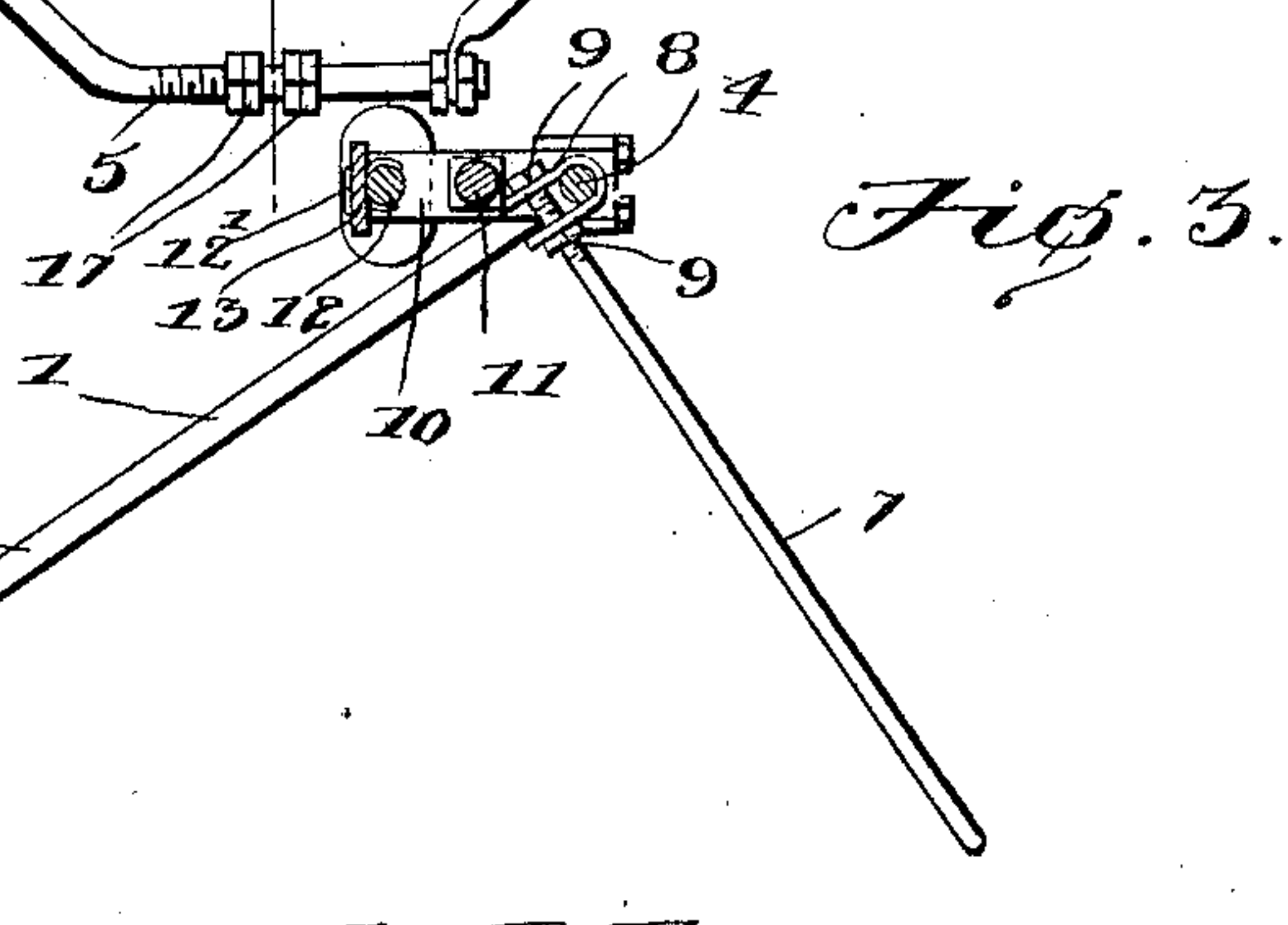
