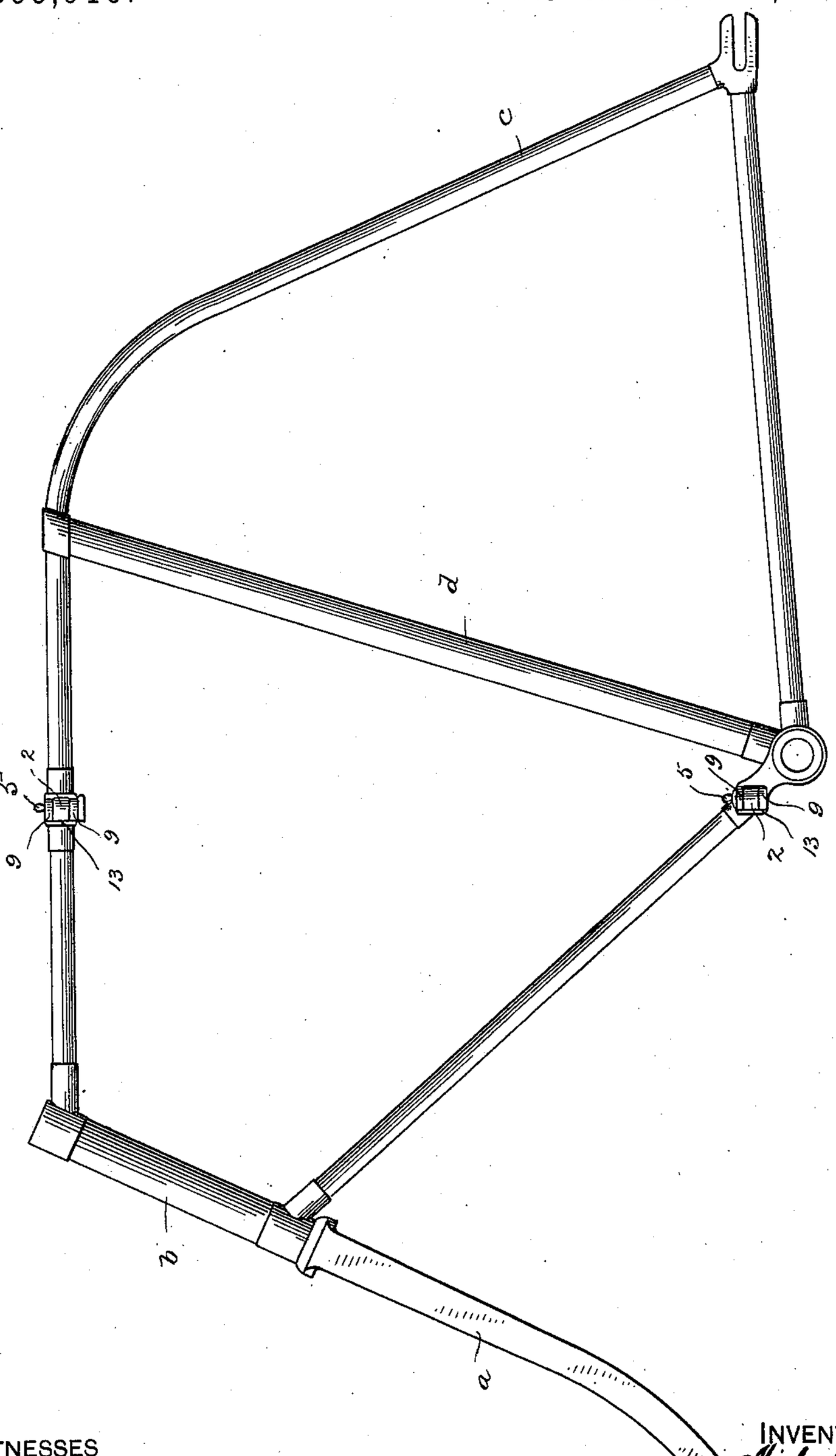
(No Model.) 2 Sheets—Sheet 1.

M. B. RYAN.

FOLDING BICYCLE.

No. 599,016. Patented Feb. 15, 1898.

Fig. 1.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

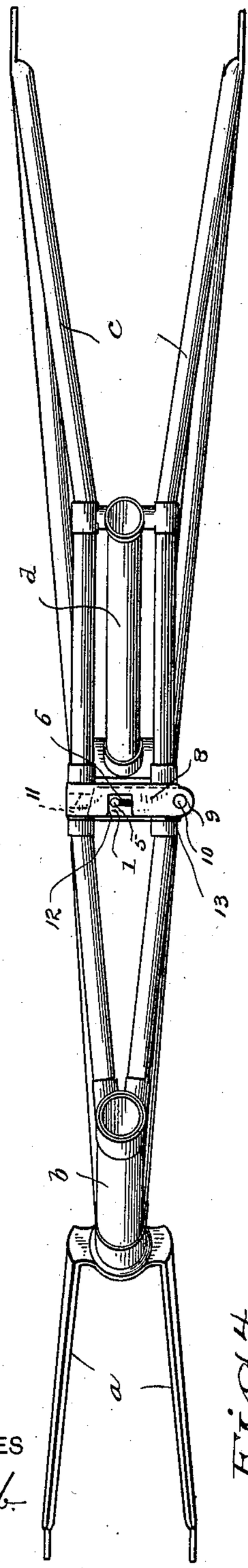


Fig. 3.

