

A. MILLER.  
DITCHING WHEEL.

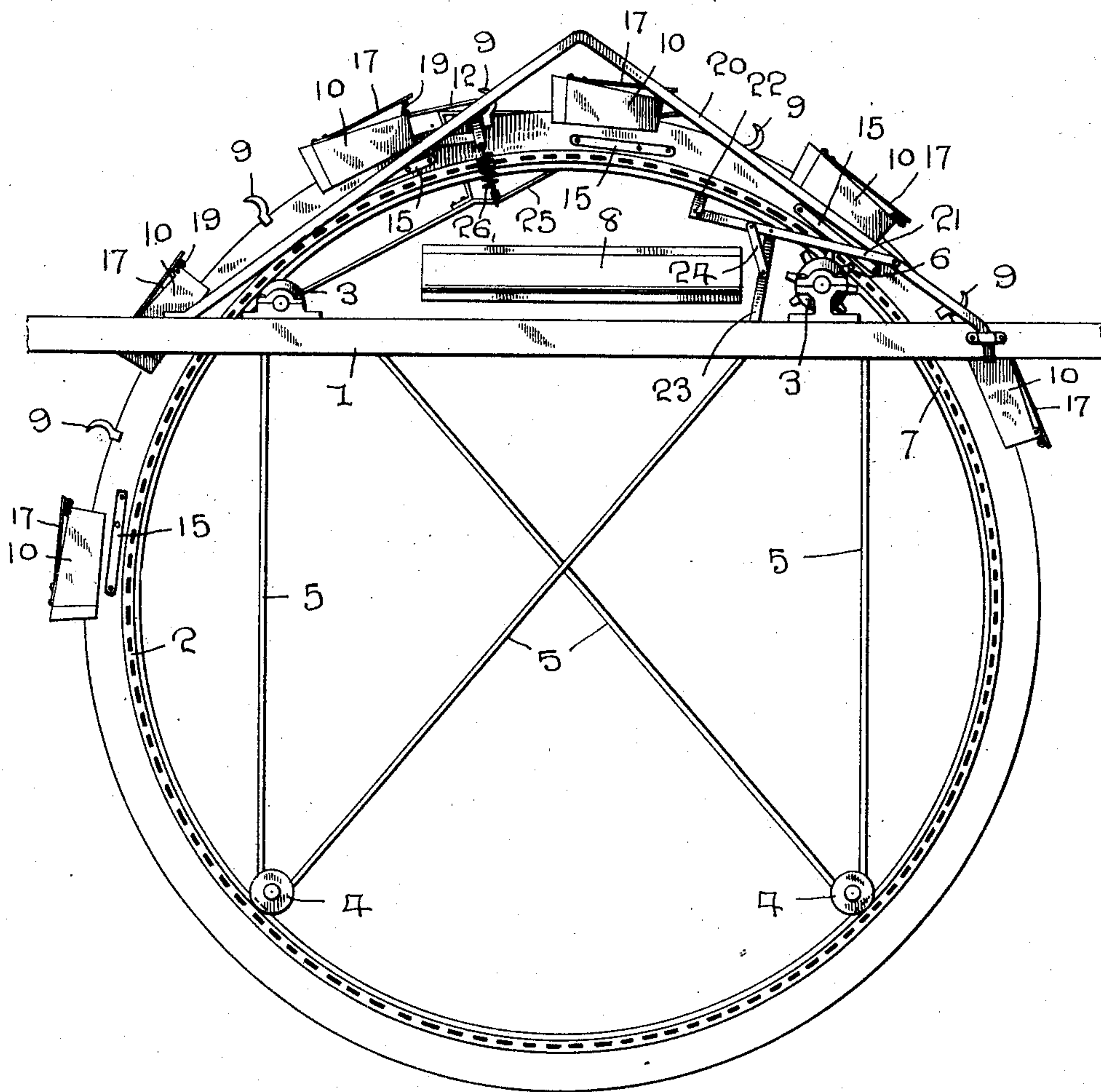
APPLICATION FILED JUNE 16, 1908.

907,078.

