

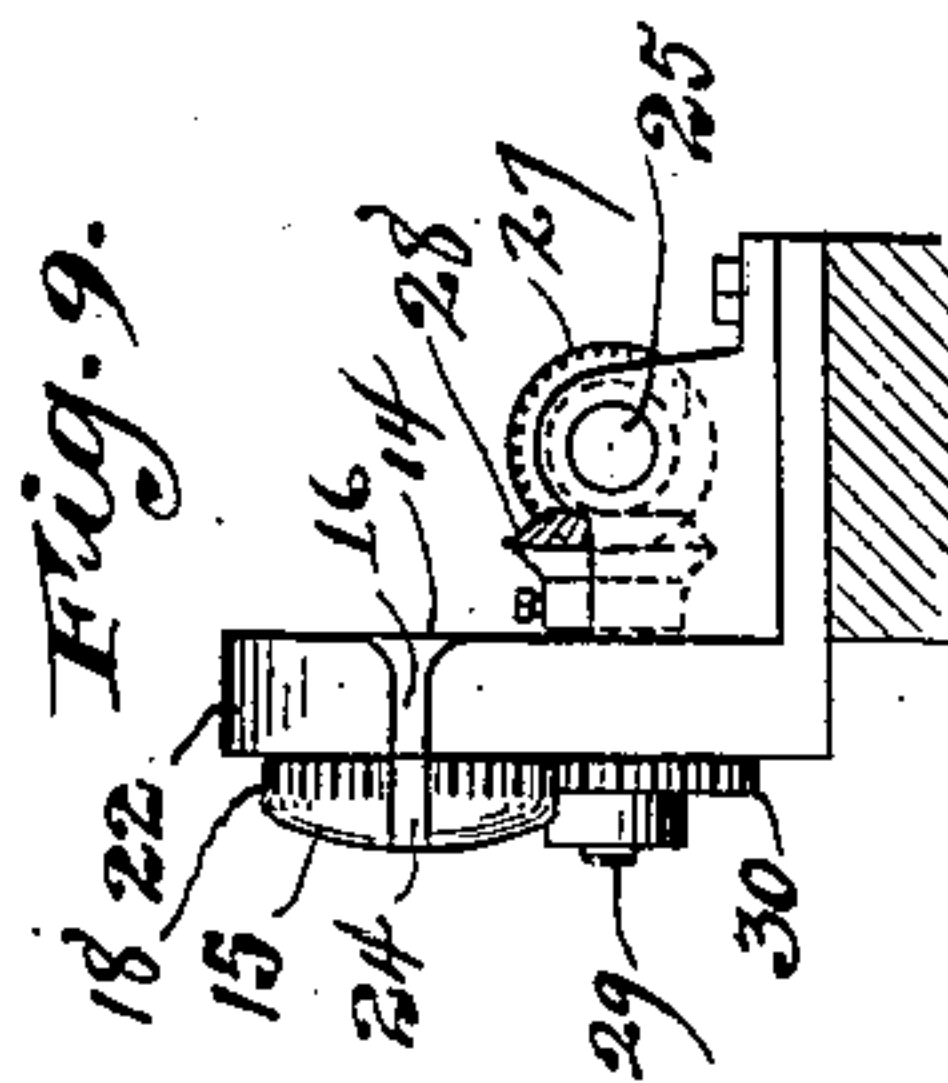
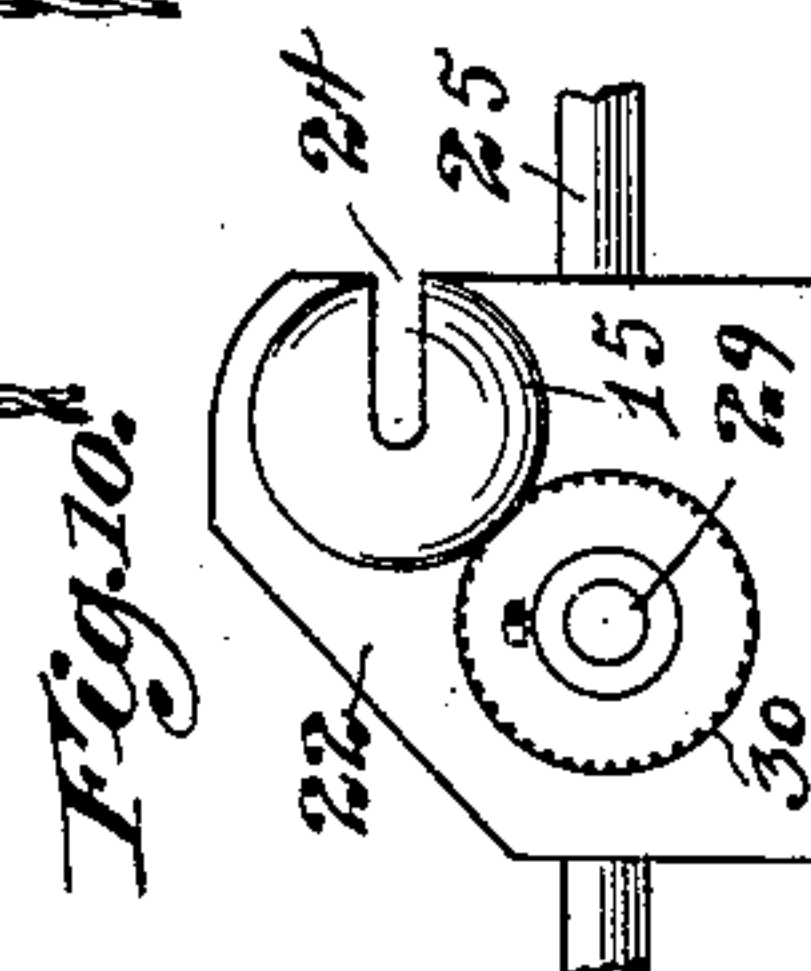
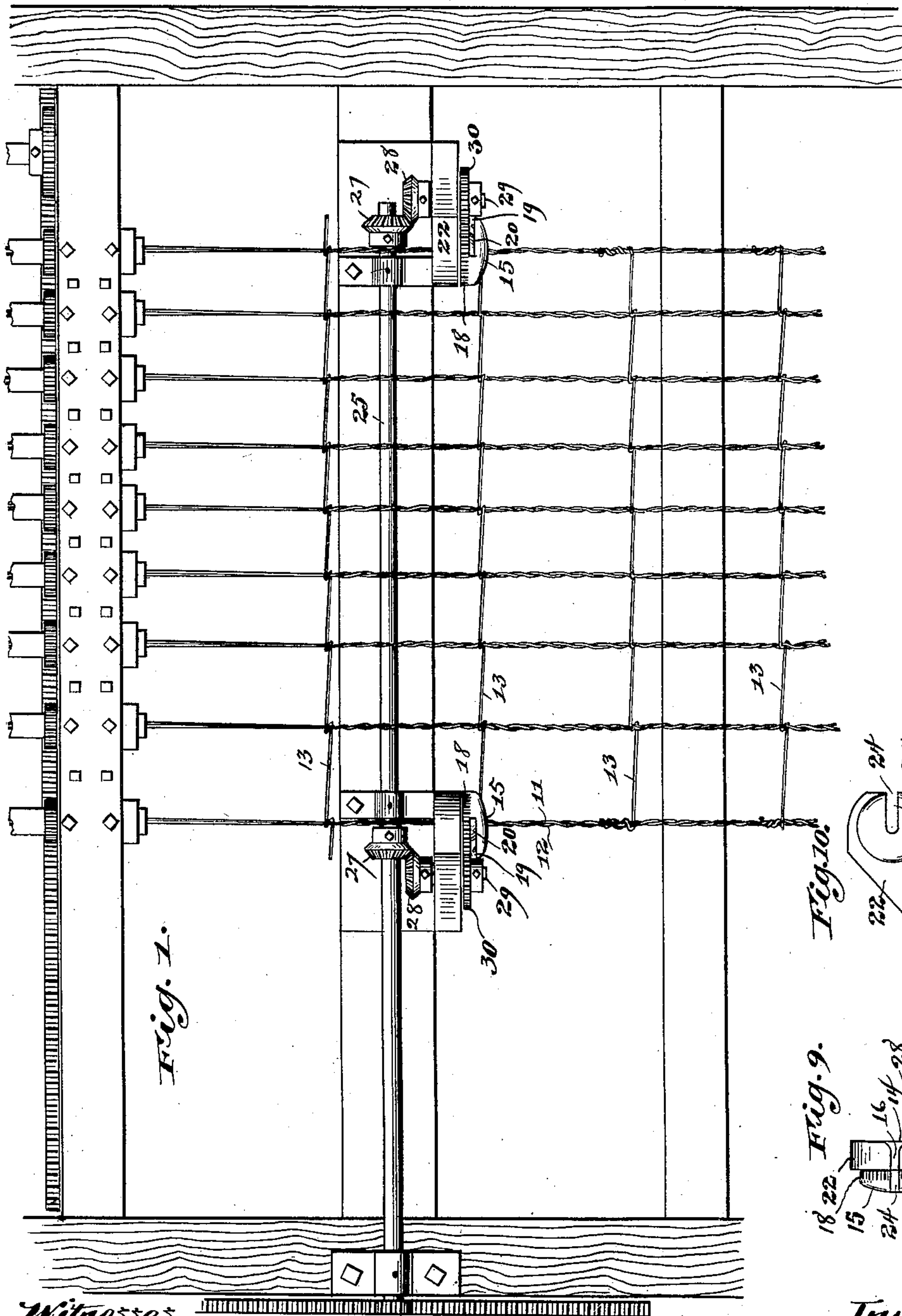
(No Model.)

