

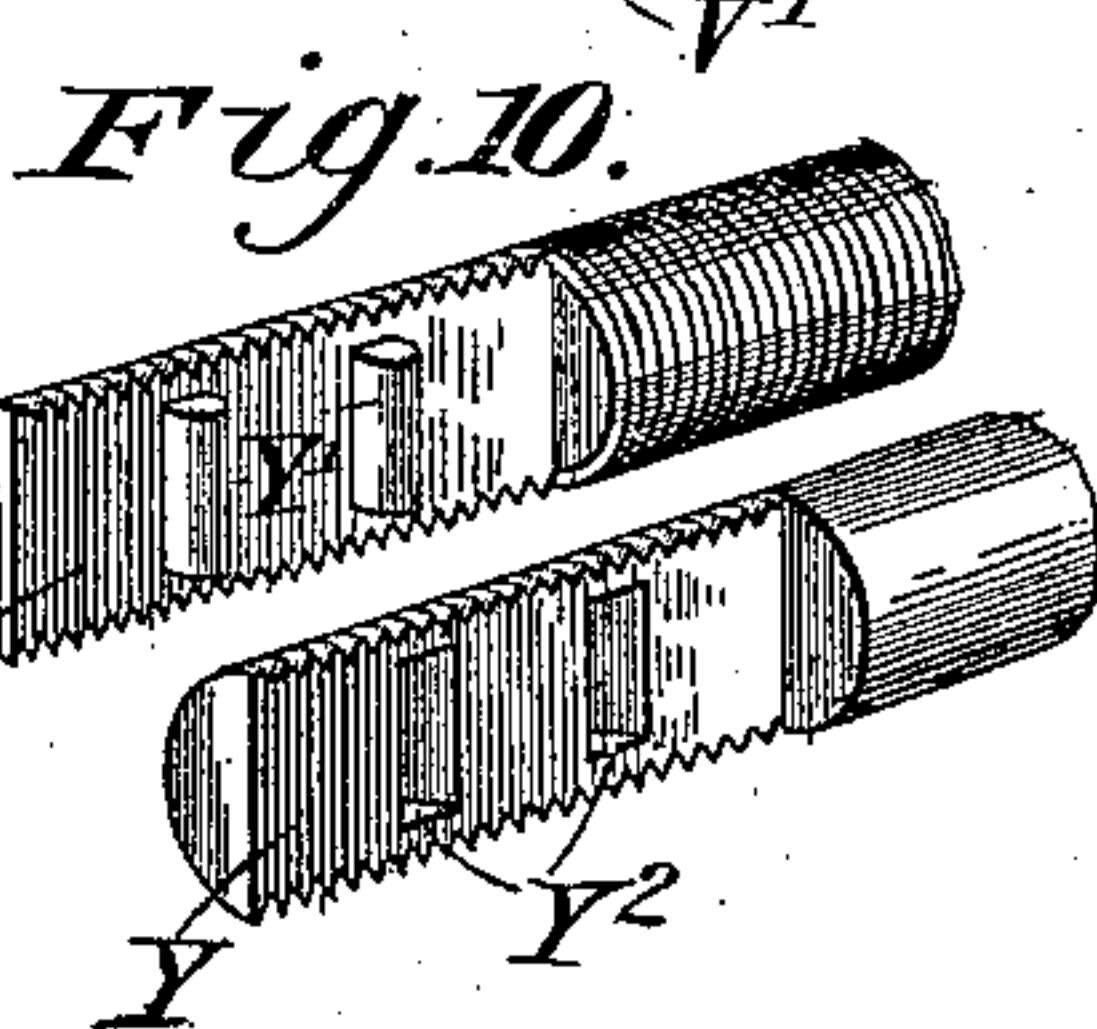
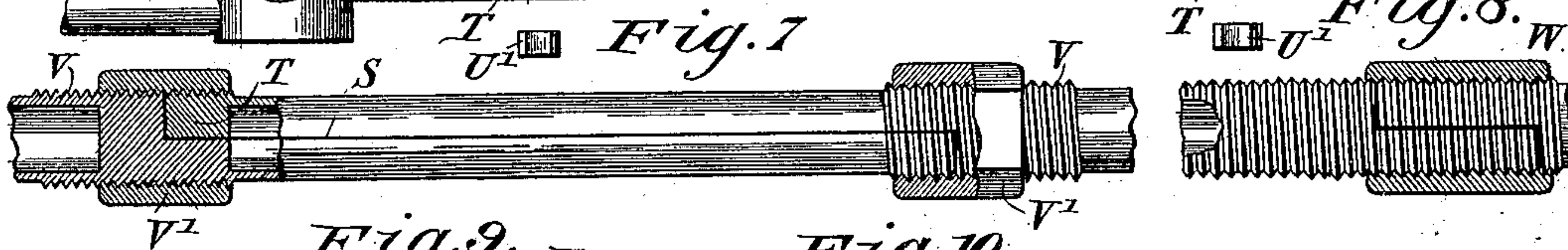
