

(No Model.)

J. ELDER.
TRACTION WHEEL.

No. 335,904.

Patented Feb. 9, 1886.

Fig. 1

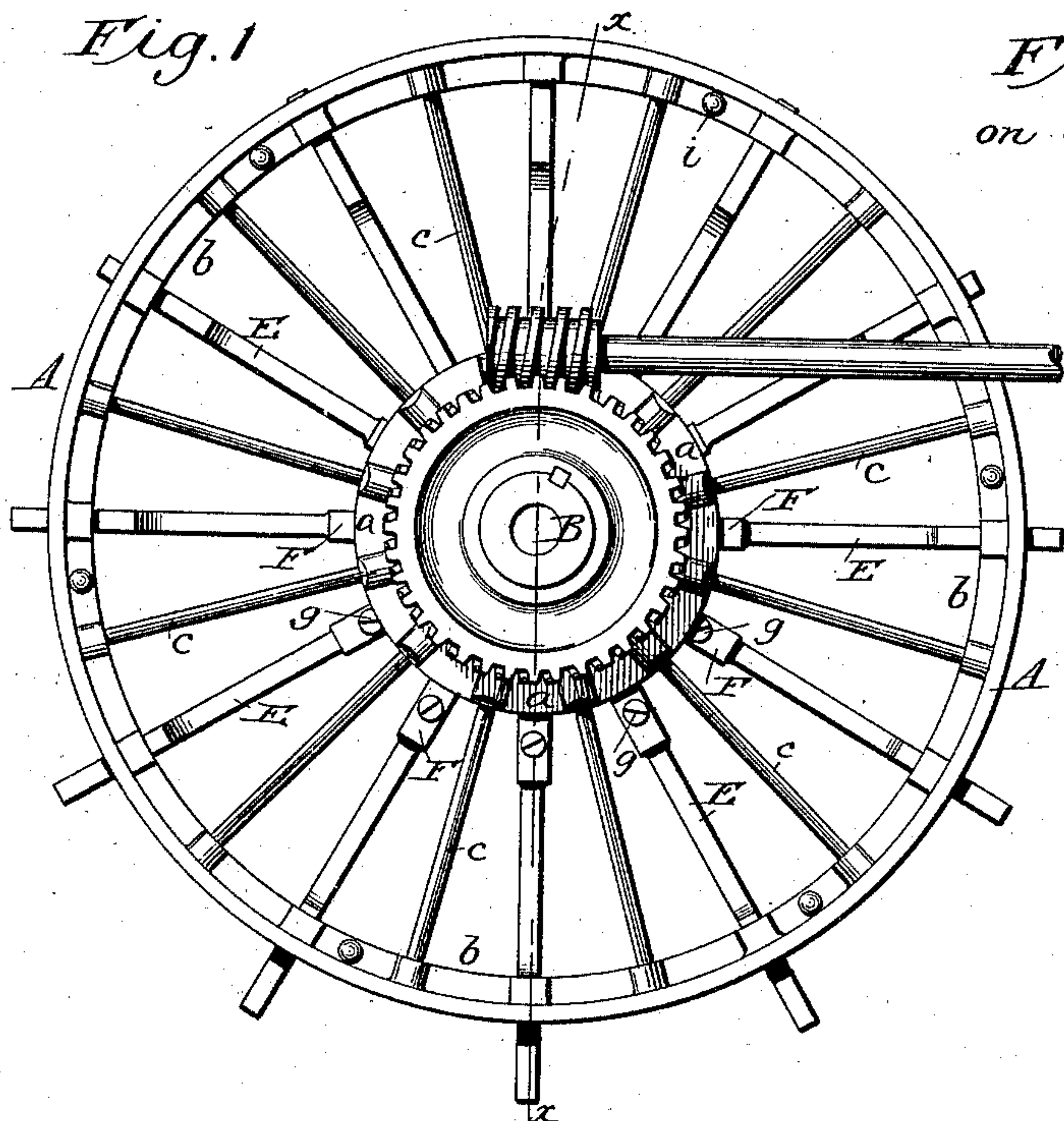