Patented Dec. 15, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

Thomas W. Riley  
W. C. Lawson

INVENTOR

A. Miller

BY

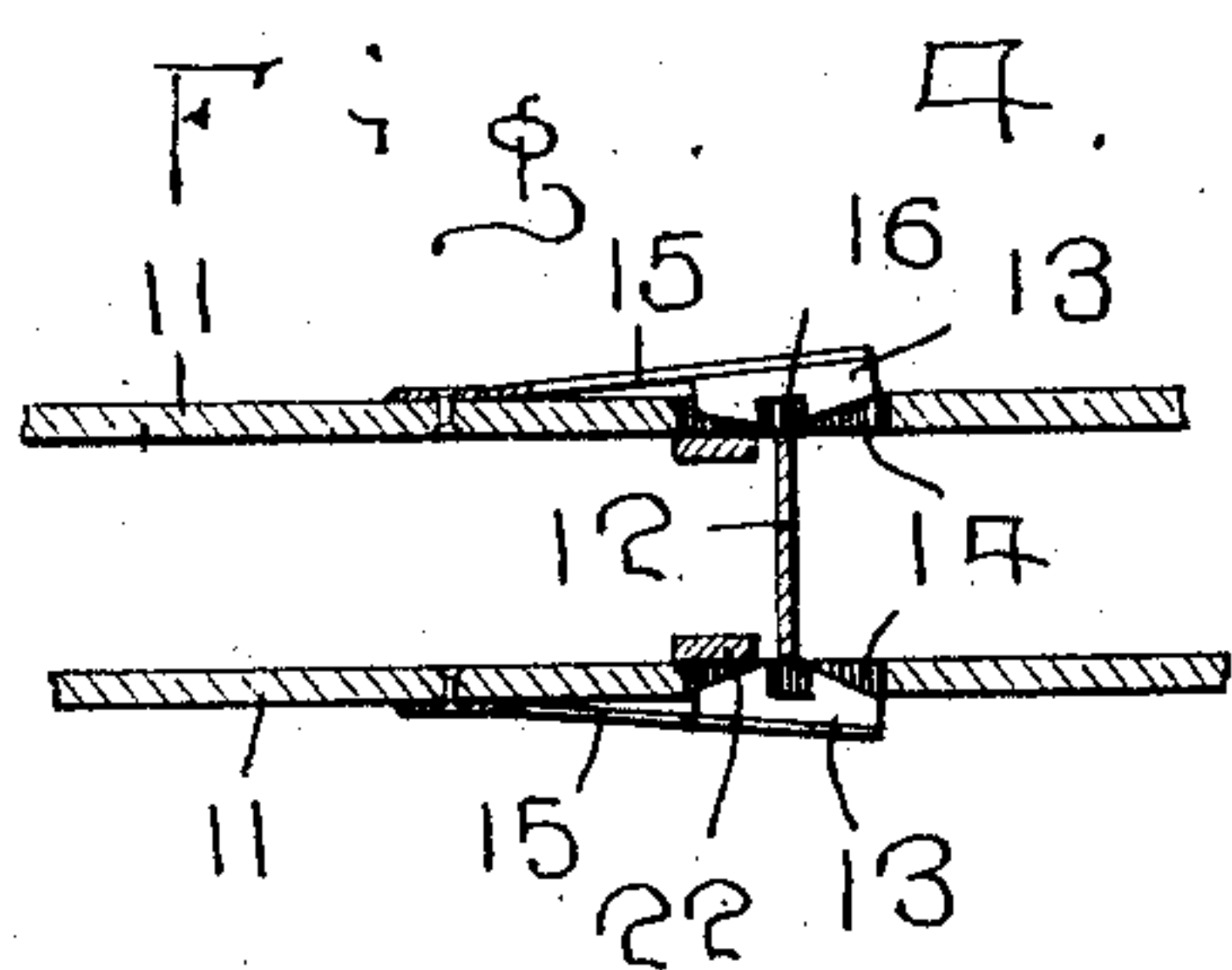
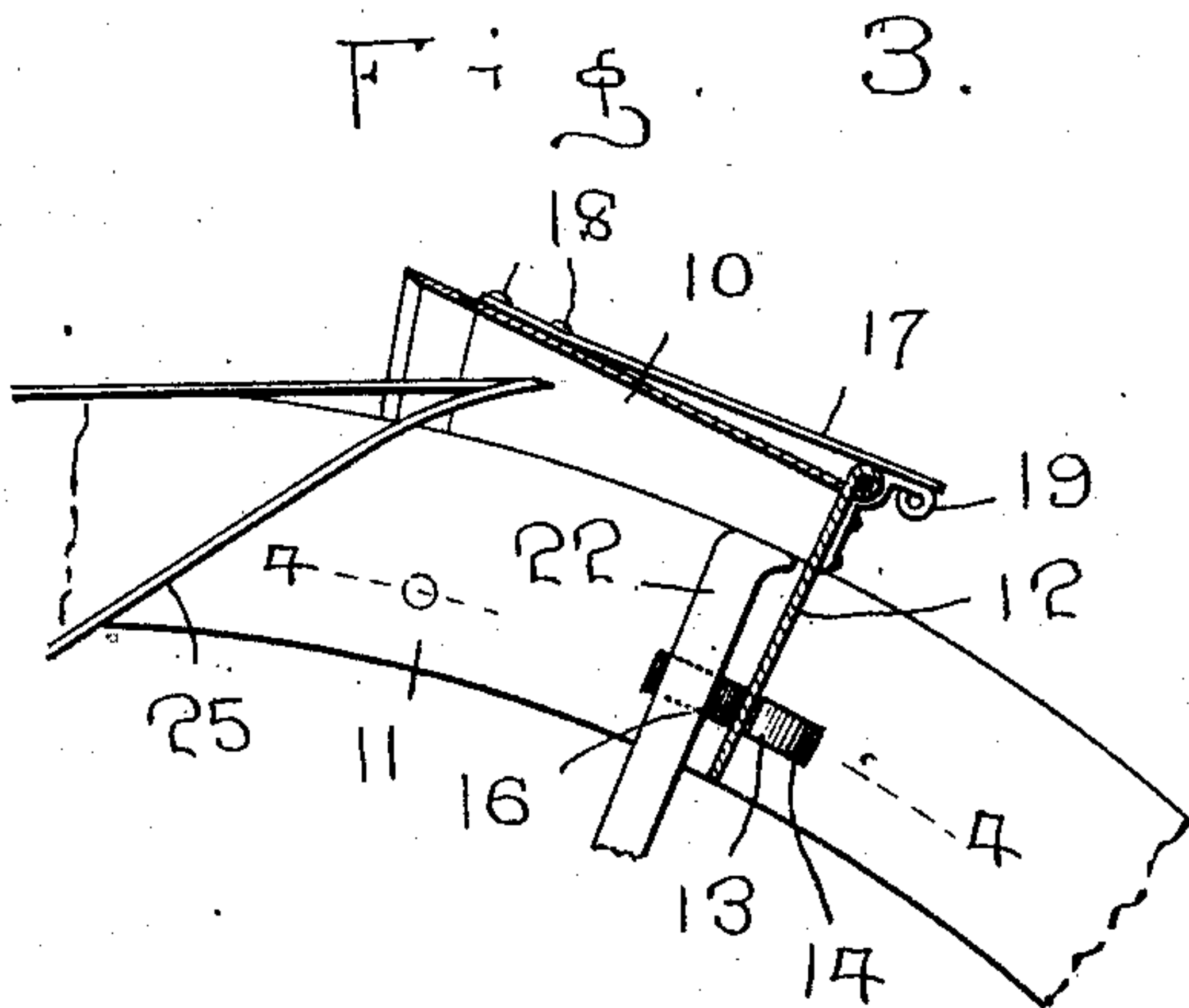