2 Sheets—Sheet 1.

E. F. SHELLABERGER.  
WIRE FENCE MACHINE ATTACHMENT.

No. 599,976.

Patented Mar. 1, 1898.



Witnesses,  
J. S. Mann,  
Frederick Goodwin

Inventor,  
Edward F. Shellabarger  
By Offield, Towle & Luthicum  
Attys.

E. F. SHELLABERGER.  
WIRE FENCE MACHINE ATTACHMENT.

No. 599,976.

Patented Mar. 1, 1898.

Fig. 2.

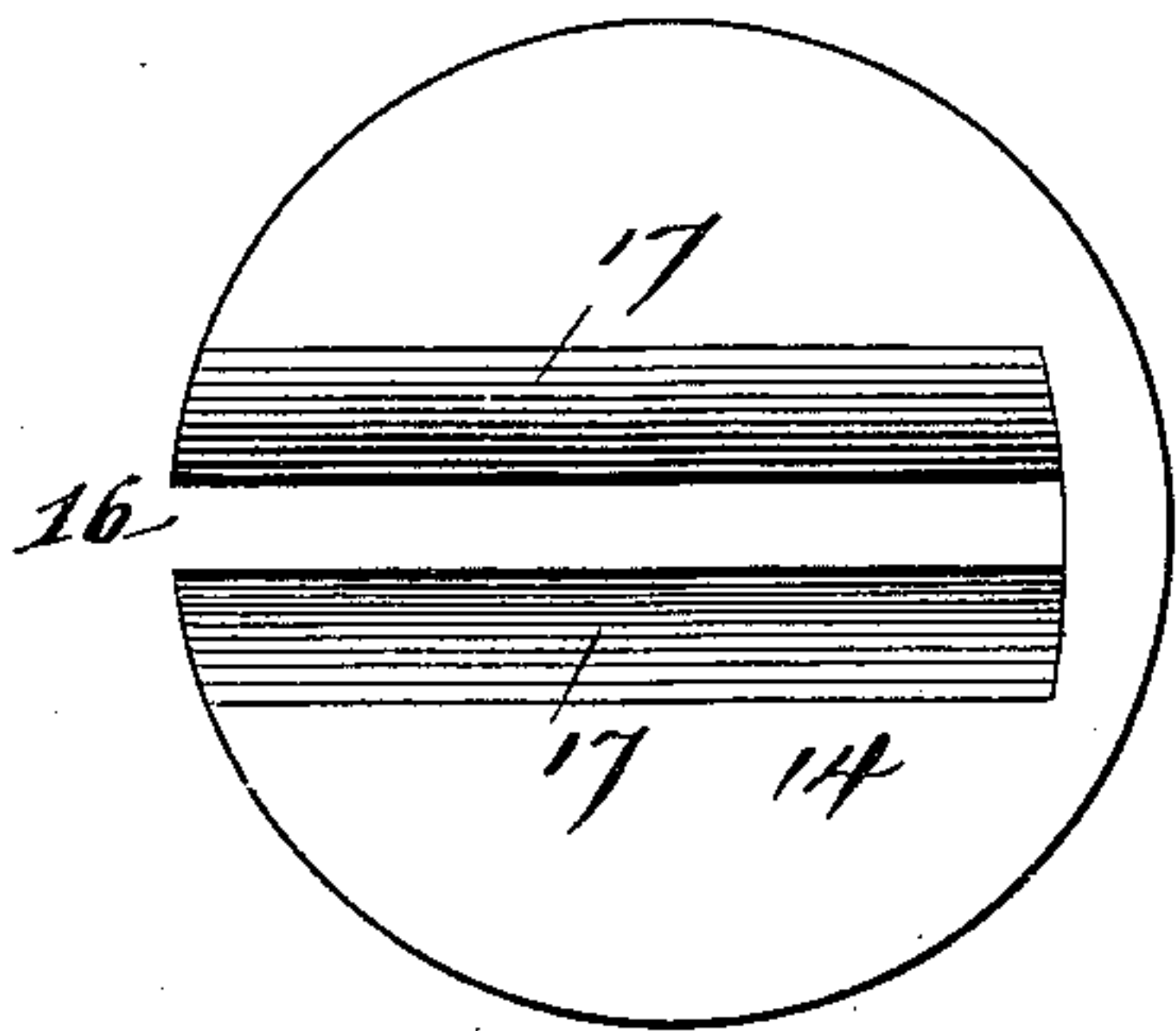


Fig. 5.