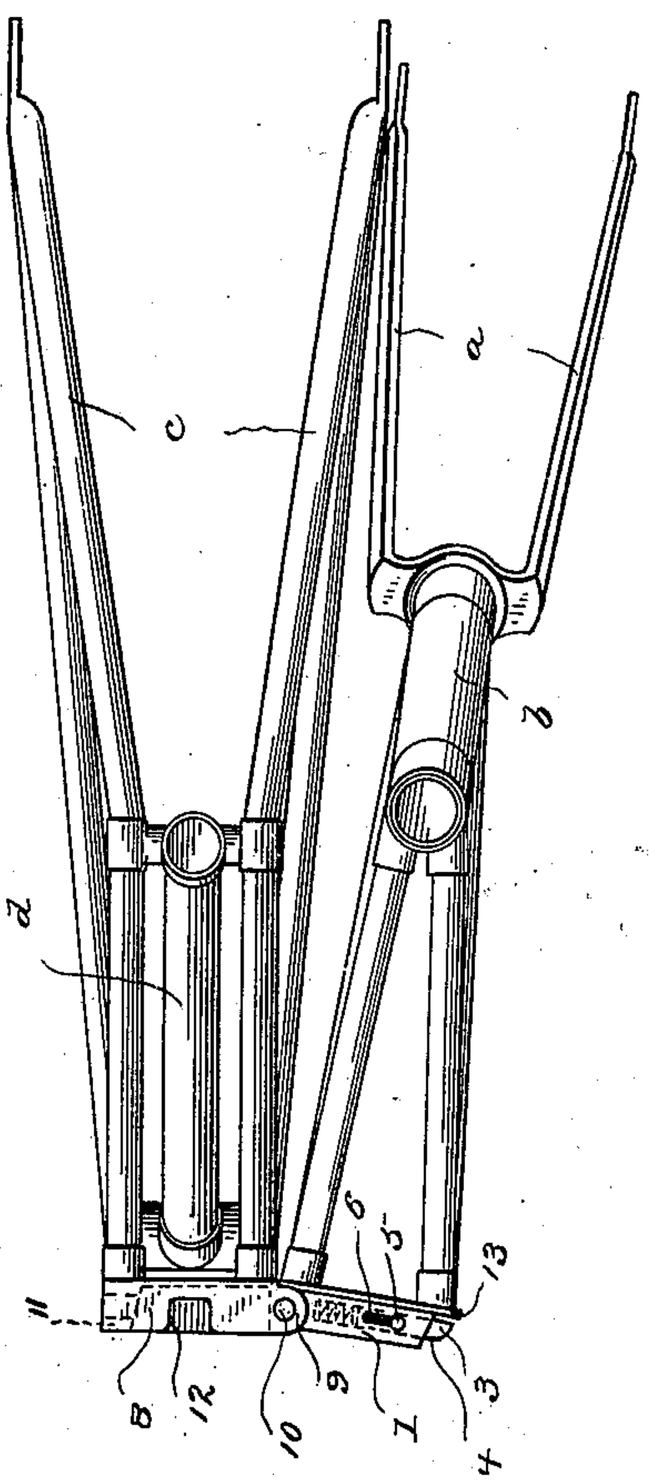


Fig. 4.

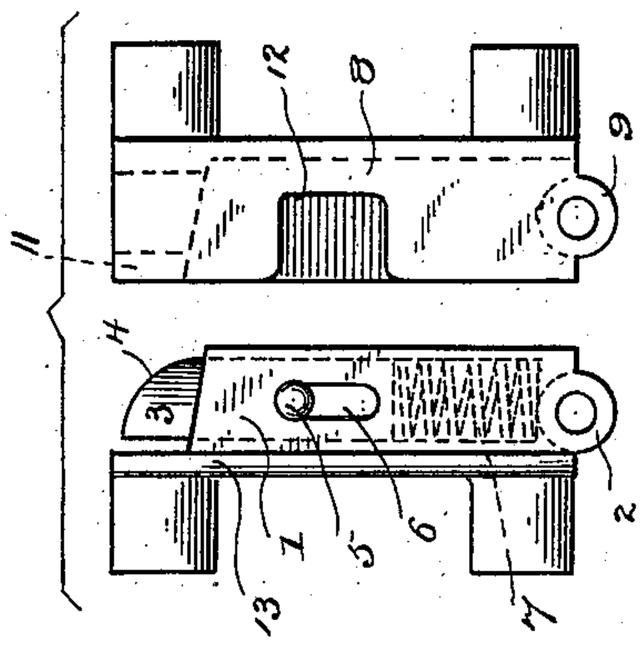
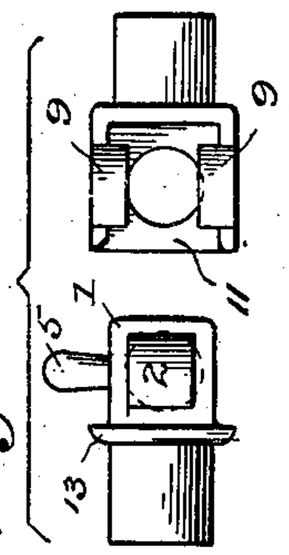


Fig. 5.



