

No. 618,626.

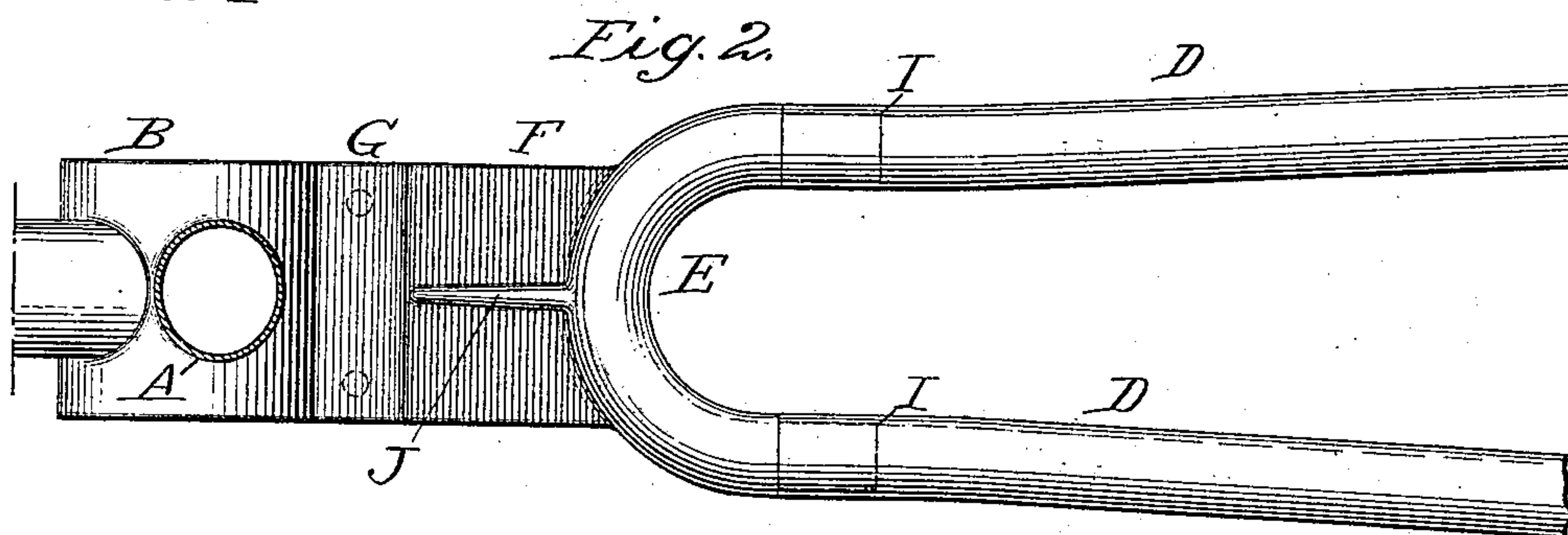
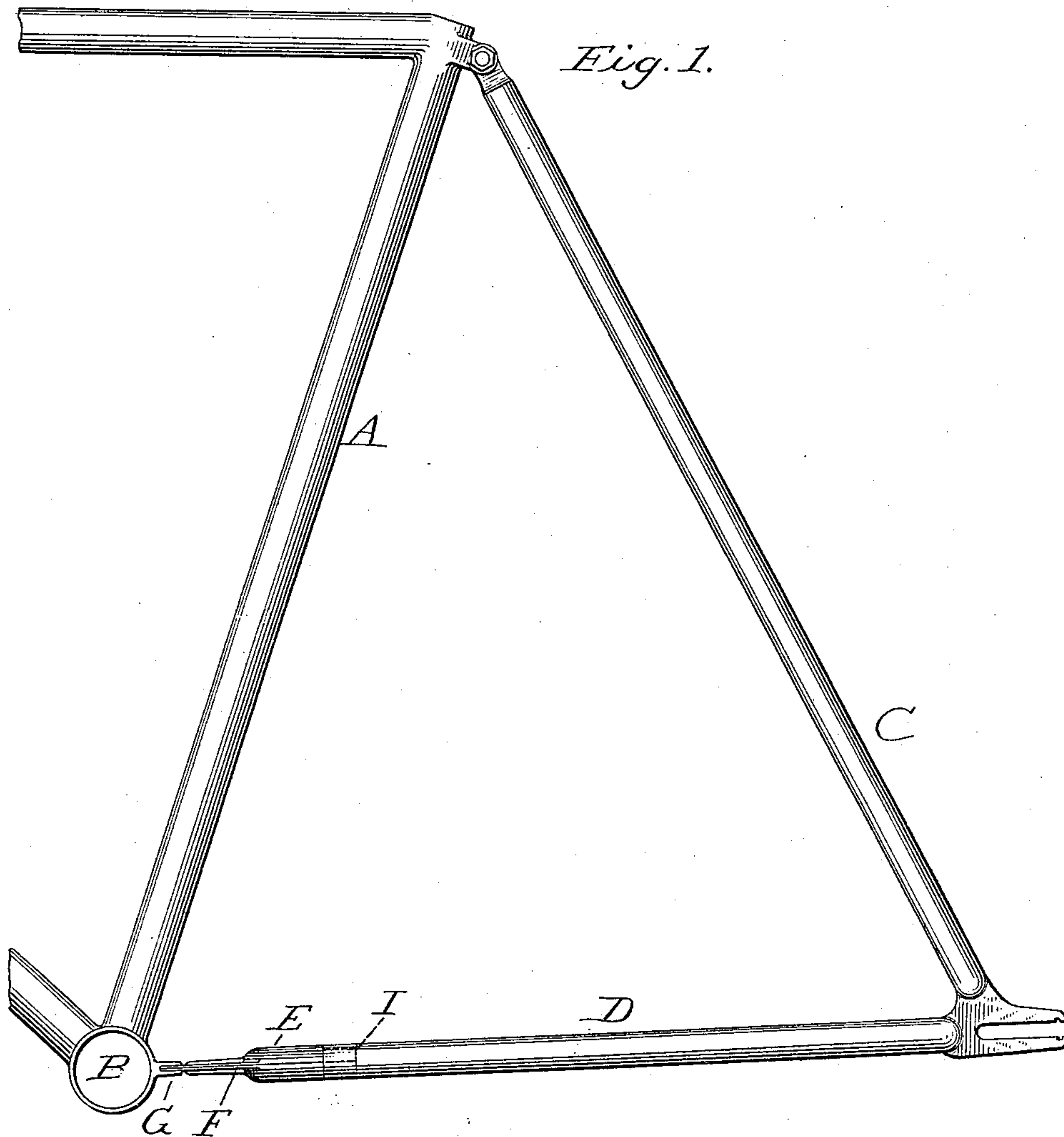
Patented Jan. 31. 1899.