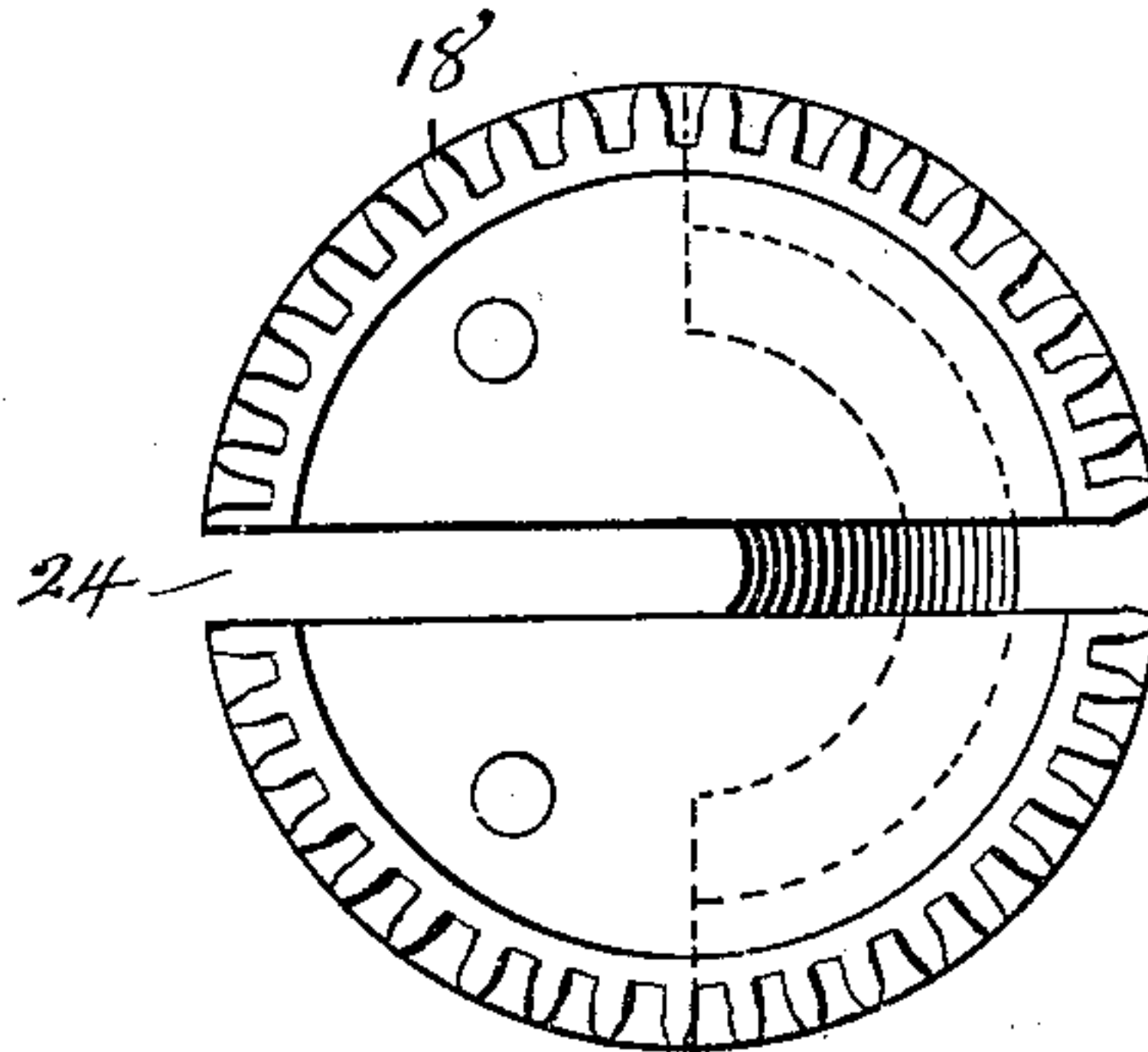


Fig. 3.

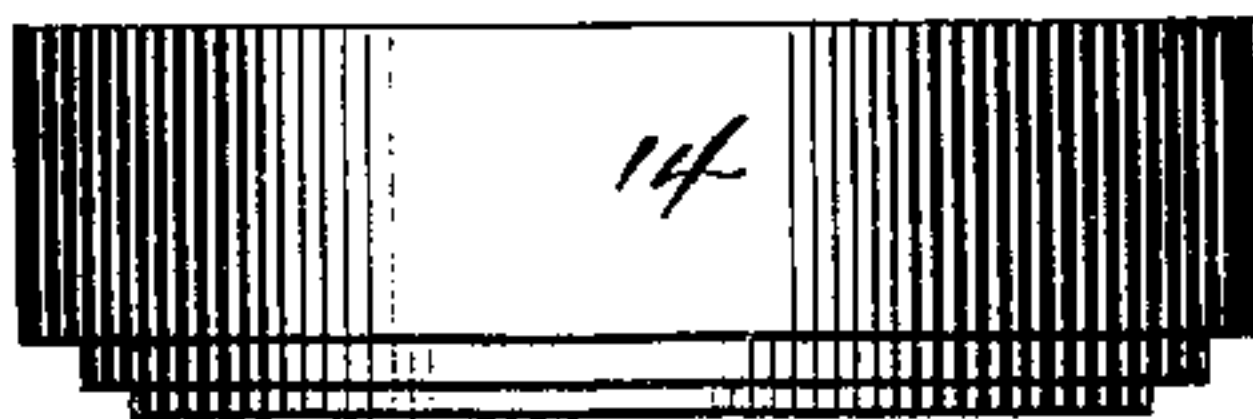


Fig. 6.

