

(No Model.)

A. PINOVER.
BICYCLE FRAME.

No. 582,948

Patented May 18, 1897.

Fig. 1.

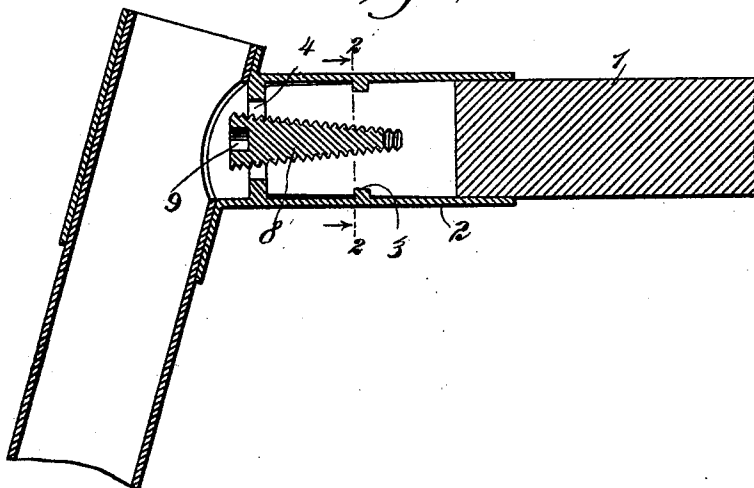


Fig. 2.

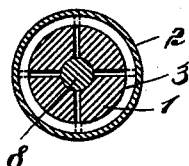
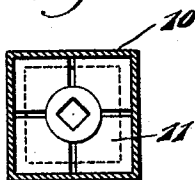


Fig. 3.



Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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BICYCLE-FRAME.

SPECIFICATION forming part of Letters Patent No. 582,948, dated May 18, 1897.

Application filed January 2, 1897. Serial No. 617,781. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER PINOVER, of New York city, in the county and State of New York, have invented new and useful
5 Improvements in Bicycle-Frames, of which the following is a full, clear, and exact description.

This invention relates particularly to the method of joining the several frame-sections,
10 especially when said sections consist of wood. At the present time certain bicycle-frames are made of wood, excepting, of course, certain parts, such, for instance, as the sockets for receiving the ends of the frame members,
15 which are made of metal. In these frames the wood members soon become loose in the sockets and not only rattle, but may be drawn out.

The object of my invention is to provide a
20 wooden frame in which this difficulty is overcome.

I will describe a bicycle-frame embodying my invention, and then point out the novel features in the appended claims.

25 Figure 1 is a sectional view of a portion of a bicycle-frame embodying my invention. Fig. 2 is a section on the line 2 2 of Fig. 1. Fig. 3 is a perspective view showing the construction of the end of the wooden frame-section, and Fig. 4 is a cross-section illustrating a modification.

Referring to the drawings, 1 designates a wooden frame-section, and 2 indicates a metal socket into which the end of the wooden section is to be secured. In the drawings I have illustrated the socket 2 as connected to the front post of the frame, but it is to be understood that the several sockets comprised in the frame will embrace the features of the
40 socket here shown. Intermediate of its ends the socket 2 is provided with an annular shoulder 3, and the inner end has an opening 4, so that a spreading device may be inserted, as will be hereinafter described.

45 The end of the frame-section 1 is provided with longitudinally-disposed kerfs or slits 5. I have here shown four of these kerfs or slits, substantially dividing the end into quarters. Preferably the kerfs or slits will increase in
50 width toward the end of the frame member, so that the several sections of said end may be easily compressed toward a common center.

Intermediate of the ends of the kerfs or slits the frame member is provided with an annular channel 6, corresponding substantially in
55 width to the width of the shoulder 3. The end of the frame-section will have a slot tapered from a point near the inner end of the kerfs or slits 5 to the end of the section, and a conical hole 7 will be bored longitudinally
60 in the end of the frame-section.

In connecting a frame-section to a socket its end will be placed therein, and then with a slight force, either by a hammer or otherwise, the frame member may be forced be-
65 yond the shoulder 3—that is, the kerfs or slits 5 will allow the quartered sections to be moved toward a common center—and after the channel 6 shall have reached the shoulder 3 the ends of the frame-section will spring
70 outward. As this may not make the parts sufficiently rigid I employ a spreader for spreading the end sections. As here shown, this device consists of a tapered screw 8,
75 adapted to engage in the conical or tapered hole 7. This tapered screw may be placed in position by a suitable tool. I have here shown its end as provided with an angular recess 9, into which a correspondingly-shaped tooth
80 may be placed and turned by a ratchet-wrench. By forcing the screw downward into the end of the frame-section it is obvious that the end portions or sections will be forced outward tightly against the socket and it is practically impossible to detach the parts by
85 ordinary usage.

In Fig. 1 I have shown a socket as cylindrical to receive the correspondingly-shaped end of the frame-section. In the modification, Fig. 4, however, is shown the socket
90 as made angular or square in cross-section, and of course the end of the wooden frame-section 11 will be correspondingly shaped. This will be inserted and expanded in the manner heretofore described.

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

1. In a bicycle-frame, a socket having an interior shoulder, a frame member having a
100 channel into which said shoulder may engage, the said frame-section being also provided with kerfs or slits extended longitudinally, and means for expanding the end of the

frame-section in the socket, substantially as specified.

2. In a bicycle-frame, a socket having an interior annular shoulder, a wooden frame member having a tapered and longitudinally-slitted end and also having an annular channel into which the annular shoulder of the socket engages, and a wedge for expanding the end of the frame member within the socket in radial directions, substantially as specified.

3. A bicycle-frame, comprising a socket having an interior annular shoulder, a wooden

frame member having a tapered end, the said tapered end being longitudinally kerfed or slitted, the kerfs or slits increasing in width from the base to the outer end, the said tapered end also having an annular channel into which the shoulder of the socket may engage, and a tapered screw for engaging in a tapered hole in the end of the frame member within the socket substantially as specified.

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Witnesses:

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