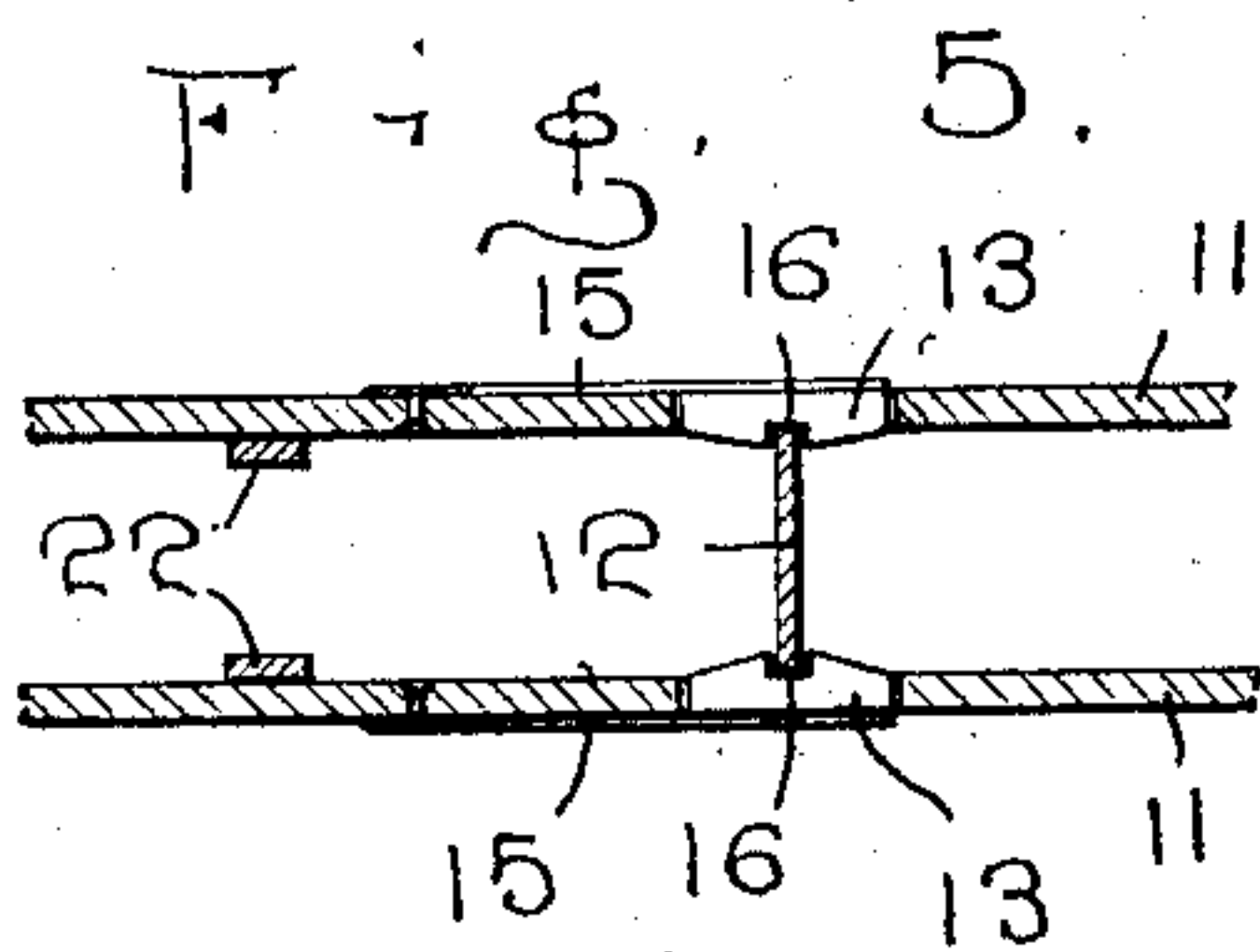
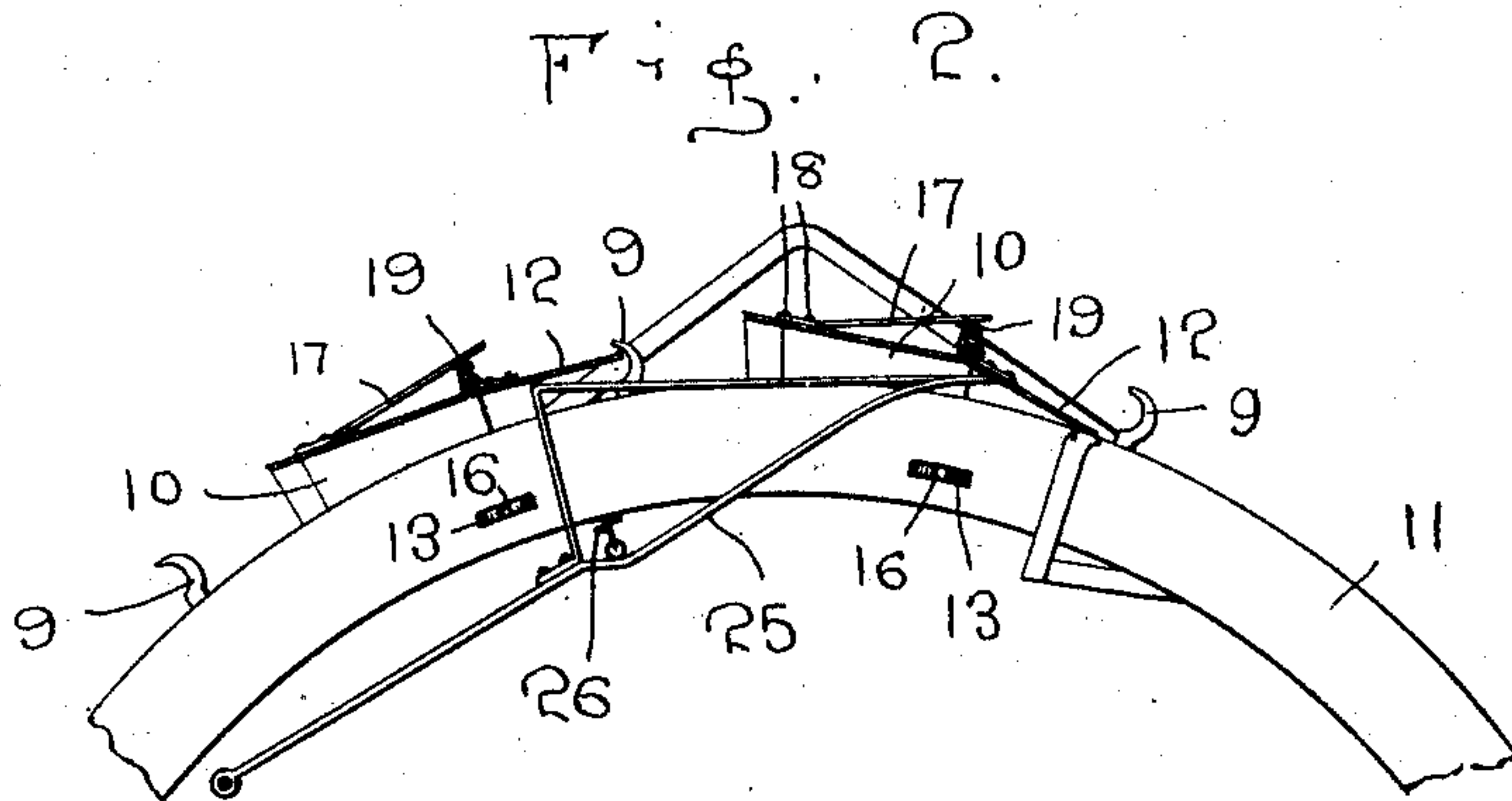
W. J. Fitzgerald & Co  
Attorneys