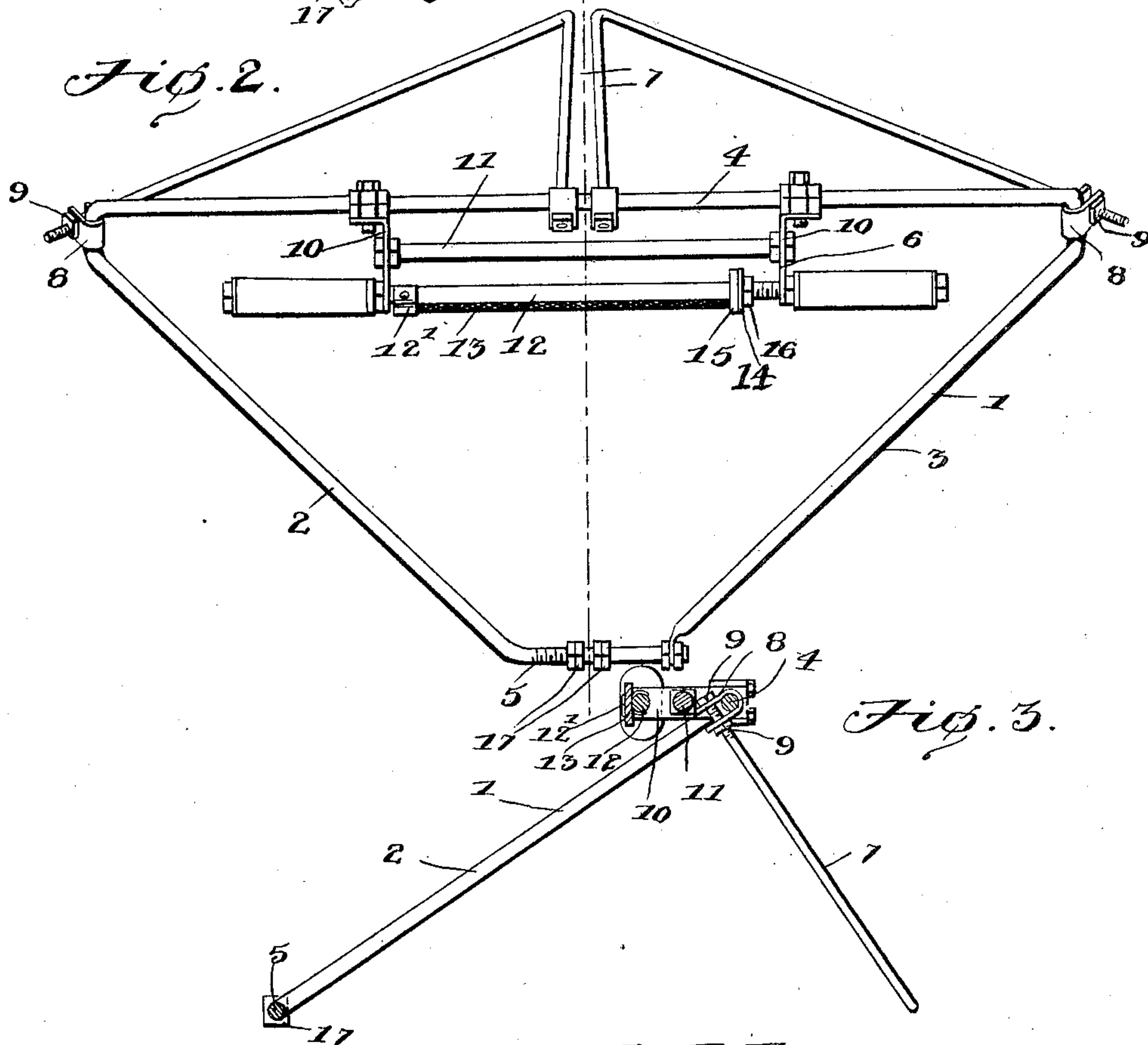
