPED.

SPECIFICATION forming part of Letters Patent No. 318,500, dated May 26, 1885.

Application filed February 2, 1885. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. PRATT, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Velocipedes, of which the following is a specification.

I have made my improvements with especial reference to that class of velocipedes known as "bicycles," and to those parts of bicycles known as the "steering mechanism," including the steering-head and handle-bar and means of attaching them together; but they are, as will be obvious, applicable to tricycles and other machines, and in other positions and shapes. Heretofore such bicycle steering-heads have been constructed with lugs in various forms, into and through which continuous handle-bars, or handle-bars in one piece, have been passed and then secured by means of screws or otherwise, or else in which divided handle-bars have been inserted, one end of each part being held in the lug by means of screw-threads, sleeve-nuts, and other devices; but difficulties have existed with these forms, in that the continuous bars became loose, and the divided bars were weakened by the threads, and curved or drop or cow-horn bars, which were continuous or undivided, could not be used without first inserting them in a straight form, and then at much trouble and expense bending them afterward. They could not then be readily removed when desired, and if these curved bars were divided and inserted in the other methods referred to they were open to the objections of want of strength, lack of fixity in position, cumbrousness, unnecessary weight, and expense of attachment, &c. There has also been constructed and used to a limited extent a method of attachment for curved handle-bars by means of an open lug, and nuts working on the bar and on the lug and extending outside of one or both; but this form is also open to certain objections of added weight of material, uncomeliness of structure, and certain difficulties of construction and inconveniences in use.

It is the object of my improvements to avoid the objections of these other forms, and to provide a means of attachment of the bar and head which shall enable the former to be attached to

and detached from the latter readily and to be made in one continuous piece in any desired form or curvature, and to secure what are of prime necessity in a velocipede—lightness, strength, simplicity, and rigidity in parts and attachments, comeliness of structure, and smooth and but little broken exterior surfaces for taking nickel-plate or other finish. The nature of these improvements will be apparent from the following specification, taken in connection with the drawings.

In the drawings, Figure 1 shows in vertical section through the center a bicycle steering-head, handle-bar lugs, handle-bar, and attachments embodying my improvements in one form. Fig. 2 shows a section at right angles to the plane of the section in Fig. 1, and taken on the line *x x*. Fig. 3 shows a part of the locking device. Figs. 4, 5, and 6 show in a similar way similar parts embodying my improvements in a slightly modified but substantially equivalent form.

Similar reference letters indicate similar parts in all the figures.

A is a cylindrical steering-head.

B is a hollow or tubular handle-bar, which may be either straight, drop, cow-horn, or otherwise curved, and which may be solid instead of tubular.

b is an enlargement or sleeve, which may serve to strengthen the bar at the lug and its attachment therein, and while I think it is an improvement to use it, it may be dispensed with and the other parts of the contrivance operated the same.

C is an enlargement or eccentric segment on or attached to sleeve *b* or the bar B.

A *a* are jaws or parts of a handle-bar lug.

D is a key, which may have two curved sides, as shown, or have one side curved or conformed to the surface of the bar or sleeve thereon and the other side straight, and which may be slightly tapered from one end toward the other.

d d are pins or studs on the segment C, or attached to the bar, and which are operated in elongated slots in the steering-head or become part of the lug.

In the devices shown the jaws A A' are formed on their inner surfaces in the circumference of

a circle in their cross-section having a radius equal to the semi-diameter of the bar B, to be inserted between them, and the segment C is on a similar circle having a radius a little greater, and presenting a shoulder at either side, which shoulders are no farther apart in a direct line than are the inner surfaces of the parts *a a'* of the lug, and which shoulders correspond with or fit similar shoulders reversed in the parts *a a'*, as shown in Fig. 1. The studs *d d* are placed at equal distances from the middle point of the handle-bar in the segment C, and extend into corresponding slots or recesses in the steering head or lug, which slots are vertically elongated, so that the bar may be rotated on its axis when the studs are in position, but cannot be moved endwise. These studs also assist in readily placing the bar exactly in position in the lug before securing it. In the form shown in Figs. 1 and 2 the handle-bar is secured in place in the lug by inserting endwise the key D between the segment C and one part *a* or *a'* of the lug, and is driven home, so as to fill the space for which it is fitted and make a firm attachment of the bar in the lug. To detach the bar this key may be easily driven out and the bar removed. If properly fitted, the key holds its place with sufficient security without other aid; but a small screw may be placed in one end of the lug adjacent to the key, if desired, as a check upon it; or a small set-screw may be used underneath the lug.

In the modifications shown in Figs. 4, 5, and 6 the key D' is made in the form of a segment of the sleeve fitting the bar B, and the slot in the lug is cut in a cylindrical form, whose cross-section presents a circle with a radius equal to the diameter of the bar plus the thickness of the key. The extension or segment C' should be fixed to the bar, forming a complement to the key D' when it is in position, the parts *a a'* of the lug in Fig. 4 taking the strain of holding the bar in position, as

before, and being as far apart as the diameter of the bar B, the latter is easily inserted between them.

It is obvious that these devices may be varied in form and arrangement without departing from the substance of my invention, and I do not mean to limit myself precisely to the forms and arrangements herein shown and described.

I claim as new and of my invention—

1. The combination, in a velocipede, of a handle-bar, and a handle-bar lug constructed with a mortise or opening to receive and be partially filled by the handle-bar, and a complementary key operating in said opening and between the bar and the lug to secure the two together, essentially as set forth.

2. The combination of a lug having jaws *a a'*, a bar, B, a segment, C, and a key, D, essentially as set forth.

3. In combination, a bar or rod, a lug having an opening to receive said bar, conformed on a part or parts of its inner surface to the exterior surface of the bar, and a key having a part of its surface conformed to the exterior surface of the bar and a part of its surface conformed to the inner surface of the lug, essentially as set forth.

4. In combination with the handle-bar and its lug, the pin *d* and its slot, constructed and operating essentially as set forth.

5. In a velocipede, the combination of a steering-head and a continuous handle-bar and a handle-bar lug with a device or devices for securing them together and releasing them when constructed so that said devices are and operate substantially within both the longitudinal and the radial contour of the lug, essentially as set forth.

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Witnesses:

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