A. MILLER.  
DITCHING WHEEL.  
APPLICATION FILED JUNE 16, 1908.

907,078.

Patented Dec. 15, 1908.

2 SHEETS—SHEET 2.



WITNESSES:

Thomas W. Riley  
W. C. Lawton

A. Miller INVENTOR

BY W. J. Fitzgerald & Co. Attorneys



# UNITED STATES PATENT OFFICE.

ADOLPH MILLER, OF OAKHARBOR, OHIO.

## DITCHING-WHEEL.

No. 907,078.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed June 16, 1908. Serial No. 438,872.

*To all whom it may concern:*

Be it known that I, ADOLPH MILLER, a citizen of the United States, residing at Oakharbor, in the county of Ottawa and State of Ohio, have invented certain new and useful Improvements in Ditching-Wheels; 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 new and useful improvements in ditching wheels and it is the primary object of the invention to provide a novel device of this character wherein the buckets employed by such wheel are thoroughly cleaned, an advantage most desirable when the device is being employed in sticky or clayey soil. In ordinary devices of this character much trouble is occasioned by the fact that the soil carried up by the buckets sticks to them and is not discharged at the proper time upon the elevator or conveyor apron. By this invention this difficulty is reduced to a minimum, if not entirely obviated.

It is also an object of the invention to provide a novel device of this character including buckets having hinged bottoms, said bottoms being normally locked in a closed position and released by certain of the cleaning or scraping mechanism.

It is also an object of the invention to provide a novel device of this character which will be simple in construction, efficient and advantageous in practice and comparatively inexpensive to manufacture.

With the foregoing and other objects in view the invention consists of the details of construction and in the novel arrangement and combination of parts to be hereinafter more particularly referred to.