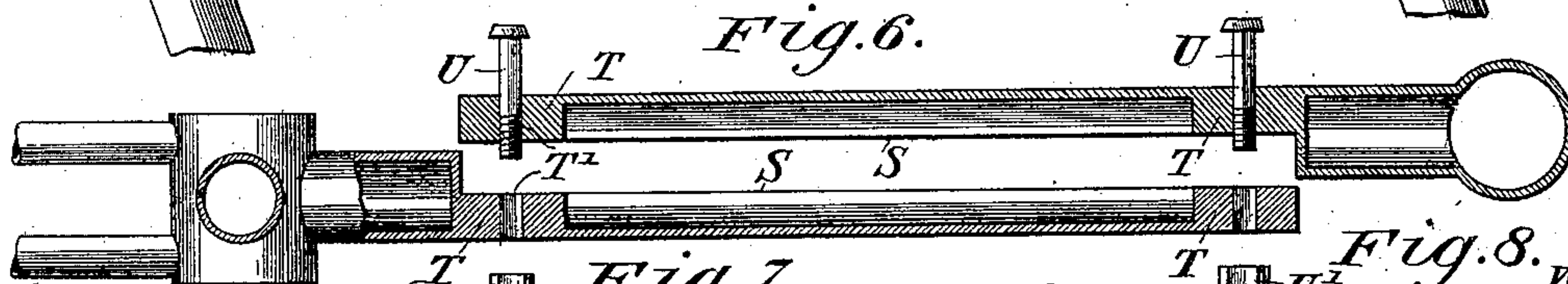