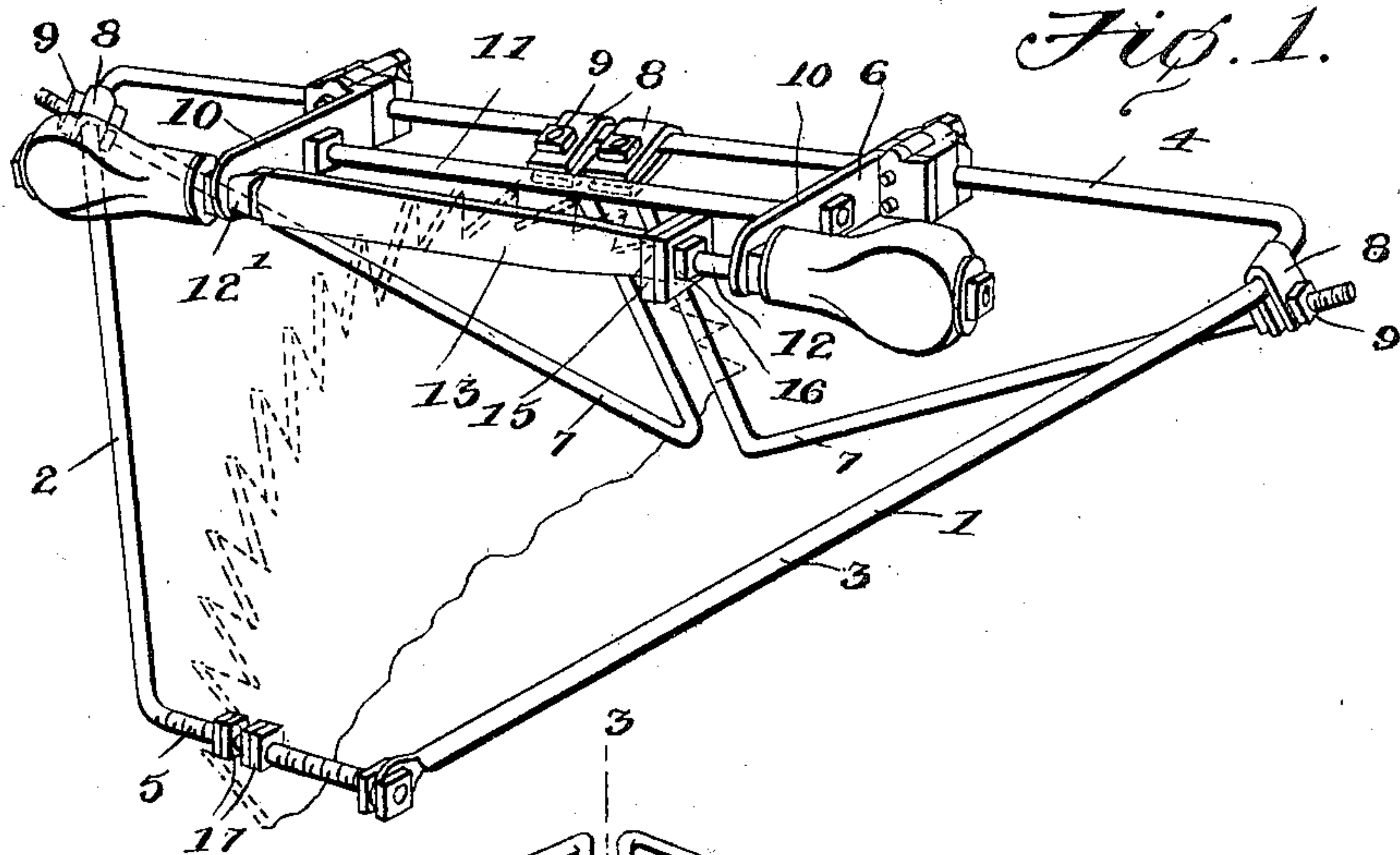