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UNITED STATES PATENT OFFICE.

MICHAEL B. RYAN, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR OF ONE-HALF TO PATRICK O. DWYER, OF DANBURY, CONNECTICUT.

FOLDING BICYCLE.

SPECIFICATION forming part of Letters Patent No. 599,016, dated February 15, 1898.

Application filed January 16, 1897. Serial No. 619,430. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL B. RYAN, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Folding Bicycles; and I 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 bicycles, and has particular reference to the frame, which is jointed, so as permit the front and rear portions, with the wheels, to be folded and brought side by side in order to render the machine more compact for storage or transportation.

The object of the present invention is to produce a machine of this type in which the pivotal point of the hinge is located at one side of the center or a line drawn from the center of the steering-head to the longitudinal center of the rear axle, the engaging portions of the latch or locking device being located at the other side of said center line, whereby the joint when locked extends transversely across the machine and affords two points of engagement in the transverse direction and thereby increases the stability of the machine in use.

To these ends the invention consists in the construction and combination of parts, substantially as hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of a bicycle-frame embodying my invention. Fig. 2 represents a plan of the same, the two sections being locked in alinement, as when the machine is in use. Fig. 3 represents a plan of the sections when folded side by side. Fig. 4 represents an enlarged detail plan of the coöperating parts of the lock, the said parts being separated from each other at the joint or hinge-point. Fig. 5 represents end views of the parts shown in Fig. 4.

Similar reference characters indicate similar parts in all the views.

The parts of the frame comprise the usual front fork *a*, head *b*, rear fork *c*, and brace-bars *d*. The upper and lower connecting-bars of the frame are jointed together at locations so that the front and rear sections of the frame may fold about a substantially vertical line, and the upper and lower joints are substantially identical. Therefore a description of one joint and locking device will apply to either. In practice about the only difference between the two is that one may be somewhat longer than the other and the nipples for the frame-bars extend from the coupling sections or casings at different angles, according to the details of design of the frame.

The block or casing 1 is provided with a lug 2 at one end and is preferably made hollow to contain a bolt 3, having a beveled end 4. A pin 5 projects from the bolt 3 through a slot 6 in the hollow block or casing, and a spring 7 is confined between the rear end of the bolt and the closed end of the casing.

The casing or socket 8 of the coupling is open along one side opposite the block or casing 1 and is of a size to closely receive said casing 1. At one end the casing 8 is provided with two lugs 9 9, between which the lug 2 of the casing 1 fits, a pintle 10 uniting the lugs 2 and 9. The other end of the casing 8 is provided with a bar 11, which forms the keeper proper for the end of the spring-bolt, and the upper side of said casing 8 is recessed, as at 12, to permit of the passage and play of the latch-pin or handle 5.

When the casings and the frames are connected by the pintle 10, which is at one side of the vertical central plane of the machine when in use, and the parts are swung to position for such use, the flat plate 13 adjacent to the projecting end of the bolt abuts against the outer face of the keeper-bar 11, while the end of the bolt springs behind said bar, thus forming a firm connection of the parts at the other side of the said plane and affording a rigid and reliable connection. When the bicycle is to be folded, it is only necessary to press the pin 5 back, so as to disengage the bolt from the keeper, and then the parts may be swung to the position shown in Fig. 3.

The casing or socket 8 is, as above stated, adapted to closely receive the block or casing 1. Therefore, whether a spring-bolt or some other equivalent means be provided for retaining the block in the socket, there can

be no torsional strain on the pintle 10 in any direction when the machine is in use.

Having now described my invention, I claim—

1. A folding bicycle comprising in its construction a two-part frame, a socket-casing carried by one of said parts and transverse thereto, another casing or block carried by the other part and transverse thereto and adapted to closely fit in the socket-casing, the said casings being pivoted together at one end, and means for locking the other ends together.

2. A folding bicycle comprising in its construction a two-part frame, a socket-casing carried by one of said parts and transverse thereto, another casing carried by the other part and transverse thereto, the said casings being pivoted together at one end, and a spring-bolt carried in one of said casings and adapted to engage a keeper in the other casing.

3. The combination with the two-part bicycle-frame, of the casing 1 having lug 2 and abutment-plate 13 and containing a spring-bolt having pin 5, and the casing 8 having lugs 9 pivoted to the lug 1 and provided with a recess 12 and keeper-bar 11, substantially as described.

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

MICHAEL B. RYAN.

Witnesses:

EUGENE C. DEMPSEY,

ALMOND D. POWERS.