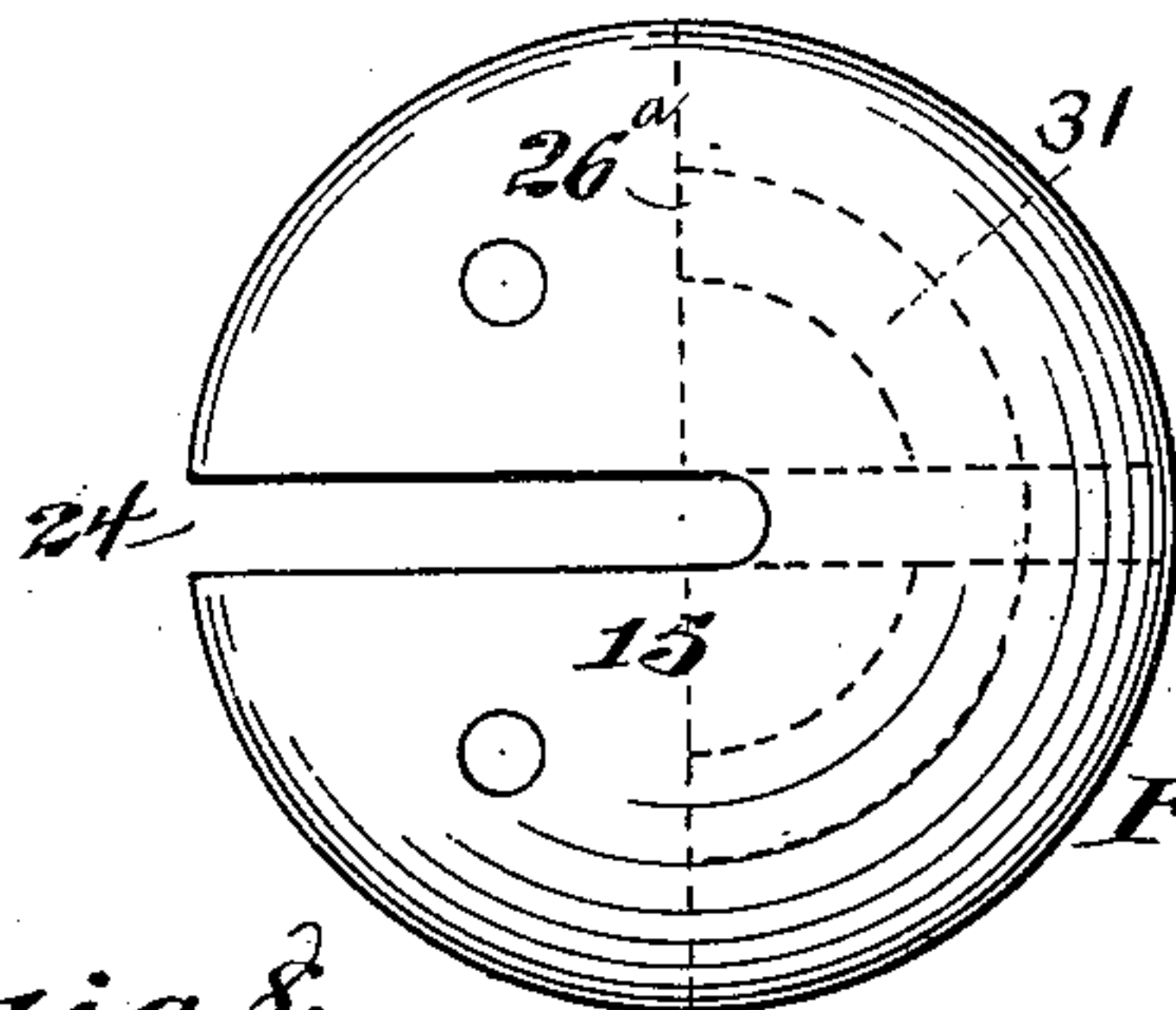