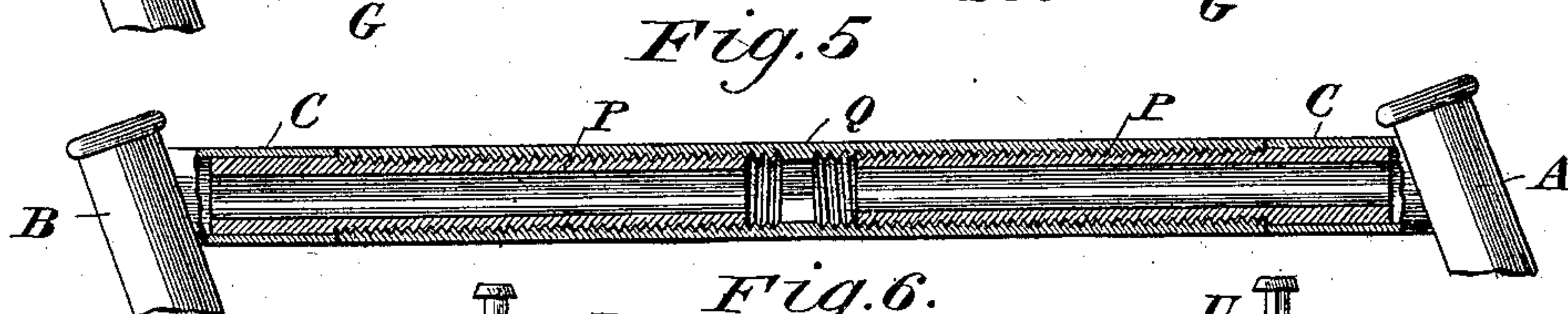
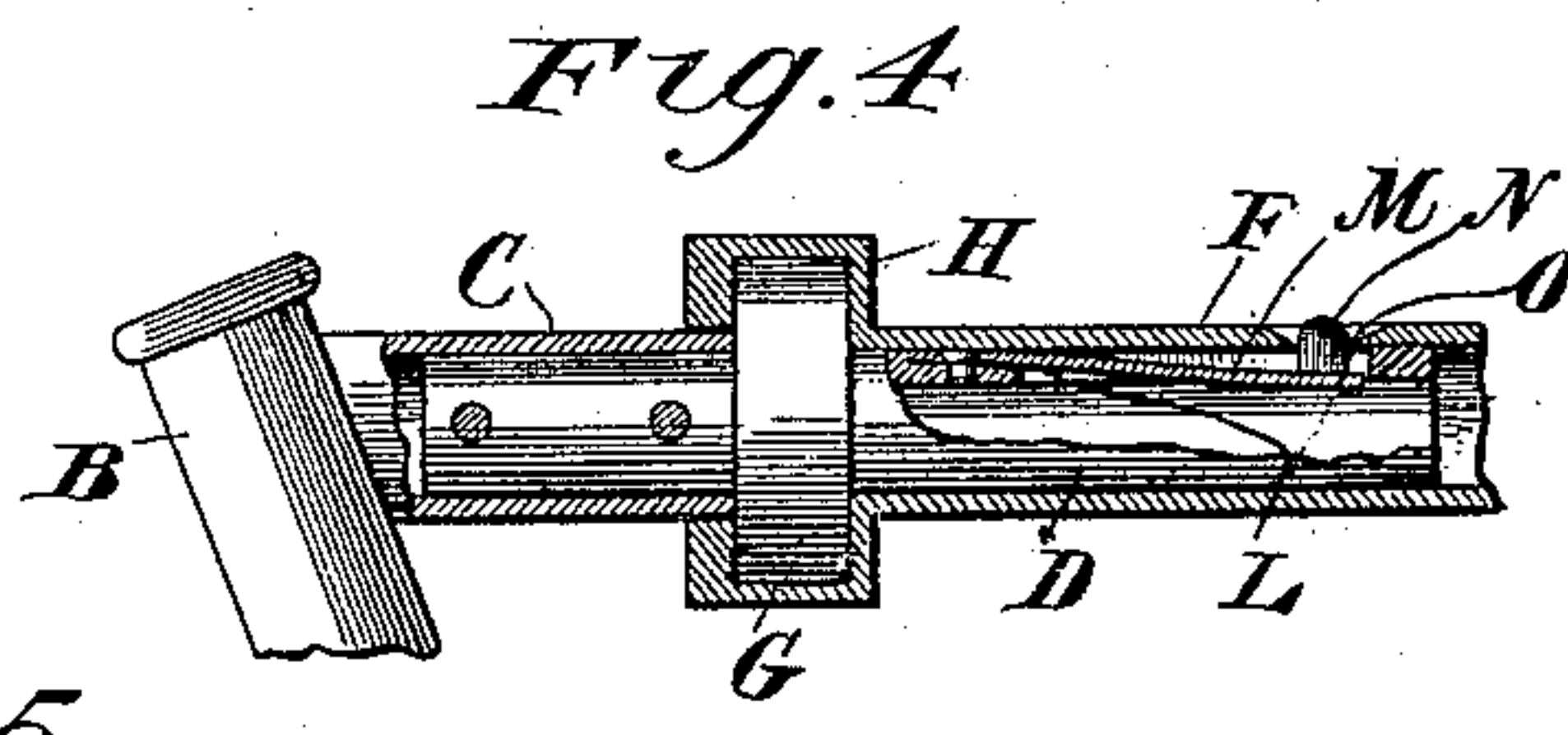