No. 827,623.

PATENTED JULY 31, 1906.

M. L. FINGER.
SAW FILER.

APPLICATION FILED APR. 26, 1906.



WITNESSES:

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MARTIN LUTHER FINGER, OF NEWTON, NORTH CAROLINA, ASSIGNOR OF
ONE-HALF TO JOSEPH P. FINGER, OF NEWTON, NORTH CAROLINA.

SAW-FILER.

No. 827,623.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed April 26, 1906. Serial No. 313,846.

To all whom it may concern:

Be it known that I, MARTIN LUTHER FINGER, a citizen of the United States, residing at Newton, in the county of Catawba and State of North Carolina, have invented a new and useful Saw-Filer, of which the following is a specification.

My invention relates to a saw-filing apparatus designed more particularly for use in connection with circular saws.

It has for one of its objects to provide a device of this character which can be readily placed in position on the saw and set from tooth to tooth as the filing operation proceeds without the use of clamping means, as has been necessary in saw-filers heretofore in use, so that the filing operation can be done expeditiously.

A further object of the invention is to provide a filing apparatus which is of simple, inexpensive, and substantial construction and adapted to operate with great facility.

In carrying out the invention I provide a frame preferably constructed of a single metal rod bolted together at its ends and provided with two parallel sides. One of the sides is considerably longer than the other and forms a guide on which reciprocates the carriage carrying the file. Mounted on the longer side of the frame are two symmetrically-disposed right-angular frames made of rods of suitable gage with two adjustable legs parallel and slightly separated to form jaws which are adapted to engage opposite sides of the body of the saw and support the apparatus thereon. The shorter side of the frame is adapted to engage in the space between the roots of adjacent teeth for a given filing position, and on the same are provided members engaging opposite sides of the saw, said members being adjustable for permitting the frame to be set at an angle to the plane of the saw, so as to enable the proper bevel to be given to the teeth.

For a more detailed understanding of the invention reference is to be had to the following description and to the claims appended hereto.

In the accompanying drawings, which illustrates one embodiment of the invention, Figure 1 is a perspective view of a saw-filing device arranged in position with a saw. Fig. 2 is a plan view. Fig. 3 is a section on line 3-3, Fig. 2.

Referring to the drawings, 1 represents a main frame, which is preferably, although not necessarily, made of a single bar of metal formed with two symmetrically-inclined sides 2 and 3 and two parallel sides 4 and 5. The side 4 is made perfectly straight, as the same constitutes a guide upon which the carriage 6 is adapted to reciprocate during the filing operation. Extending at substantially right angles to the plane of the main frame are two symmetrically-disposed triangular frames 7, which are each made of a rod and bent to form two legs of a right-angle triangle. The ends of these rods are threaded and are secured to the main frame by clips 8 and clamping-nuts 9, screwed on the thread. These secondary frames are arranged with two legs adjacent each other and substantially parallel, so as to form jaws that grip the saw on opposite sides. By adjusting the nuts on the inclined legs of the secondary frames the distance between the jaws can be adjusted for saws of different thicknesses, the adjustment being so made that the jaws will grip the saw with considerable pressure, so as to hold the apparatus rigidly in place. Besides forming jaws these secondary frames serve as brackets for bracing the side or guide 4 of the main frame and prevent flexing of the latter during the filing operation, thus preventing binding of the carriage on the guide 4, and also enable the file to follow an exact right line.

The carriage comprises two arms 10, pivoted on the guide 4 and connected by a tie-rod 11. At the outer end of the arm is swiveled a shaft 12, provided at both ends with handles. This shaft adjacent one arm of the carriage is fitted with a socket 12', that receives one end of a file 13. The opposite end of the file is held by a square retainer 14, faced by a leather washer 15 and clamped by a nut 16, screwed on the threaded portion of the shaft. By this arrangement it is merely necessary to unscrew the nut a turn or so, whereupon the adjacent end of the file can be moved outwardly from the washer and then withdrawn from the socket. In this way new portions of the file can be used for filing or a new file readily substituted.

The short side 5 of the frame is adapted to rest in the space between two adjacent teeth for a given filing position. It is provided with adjustable members adapted to engage

on opposite sides of the saw to adjust the main frame and hold it at the proper position—that is to say, by adjusting these members to one side or the other of the central plane of the apparatus the guide or side 5 4, and hence the file, can be set at the desired angle to the plane of the saw for producing the proper bevel on the teeth. These members preferably take the form of nuts 17, 10 that engage on the thread 18 on the short side of the frame.