In describing the invention in detail reference will be had to the accompanying drawings forming part of this specification wherein like characters of reference denote corresponding parts in the several views and in which,

Figure 1 illustrates a side elevation of a ditch wheel involving the invention. Fig. 2 is a fragmentary sectional view illustrating certain details of the invention with the bottoms of the buckets open. Fig. 3 is an enlarged fragmentary sectional view illustrating the bottom of a bucket. Fig. 4 is a sec-

tional view taken on the line 4—4 of Fig. 3, and, Fig. 5 is a view similar to Fig. 4 illustrating the bottom of the bucket.

In the drawings, 1 denotes the ordinary frame for supporting the wheel and comprises two parallel beams between which the wheel 2 is mounted, said wheel having its inner periphery contacting with the rollers 3 mounted on the beams 1 and with the rollers 4 mounted on the brace beam 5. One of the rollers 3 is provided with the teeth 6 which mesh with the teeth 7 projecting from a side of the wheel and it is by proper rotation of this roller 3 having the teeth 6 that the wheel is rotated. Movable transversely of the wheel 2 above the beams 1 is the conveyor or elevator 8. All of these parts are of the usual construction as are also the cutters 9 interposed between the buckets 10.

The wheel 2 is formed of the suitably spaced circular rims 11 which are connected by the buckets 10 which are secured to the exterior surfaces thereof. The lower end of each of the buckets 10 has hinged thereto a bottom 12 which is normally engaged at opposed sides by the latches 13 projecting through the openings 14 in the rims 11 and secured to the ends of the spring or resilient arms 15. Each of the latches 13 is provided with a recess 16 which is adapted to straddle an edge portion of the bottom 12 and the edges of the latches 13 adjacent each side of the recess 16 are inclined for a purpose to be hereinafter mentioned. The hinged bottom is normally held in a closed position by the flat spring 17 secured at one end of a face of the bucket 10 as at 18 while the opposite or free end of the spring 17 bears against a foot 19 preferably L shaped in form and having its stem secured to the bottom 12, the foot of the stem projecting outwardly from the bottom 12 at its hinged edge. Each of the beams 1 has secured thereto a frame 20 approximately formed of an inverted V with the apex thereof positioned above the center of the wheel 2. To each of these frames 20 is secured the end of a rod 21 which projects inwardly of the wheel 2 and terminates in a plane therebeneath and to this inner end is secured an upstanding arm 22 which is adapted to contact with the inner face of a rim 11 so that any sticky or clayey soil adhering thereto will be removed during the rotation of



the wheel. This upstanding arm 22 is also adapted to contact with the inclined edge of a latch 13 and to force said latch out of engagement with a bottom 12 so that said  
 5 bottom may be opened or distended. The rod 21 is held in position by a supporting standard 23 secured at one end to one of the beams 1 and at its opposite end to the rod 21 and to further hold the rod 21 in posi-  
 10 tion, a diagonal brace 24 is secured at one end to the standard 23 and at its opposite end to the rod 21 as is believed to be fully shown in Fig. 1.

For the outer wall and bottom of the buck-  
 15 ets 10 is employed the scraper 25 which is pivotally secured to the beams 1 and held in operative position by the springs 26 secured to either side thereof and to the frames 20. By these springs it will be seen that the  
 20 scraper 25 will not only be elevated but will permit a yielding contact of the scraper with the buckets and bottoms thereof.

I claim:

1. The combination of a ditching wheel  
 25 having buckets thereon, each of said buckets being provided with a hinged bottom, a supporting frame, latches carried by the wheel for holding the hinged bottom closed and scrapers for the sides of the bucket con-

tacting with the latches to release the bot- 30  
 tom.

2. The combination of a ditching wheel having buckets thereon, each of said buckets being provided with a hinged bottom, a supporting frame, latches carried by the  
 35 wheel for holding the hinged bottom closed, scrapers for the sides of the bucket contacting with the latches to release the bottom and a yieldingly mounted scraper for the  
 40 outer walls of the buckets and the bottoms thereof when released from their latches.

3. The combination of a ditching wheel having buckets thereon, each bucket being provided with a pivoted bottom, a support-  
 45 ing frame for said wheel, an auxiliary frame carried by said supporting frame, scrapers carried by said auxiliary frame contacting with the sides of the buckets and a scraper  
 50 yieldingly carried by said auxiliary frame for contacting with the outer walls and bot-  
 toms of the buckets.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ADOLPH MILLER.

Witnesses:

CHAS. H. GRAVES,  
 GEO. C. MOESING.