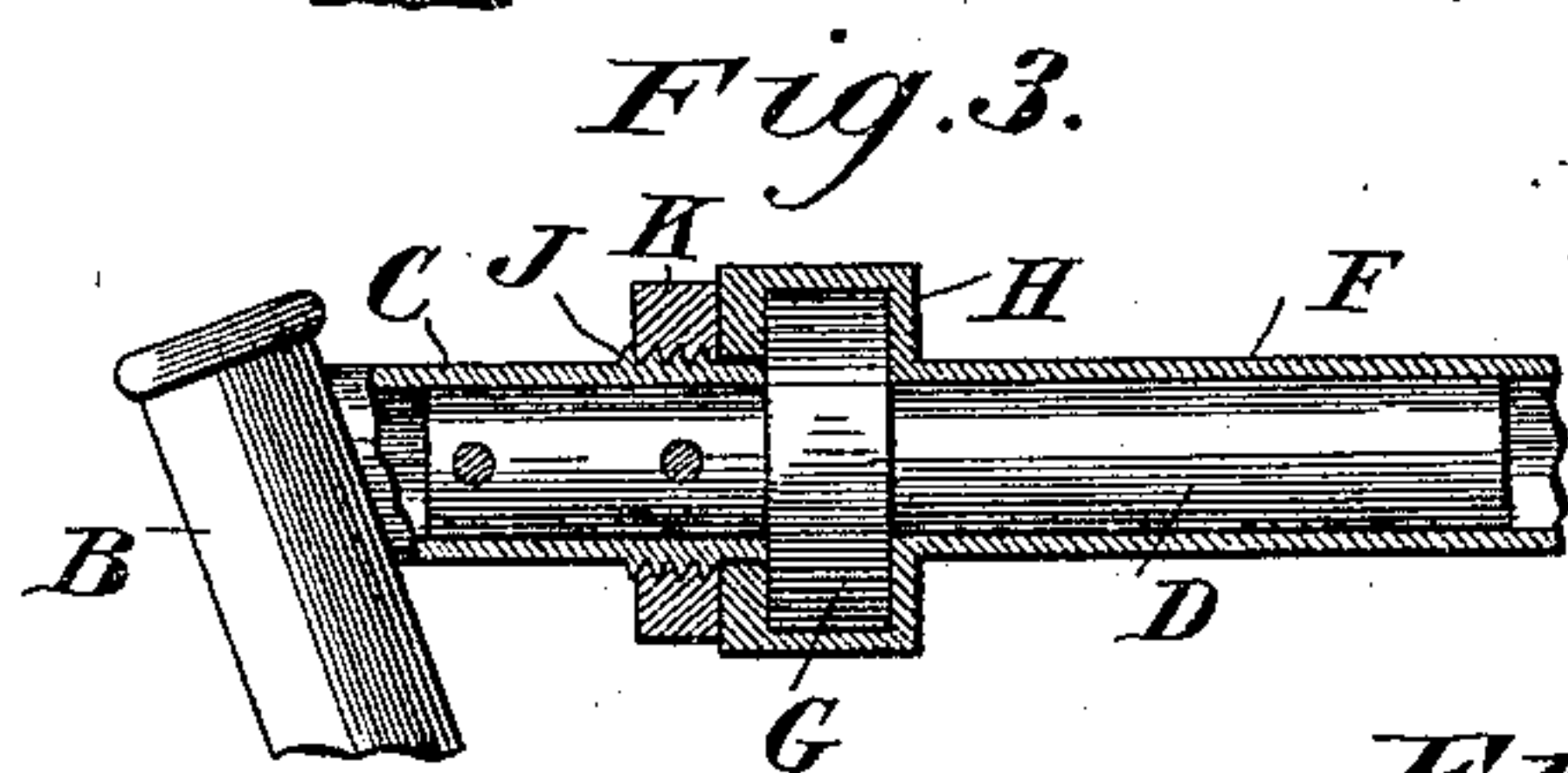
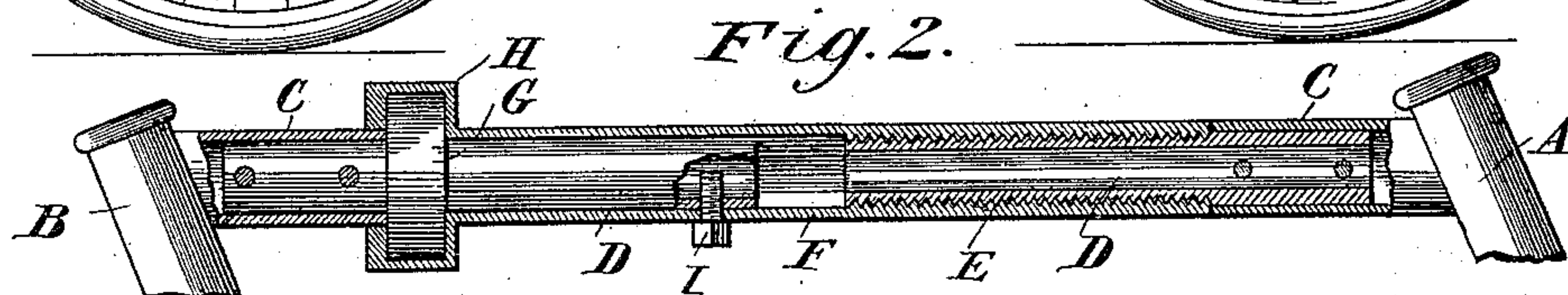