The operation is as follows: The saw may be suitably supported in an operative position on its permanent spindle, and the filing apparatus 15 is applied thereto by inserting the saw between the jaws. The side 5 of the main frame is then situated in the space between the roots of two adjacent teeth. The nuts 17 are next adjusted to one side or the other of the central plane until the guide 4 and file 13 assume 20 the proper angular position to produce the desired bevel on the teeth. The tooth adjacent the file is then sharpened, after which the machine is set to a succeeding tooth and 25 the operation repeated until the corresponding teeth are finished. In order to finish the second set of teeth, the nuts 17 are adjusted in the opposite direction to a corresponding degree and the filing of the teeth proceeded 30 with. It will thus be seen that the teeth of each set can be filed one after the other without further adjustment of the machine after the same is initially adjusted. Furthermore, as the machine is not mechanically 35 clamped to the saw it is readily set from tooth to tooth without any loss of time.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a saw-filing device, the combination 40 of a main frame provided with a member arranged and adapted to loosely rest on a saw between two teeth thereof and with a guide, a file-carriage movable on the latter, members for gripping the sides of the saw, an adjustable means on the said member arranged 45 to engage on opposite sides of the saw for setting the frame on the latter to produce the desired bevel on the saw-teeth.

2. In a saw-filing device, the combination 50 of a frame comprising two parallel sides, one of which forms a guide, a file-carriage on the guide, members on one of the parallel sides of the frame for engaging the saw to hold the device thereon, and adjustable means on the 55 other of the parallel sides which also engage the saw and determine the set of the file-carriage with respect to the saw-teeth.

3. In a saw-filing device, the combination 60 of a frame constructed of a metal bar and formed with two parallel sides, a carriage guided on one of the sides, jaws on the side of the frame that guides the carriage arranged to yieldingly grip the saw and to brace the said side of the frame, means for adjusting 65 the jaws toward or from each other to vary

their gripping effect on the saw, means on the other parallel side of the frame for engaging the saw and adjusting the device with respect to the latter to produce the desired set of the file-carriage. 70

4. In a filing device, the combination of a main frame provided with a guide, a file-carriage guided by the latter, two triangular frames arranged at right angles to the plane 75 of the main frame which are adapted to yieldingly grip opposite sides of the saw to hold the device in position thereon, and means arranged to engage the saw for setting the device as a whole to obtain the desired relation between the file and the saw-teeth. 80

5. In a saw-filing device, a file-carriage comprising parallel arms suitably spaced apart, a tie-rod rigidly connecting them, a swiveled shaft mounted on the arms, handles 85 on the ends of the shaft, a socket secured to the shaft, and a leather-faced adjustable retainer which with the socket is arranged and adapted to engage the ends of the file and hold the latter to turn with the shaft.

6. In a filing device, the combination of a 90 main frame comprising two symmetrically-inclined portions connected to parallel portions of unequal length, a thread on the shorter portion, adjustable nuts thereon, a file-carriage on the longer portion, symmetrically-disposed triangular frames arranged 95 adjacent the guide portion of the main frame and disposed with two legs adjacent and substantially parallel to each other, and means for connecting the triangular frames with the 100 main frame.

7. In a filing device, the combination of a main frame comprising two symmetrically-inclined portions connecting two parallel 105 portions of unequal length, a thread on the shorter portion, adjustable nuts thereon, a file-carriage on the longer portion, symmetrically-disposed triangular frames arranged adjacent the guide portion of the main frame 110 and disposed with two legs adjacent and substantially parallel to each other, clips on the main frame, and means for adjustably connecting the ends of the triangular frame with the clips.

8. In a saw-filing device adapted to be 115 loosely mounted on the saw to be filed, the same comprising a main frame, jaws on the main frame which yieldingly engage the opposite sides of the saw, means on the main frame for engaging between two adjacent 120 teeth for a given filing position, a guide on the frame, and a file-carriage movable on the guide.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 125 the presence of two witnesses.

MARTIN LUTHER FINGER.

Witnesses:

T. C. CLIFTON,
G. C. LITTLE.