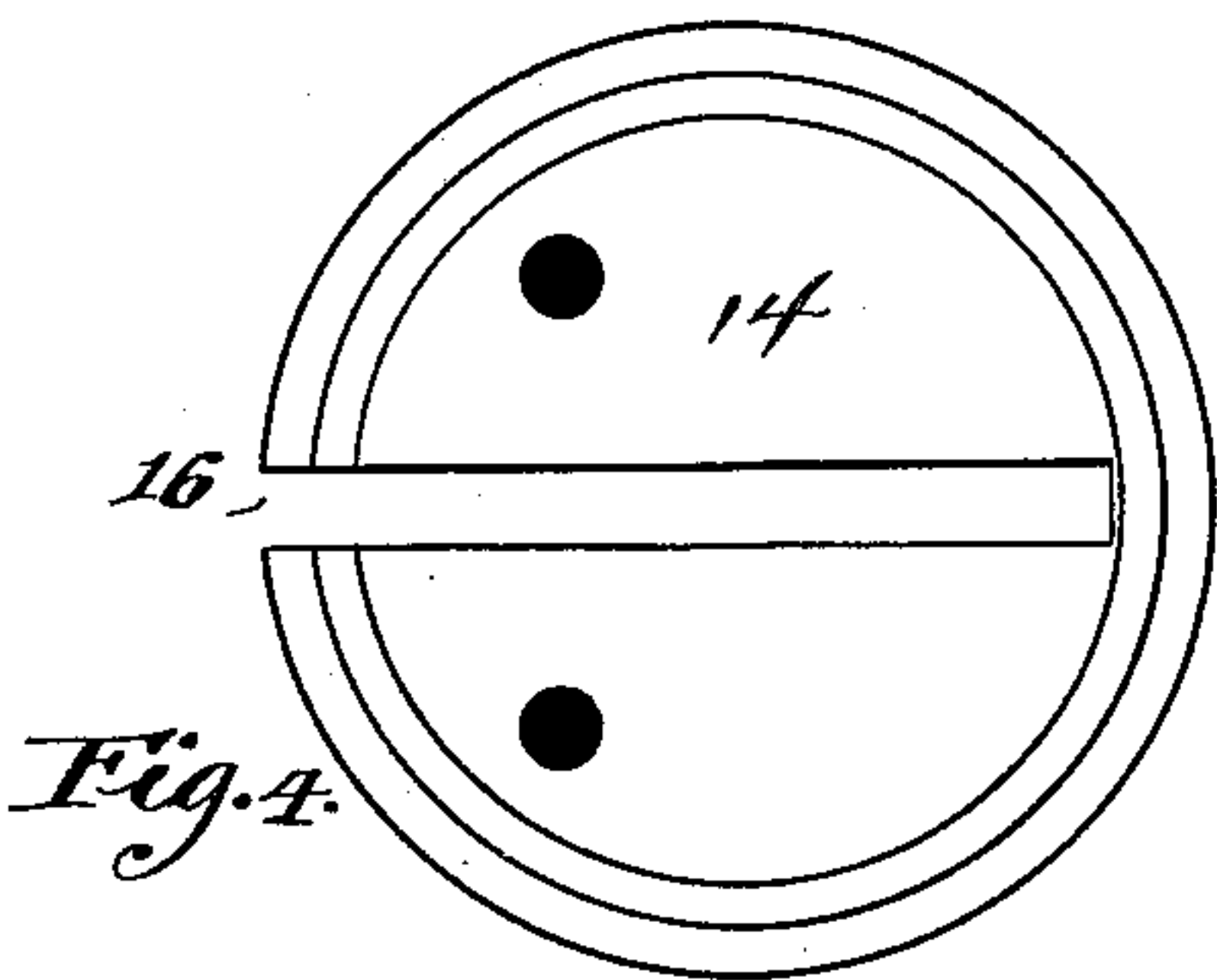
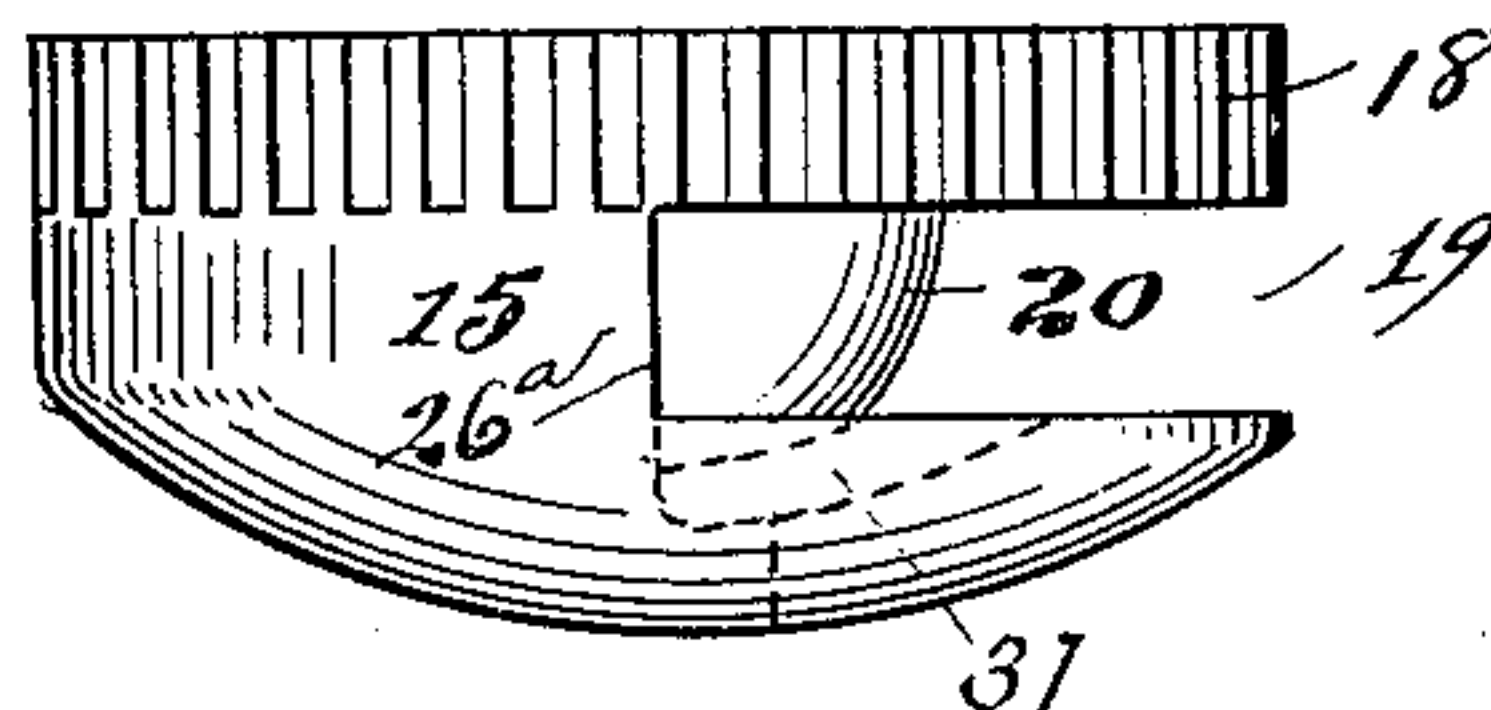