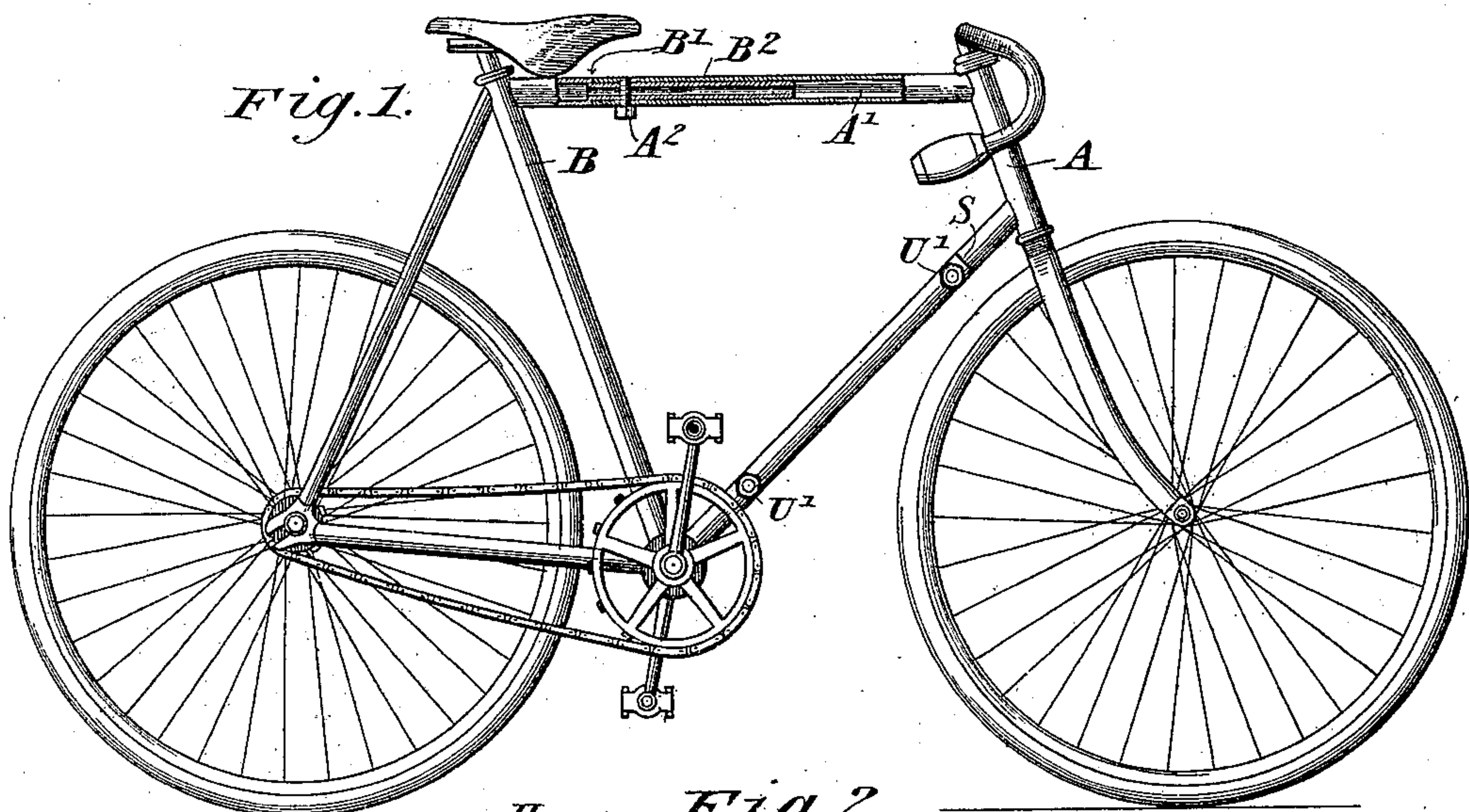
No. 617,535.