C. L. TRAVIS.
BICYCLE.

(Application filed Nov. 3, 1897.)

(No Model.)

2 Sheets—Sheet 1.



ATTEST;
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INVENTOR;
Charles L. Travis.
By Dodge and Sons,
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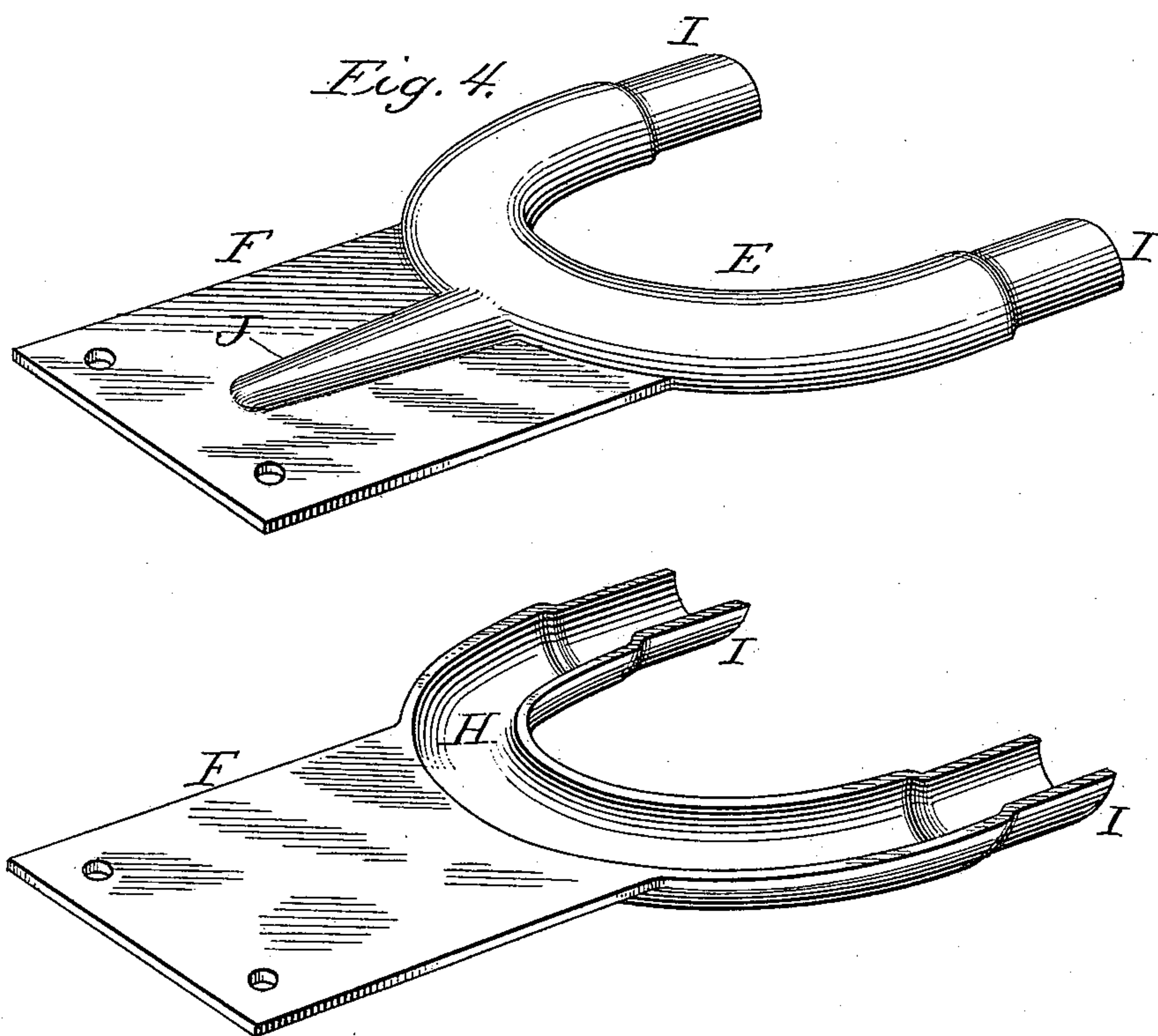
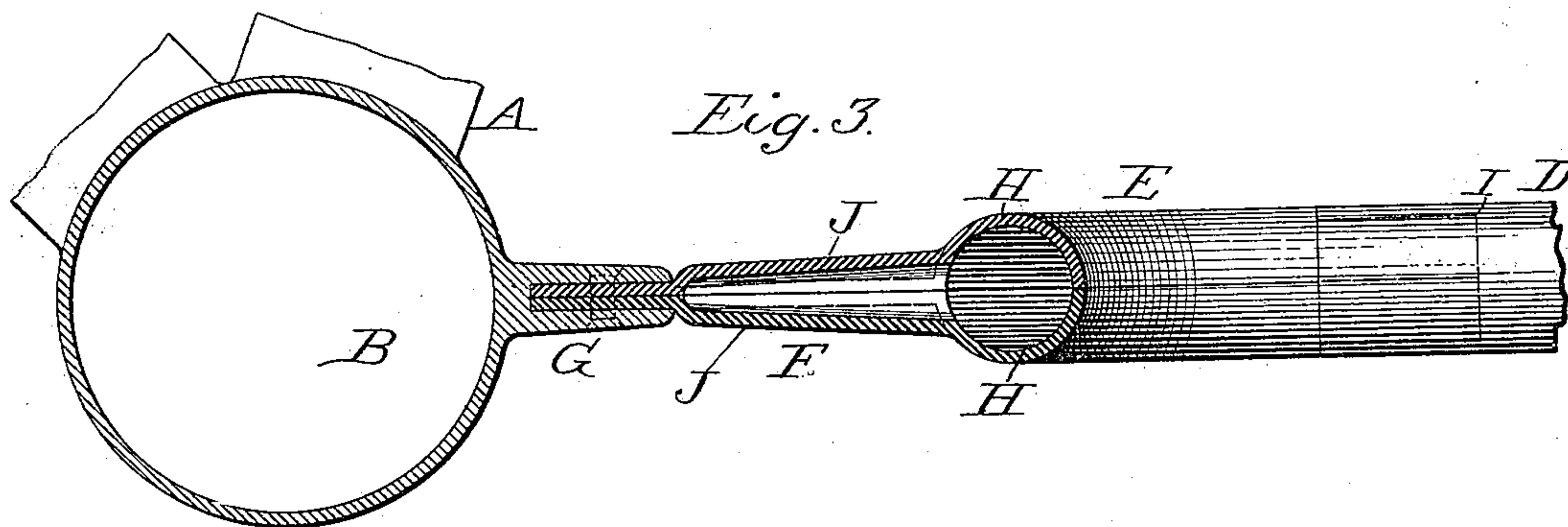
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(Application filed Nov. 3, 1897.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