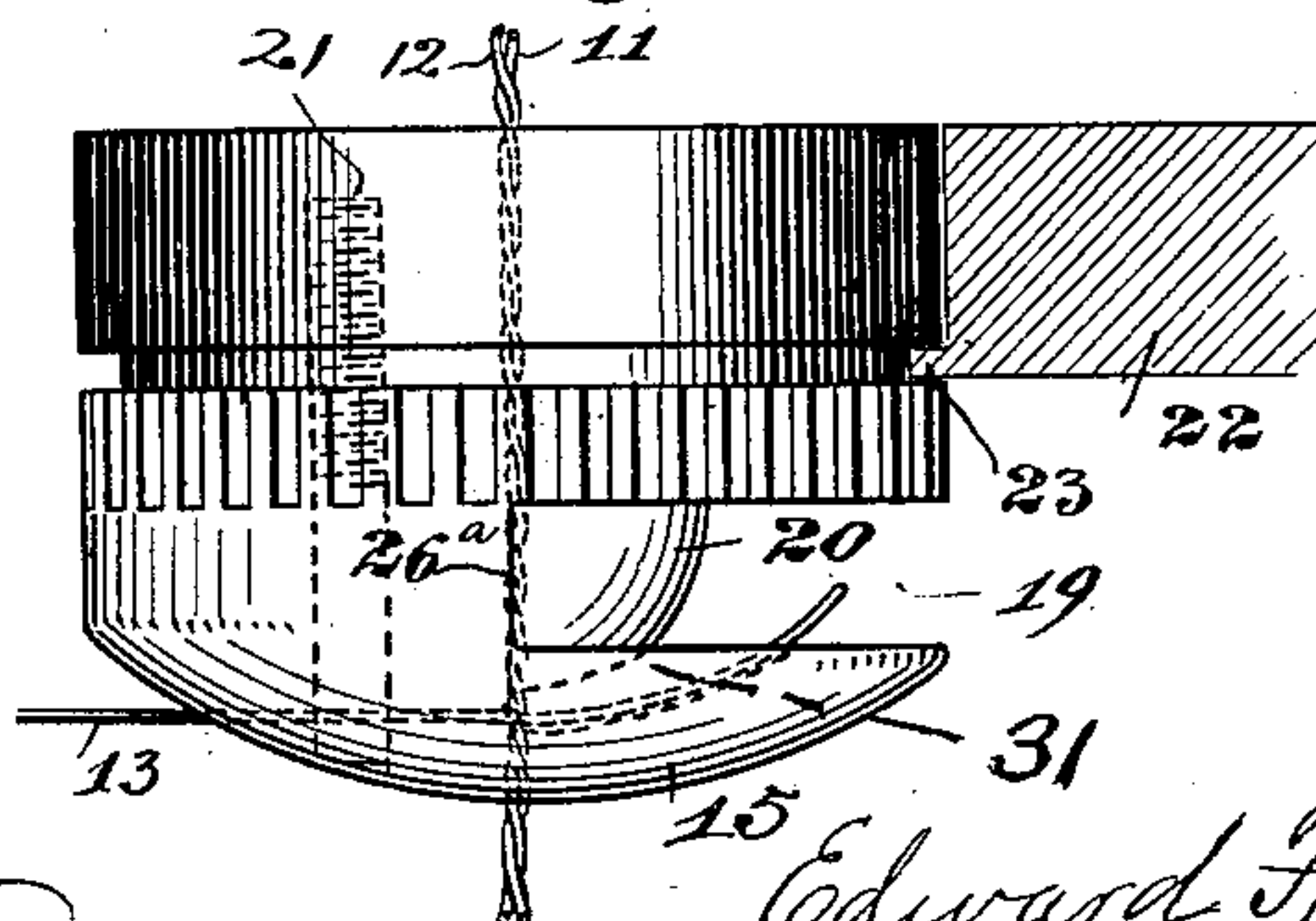