Patented Jan. 10, 1899.

W. L. MARTIN.  
BICYCLE.

(Application filed Dec. 31, 1897.)

(No Model.)



Witnesses  
J. M. Withrow  
Chas. E. Brock

Inventor,  
W. L. Martin,  
by  
Murphy  
Attorneys



# UNITED STATES PATENT OFFICE.

WILLIAM L. MARTIN, OF RANCOCAS, NEW JERSEY.

## BICYCLE.

SPECIFICATION forming part of Letters Patent No. 617,535, dated January 10, 1899.

Application filed December 31, 1897. Serial No. 665,016. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM L. MARTIN, residing at Rancocas, in the county of Burlington and State of New Jersey, have invented a new and useful Bicycle, of which the following is a specification.

This invention relates generally to improvements in bicycles, and particularly to an improved construction of frame therefor.

10 The object of the invention is to so construct the bicycle-frame that the portions thereof carrying the front and rear wheels and driving mechanism may be separated when it is desired to pack the bicycle for storage or  
15 for transportation, the frame being simple in construction and capable of being quickly and readily adjusted for separating or uniting the front and rear portions of the bicycle.

20 With the above object in view the invention consists of a frame having the upper and lower bars thereof formed in sections adapted to be united and suitable means for uniting said sections, the improved construction, arrangement, and combination of the parts being hereinafter fully described and afterward  
25 specifically pointed out in the claims.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, having reference to the accompanying drawings, forming part of this specification, in which—

35 Figure 1 is a side elevation of a bicycle constructed in accordance with my invention, the upper bar being in section. Fig. 2 is a vertical longitudinal sectional view of a modified construction of the upper bar thereof. Fig. 3 is a similar view, also showing a modified construction. Fig. 4 is also a similar  
40 view showing a modification. Fig. 5 is a similar view showing another modified form. Fig. 6 is a horizontal longitudinal sectional view of the lower bar of the frame. Fig. 7 is a  
45 view of said bar, partly in section, showing a modified construction. Figs. 8 and 9 are sectional views showing modified constructions of the lower bar. Fig. 10 is a perspective  
50 view of the meeting ends of the sections of the lower bar, showing a modified construction.