CHARLES L. TRAVIS, OF MINNEAPOLIS, MINNESOTA.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 618,626, dated January 31, 1899.

Application filed November 3, 1897. Serial No. 657,255. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. TRAVIS, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Bicycles, of which the following is a specification.

My present invention relates to improvements in bicycles, and more particularly to a form of connection between the rear forks and the barrel for the pedal-shaft, the construction of the device being shown in the annexed drawings, in which—

Figure 1 is a side elevation of so much of a bicycle-frame as is necessary to a proper understanding of my invention; Fig. 2, a top plan view of the joint; Fig. 3, a longitudinal sectional view, and Fig. 4 a perspective view showing the portions of the connection or joint separated.

The object of my invention is to provide a simple, strong, and neat connection between the rear forks and the pedal-shaft barrel, one which will render the frame stiff and rigid at that point and prevent any give or side thrust of the parts. With the constructions now commonly employed the element of side thrust at the pedal-shaft bearing is considerable and is of necessity a point of great weakness in the structure of the frame. With the construction shown in the drawings, and which will be hereinafter set forth, this element of weakness, as well as the loss in power applied to the pedals due to the sidewise give, is done away with and a strong structure, neat in design, is obtained.

Referring to the drawings, A indicates the pillar, post, or central brace of a safety-frame, carrying at its lower end the pedal-shaft barrel, which may be of any approved type and of any length desired.

C denotes the rear-fork braces, and D the rear forks.

The forks instead of extending directly forward and connecting to the barrel, as is usual, extend only forward to a point approximately in line with the rim of the wheel, where they are connected to a semicircular member E, and connection between this member and the barrel is formed through a flat plate F, connected to the barrel by an extension or web G, formed as a part of or secured to the barrel.