Fig. 8.



Witnesses,  
J. D. Mann,  
Frederick Goodwin

Inventor,  
Edward F. Shellabarger  
By Offield, Towle & Luthicium  
Attys.



# UNITED STATES PATENT OFFICE.

EDWARD F. SHELLABERGER, OF DE KALB, ILLINOIS.

## WIRE-FENCE-MACHINE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 599,976, dated March 1, 1898.

Application filed October 12, 1896. Serial No. 608,593. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD F. SHELLABERGER, of De Kalb, Illinois, have invented certain new and useful Improvements in Wire-Fence Machines, of which the following is a specification.

This invention relates to certain improvements in that class of machinery used for making wire fabrics, and more particularly to that class of wire fabrics in which a series of longitudinal cable or strand wires are transversely connected by tie or stay wires; and the invention consists more particularly in an attachment for wrapping the ends of the pickets around the marginal strands or cables, so as to give to the fabric a better finish and increase the strength of the fabric by giving the tie or stay wires a firm hold upon the marginal strands.

My attachment may be applied to weaving-machines of widely-varying construction; but as many forms of said machines are now used, and therefore well known, I will show and refer to only such portions of such machine as will be necessary to explain the relation of my invention thereto.

In the accompanying drawings, Figure 1 is a plan view showing my improvements attached to a weaving-machine, of which only the twist-ers are shown; and Figs. 2 to 10, inclusive, are detail views of the wrapping devices.

In the drawings are shown a line of twist-ers of well-known construction, said twist-ers being adapted to carry two wires 11 and 12 and said wires being twisted together to form the cables. The several cables are connected together transversely by tie or stay wires 13, which are placed between and are interwoven with the strands or cable-wires. The tie or stay wires may be formed upon a separate machine or interwoven with the strands from a continuous wire and severed at proper intervals. Said tie or stay wires are usually a little longer than the transverse width of the fabric, and these projected ends have sometimes been left outstanding and sometimes they have been coiled or wrapped about the marginal wires by hand. The means which I have provided for securing the ends of these tie or stay wires are shown in proper relation

to the weaving mechanism in Fig. 1 and in detail in Figs. 2 to 10, inclusive.