Like letters of reference mark the same

parts wherever they occur in the various figures of the drawings.

In the accompanying drawings, A indicates 55 the front bar, and B the rear brace, of the usual diamond frame for bicycles, the front bar A having secured to or formed with it a long section A' of the top bar of the frame and the rear brace B a short section B' of the  
60 top bar. An extension B<sup>2</sup> of the section B' projects therefrom, constituting a tongue, which is adapted to be telescoped in section A' of the top bar, as shown in Fig. 1. A set-screw A<sup>2</sup> passes through the under side of section A' entirely through the tongue part B<sup>2</sup>  
65 and engages the upper side of section A', thus securing the two sections of the top bar together and holding the same rigid.

In the modification illustrated in Fig. 2 70 the front bar and rear brace of the diamond frame have the short horizontal tubular sections C, in which the tubes D are secured. The tube carried by section C of the front bar A is screw-threaded, as illustrated at E, 75 to receive the connecting-tube F, which is interiorly screw-threaded at its forward end. Tube D, carried by the rear brace B, has an annular head G formed thereon adjacent the forward end of section C, while the rear end 80 of tube F is enlarged to form a casing or bearing H to receive said head. Thus the tube F is swiveled to one section C of the top bar, while it is screw-threaded to the other section C. A set-screw I may be passed upward 85 through one side of tube F into the outer end of tube D, upon which said tube F is directly swiveled to prevent its rotation upon tube D when it is desired to lock them together.

In Fig. 3 I dispense with the set-screw I, 90 and in lieu thereof screw-thread the tubular section C adjacent the head G, as illustrated at J, and provide a locking-nut K upon said screw-threaded portion, which is adapted to bear against casing H of tube F and cause 95 the same to bind against the head G when it is desired to lock said tube to tube D.

In the construction shown in Fig. 4 I also dispense with the set-screw and form a recess L in the upper surface of tube D, in which 100 is secured a spring M, having a stud N at its free end, which engages a perforation O, formed in tube F, and serves to lock the tube F to the tube D.



In Fig. 5 tubular sections C have tubes P secured thereon and oppositely screw-threaded to receive the connecting tube or sleeve Q, which is oppositely interiorly screw-threaded at its respective ends.

The front brace of the frame is formed of two sections, each section cut or halved out vertically on opposite sides, as illustrated at S, and formed solid adjacent their respective ends, as illustrated at T, bolt-passages T' being formed through said solid portions to receive the bolts U, which extend therethrough, after said halved-out portions have been overlapped and receive the nuts U'. Thus when it is desired to separate the sections of the brace the bolts are removed, when the sections may be separated laterally, one moving away from the other in the arc of a circle having the line of the top bar as a center.

In Fig. 7 the same construction of the front brace is observed, with the exception that the bolts are dispensed with, and in lieu thereof the exterior of the sections adjacent their meeting ends are screw-threaded, as illustrated at V, to receive the sleeves V', which are adapted to be moved over the joints and unite said sections.

In Fig. 8 a single sleeve W is used, the meeting ends of the sections being halved out and overlapped, as illustrated, and screw-threaded to receive the sleeve. In this construction the sections are halved out only a short distance from their meeting ends.

The construction illustrated in Fig. 9 is similar to that in Fig. 8, with the exception that the overlapped ends are beveled, as illustrated at W', a sleeve X being provided for uniting said sections.

In Fig. 10 the meeting ends of the sections are halved, as illustrated at Y, one of said halved ends being provided with projections Y' to engage cavities Y<sup>2</sup>, formed in the halved end of the opposite section, the sections being screw-threaded, as in the constructions used in Figs. 8 and 9, and receive a similar sleeve to unite the same.