The construction of the various parts will be apparent upon reference to Figs. 3 and 4, wherein it will be seen that the semicircular or curved member E and plate F are formed of two sections or halves, the parts being duplicates, though for the purpose of illustration a rib is shown as formed upon the upper section of the plate in Fig. 4. These sections may be a drop-forging or casting, and as shown in Fig. 4 it consists of a flat plate, at the rear end of which there is a U-shaped channel-piece H, the ends I being slightly reduced. The plate may or may not be formed with a rib J, as desired; but if a rib is employed it is preferably of the form shown in the drawings, being curved in cross-section, widest at that end where it connects with channel H and narrowing and flattening as it extends out toward the end of the plate. As before stated, each of the sections is designed in practice to be a duplicate of the other, though, of course, a ribbed and a plain section might be employed together, if found desirable. Web or extension G, as before stated, may be made as an integral portion of the barrel or may comprise a separate piece brazed thereon, the former being the construction employed in new machines and the latter where old machines are remodeled. The extension is formed or provided with a slot, which extends from one side thereof to the other and is of such dimensions as to just receive the ends of the two plate-sections, as indicated in Fig. 3. Each of the plate-sections and the web or extension G are provided with small pin-holes J, through which pins are passed when the parts are assembled and ready to be brazed.

In putting the parts together two of the sections are put face together, the edges of the channels H abutting against each other and the two plate-sections bearing flatly one upon the other. The reduced ends formed by the extensions I are then inserted into the open ends of the rear forks and the forward end of the castings or forgings inserted into the slot of extension or web G and small pins passed therethrough to hold the parts in place. Suitable brazing material is applied to the various parts and joints, and by the time the brazing process is completed the parts are so united as to become one integral structure. The

nicety with which this process of brazing may be carried out is demonstrated in the practical construction of wheels with the improvements above described, the brazing material 5 flowing in between all the parts, so that it is next to impossible to distinguish any joints whatsoever, the resulting structure being practically a unit. With this form of construction between the barrel and the rear 10 forks all side or lateral play of the frame at this point is done away with, so that the rider will obtain return for all pressure exerted upon the pedal. The plate being rigidly supported entirely across each end, there is no 15 possibility or chance for any twisting or torsion thereof, and this being so it follows that there will be no side thrust of the frame at the pedal-shaft. As a factor of safety the construction is also of marked advantage.

20 Any length of barrel may be employed, and the tread of the machine is not therefore limited.

Another important feature of the construction resides in the fact that a large space for 25 clearance of the sprocket is obtained and change of gear may be indulged in without fear of the sprocket coming into contact with the curved portion E.

30 The flat surface presented by the plate admits of ready cleaning at a point which has heretofore been one most difficult of access.

Having thus described my invention, what I claim is—

1. In a bicycle, the combination of a pedal- 35 shaft hanger; a rear fork; and a wide flat plate connected at its ends across its entire width to the hanger and fork respectively; whereby a rigid connection is secured between the parts and torsional movements are 40 prevented.

2. In combination with the pedal-shaft hanger of a bicycle; a flat plate rigidly affixed

thereto and extending rearwardly therefrom in an approximately horizontal plane; a semi-circular member connected to and extending 45 across the rear end of the plate; and forks connected to said semicircular member.

3. In combination with the pedal-shaft hanger of a bicycle; a flat plate rigidly affixed thereto and extending rearwardly therefrom 50 in an approximately horizontal plane; a semicircular member connected to and extending across the rear end of the plate; reduced extensions upon the ends of said member; and forks connected to said reduced ends. 55

4. In combination with the pedal-shaft hanger of a bicycle; a slotted web extending therefrom; a flat plate secured in said slot and extending rearwardly therefrom; a semi-circular member carried by the rear end of 60 said plate; and forks secured to the ends of said member.

5. In combination with the pedal-shaft hanger of a bicycle; a flat plate formed with longitudinally-extending ribs, secured to said 65 hanger and extending rearwardly therefrom; a semicircular member connected to and extending across the rear end of the plate; and forks connected to said member.

6. In combination with the pedal-shaft 70 hanger of a bicycle; a slotted web extending therefrom; rear forks; and a connection between said forks and the web, comprising two plates having formed integral therewith the curved channels H, said plates and channels 75 and the other parts being brazed together forming one integral structure, substantially as described.

In witness whereof I hereunto set my hand in the presence of two witnesses.

CHARLES L. TRAVIS.

Witnesses:

CHAS. R. CHUTE,
ALLEN ALDRICH.