The wrapping or coiling mechanism in the preferred construction consists of a rotary body in two parts, (marked 14 and 15, respectively.) The part 14 is shown in front, edge, and rear view in Figs. 2, 3, and 4, respectively, and the part 15 is shown in front, edge, and rear view in Figs. 5, 6, and 7, respectively, while in Fig. 8 said parts are shown connected together and mounted in their bearing. The part 14 is a casting of circular form, having a slot 16 in its body extending from one edge of the body past its center and nearly to the opposite edge. The walls adjacent to said slot are beveled, as clearly shown at 17, Fig. 2. The part 15 has upon one margin thereof the peripheral gear-teeth 18 and a circumferential groove 19, extending through about one-half of the circumference of the body, with a rounded protuberance or bottom 20. The rear side of the part 15 is also curved or rounded. These parts 14 and 15 may be secured together by screws 21 and mounted in a bearing 22, having a lip or flange 23, working in a groove between the body 14 and the gear-teeth 18. Said bearing will have an opening on its inner side to register with the slot 16 in the casting 14. The part 15 has a transverse slot 24 to register with the slot 16, the slot 24 being shortened in the curved back portion of the part 15, as shown in Figs. 6 and 7. The interior of this curved shell is also chambered out around the base of said protuberance 20, as shown, forming a pocket 31. These parts 14 and 15 together constitute the means for wrapping the ends of the tie or stay wires around the marginal strands, and by reference to Fig. 1 it will be seen that as the fabric is drawn away from the twist-ers the projecting ends of the ties or stays will pass through slots 16 and 24 of these twisting devices, one of which is mounted at each side of the fabric, as clearly shown in Fig. 1. The marginal cables likewise pass through the slotted body of the wrapping or end-coiling devices, as shown in Fig. 8, and when the picket has reached the position there shown its extremity will lie in the opening or circumferential groove of the body 15, resting within the pocket or cham-



ber 31 of the part 15. The wrapping devices are then revolved, the means for revolving them being shown in Fig. 1 and consisting of the shaft 25, driven by the rack 26 and carrying miter-gears 27, engaging similar gears 28 on the short shafts 29, the latter having spur-gears 30, meshing with the gear-teeth 18. This wrapping device is preferably rotated two or more times, so as to wrap or coil the ends of the tie or stay wires around the marginal strands at least twice, as shown in Fig. 1. This wrapping is preferably effected during the intervals of rest of the fabric and while additional pickets are being inserted. The wrapping device will be located at such distance from the twisters as will enable the placing of the tie or stay wires between the strands issuing from the twisters and may be arranged at any desired distance from the twisters, but of course with some definite relation to the distance between adjacent tie or stay wires. When the wrapping device begins to revolve, it is evident that the projecting ends of the tie-wire lie in line with the slots 24, their extremities resting within the chambers or pockets 31 of the shell above the bulb or protuberance. The cable or strand wire occupies an axial position with reference to the revolving body, and it is obviously desirable to maintain the projecting ends of the tie or stay wire at substantially right angles to the marginal strands. It is also obvious that the ends will not begin to be wrapped until the body has performed a partial revolution, during which time the slots will have passed the ends of the tie or stay wire and the latter will be engaged by the shoulders or solid portions 26<sup>a</sup>. The bulb will keep the end of the tie-wire crowded back into the chamber and prevent it from being bent down parallel to the cable-strand, thus insuring its wrapping.

While I have shown and described only one form of construction, I do not limit my invention to the exact and specific form, as I am well aware that the same may be varied. The curving or rounding of the rear wall or face

of the twister-body enables the twister to revolve without hindrance from the tie or stay, which will be crowded out of the way laterally while the end of the stay is positioned within the chamber.

My invention is particularly applicable to the manufacture of fabric for wire fences, but may be used in the manufacture of fabric for other uses.

I claim—

1. A device for wrapping the ends of the transverse wires of a wire fabric around the marginal strands of said fabric, comprising a rotary body having a transverse slot or opening through which the marginal strand-wire and the end of the tie-wire may pass, said slot extending across the axis of said body, and said body having also a circumferential groove communicating with said slot, and means for revolving said body axially with reference to the strand-wire, substantially as described.

2. In a device of the class described, the combination with a metal body of circular form rotatably mounted and having a transverse slot or opening extending through its axis, a peripheral gear, and a circumferential groove, the bottom wall of said groove being rounded and the rear portion of said body being curved and interiorly chambered, substantially as described.

3. A twisting mechanism for wire-fabric machines, consisting of a circular body adapted to be rotatably mounted in a suitable bearing and having a peripheral gear, a transverse slot extending through the axis of said body, a circumferential groove extending approximately one-half way around said body and having a curved and sloping bottom wall, and the rear portion of said body being interiorly chambered and said chamber communicating with said transverse slot, substantially as described.

EDWARD F. SHELLABERGER.

Witnesses:

JUDSON BRENNER,

W. F. WILTBERGER.