From the foregoing it will be obvious that I have produced effective means whereby the front and rear portions of the bicycle may be separated from each other for the purpose of storage or transportation and that, broadly speaking, this result is attained by providing a top bar composed of telescoping sections and a front brace of sections connected together by a lapped joint, the virtue of said construction being that by loosening the lapped joint the telescoping sections may be turned upon each other for the purpose of separating them when plain, as in Fig. 1, or when screw-threaded, as in the other figures. This being the broad idea of the invention, it will be obvious that I have constructed several varieties of telescoping sections for the top bar, (illustrated in Figs. 1 to 5,) each of which, however, illustrates, broadly, a telescoping joint, and each, except Fig. 1, illustrates a screw-threaded telescoping joint.

The next step in the invention hereinbefore described is to provide the swiveling joint in addition to the screw-threaded joint, this construction being illustrated in Figs. 2, 3, and 4.

As before stated, the invention broadly includes a front brace composed of sections united by a lapped joint. It will be seen that I have illustrated several varieties of lapped joints in Figs. 6 to 10, and while I desire it to be understood that I consider the invention sufficiently broad to cover the combination of the top bar with telescoping joint and front brace with lapped joint I do not wish to be understood as confining myself to any particular construction of telescoping joint for the top bar or lapped joint for the front brace, as many changes and variations might be made in the specific construction of these joints without departing from the spirit and scope of my invention.

Where in the following claims I refer to the top bar and front brace as "rigidly" connected to the frame, I do not intend to limit myself to the parts being permanently fixed, for they may be detachably secured to the frame; but I use such term to define a construction in which these parts are non-yielding at their points of connection in contradistinction to a pivotal connection.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination in a bicycle-frame, of the top bar composed of telescoping sections having their ends attached to the frame by a non-yielding connection, and the front brace composed of sections with their outer ends rigidly connected with the frame and their adjacent ends constructed to be united by a laterally-separable lapped joint, whereby, when the lapped sections are separated, the telescoping sections of the top bar may be turned upon each other by using the front bar as a handle, for the purpose of separating the telescoping sections.

2. The combination in a bicycle-frame, of the top bar composed of telescoping sections having their ends attached to the frame by a non-yielding connection, and the front brace composed of sections with their outer ends rigidly connected with the frame and their adjacent ends constructed to be united by a laterally-separable lapped joint, and means passed transversely through the inner and outer sections for securing the telescoping sections against movement upon each other.

3. The combination in a bicycle-frame, of the top bar composed of telescoping sections having their outer ends rigidly connected to the frame and the connecting-tube swiveled at one end and screw-threaded at the other, and the front brace composed of sections with their outer ends rigidly connected with the frame and their adjacent ends constructed to be united by a laterally-separable lapped joint, and means for securing the sections against movement.



4. The combination in a bicycle-frame, of  
the top bar composed of telescoping sections  
having their outer ends rigidly connected to  
the frame and a connecting-piece swiveled at  
5 one end and screw-threaded at the other, the  
front brace composed of sections with their  
outer ends rigidly connected to the frame and  
their adjacent ends constructed to be united  
by a laterally-separable lapped joint, means  
10 for securing the lapped joint, and means ex-  
tending transversely of the telescoping sec-  
tions for securing the swiveled section against  
turning.

5. The combination in a bicycle-frame, of

the top bar composed of telescoping sections 15  
having their ends attached to the frame by a  
non-yielding connection, and the front brace  
composed of sections with their outer ends  
rigidly connected to the frame and their ad-  
jacent ends constructed to be united by a 20  
solid-ended halved, lapped joint with inter-  
engaging portions, and means for securing  
the sections against movement.

WILLIAM L. MARTIN.

Witnesses:

MARTHA HORNER,  
MATHA D. MANUEL.