Fig. 2
on line x-x

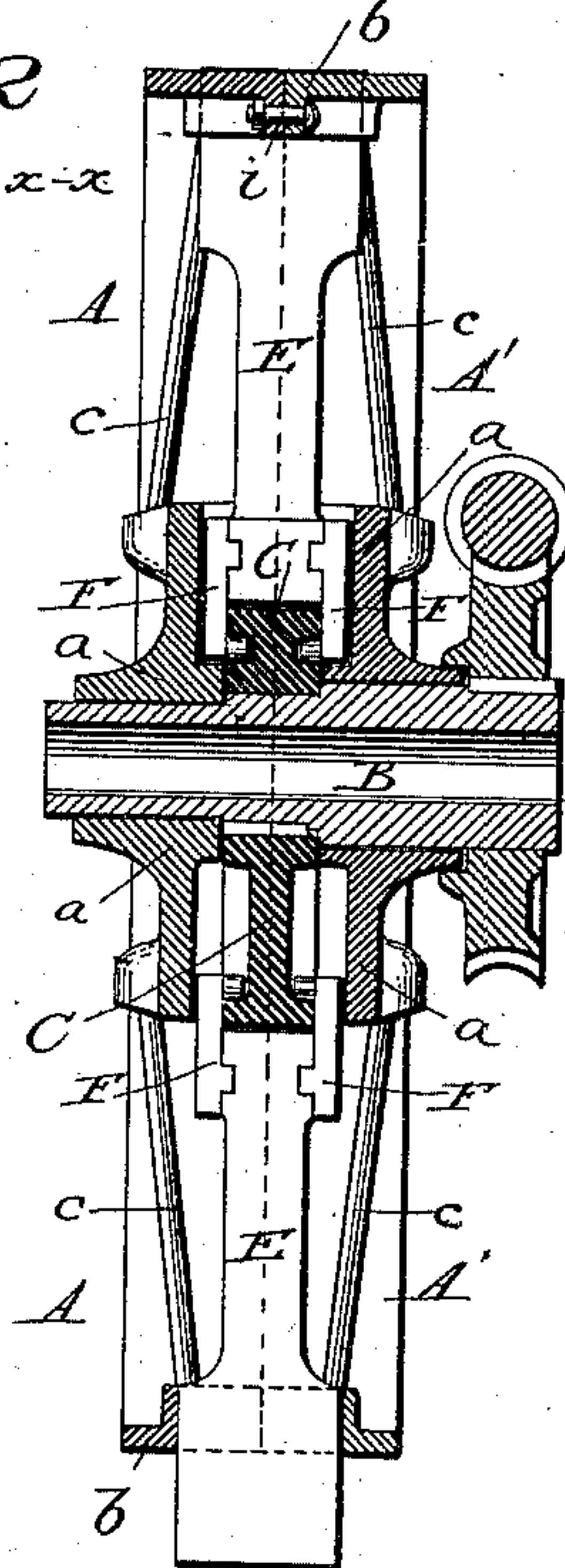


Fig. 3.

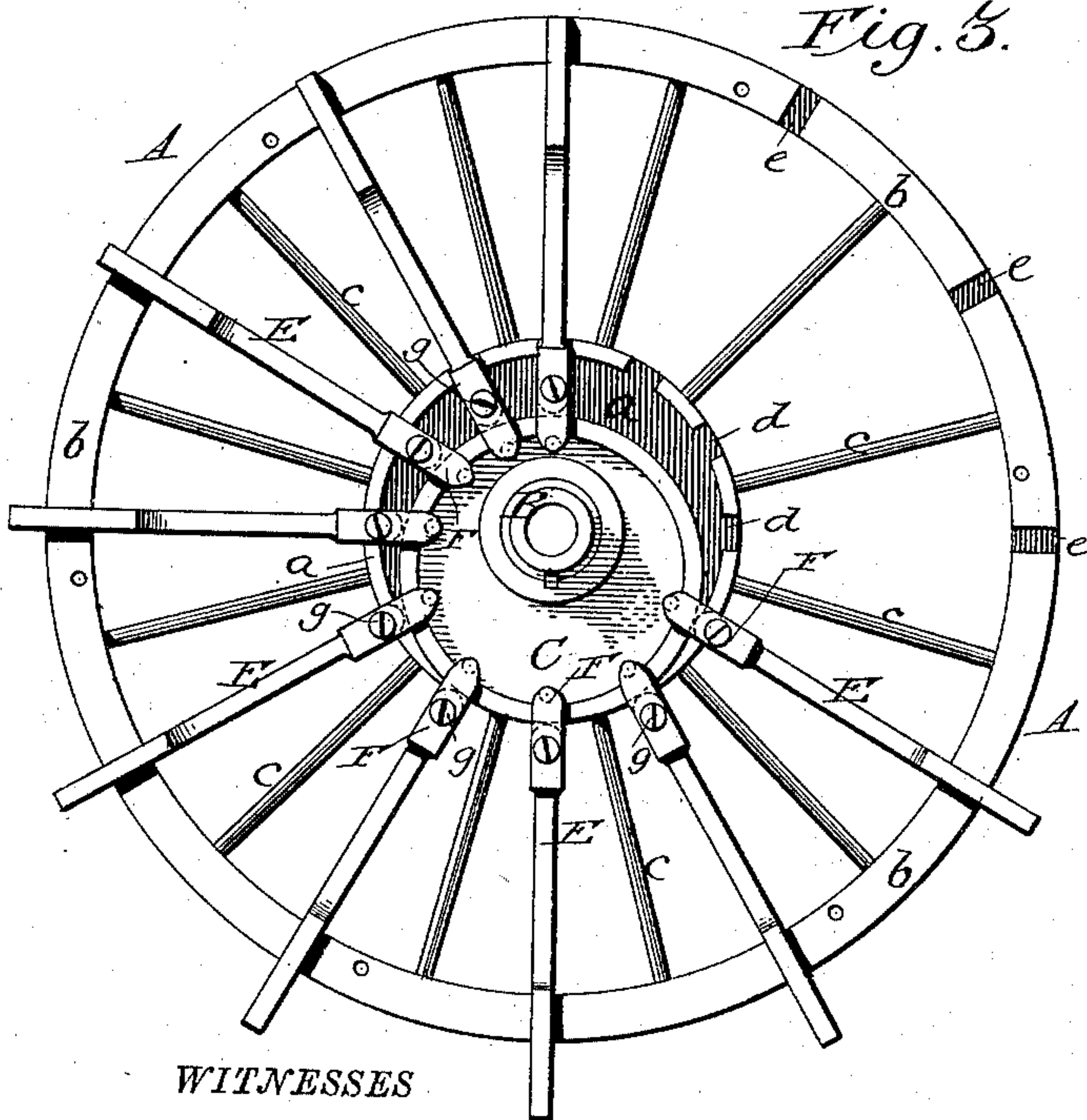
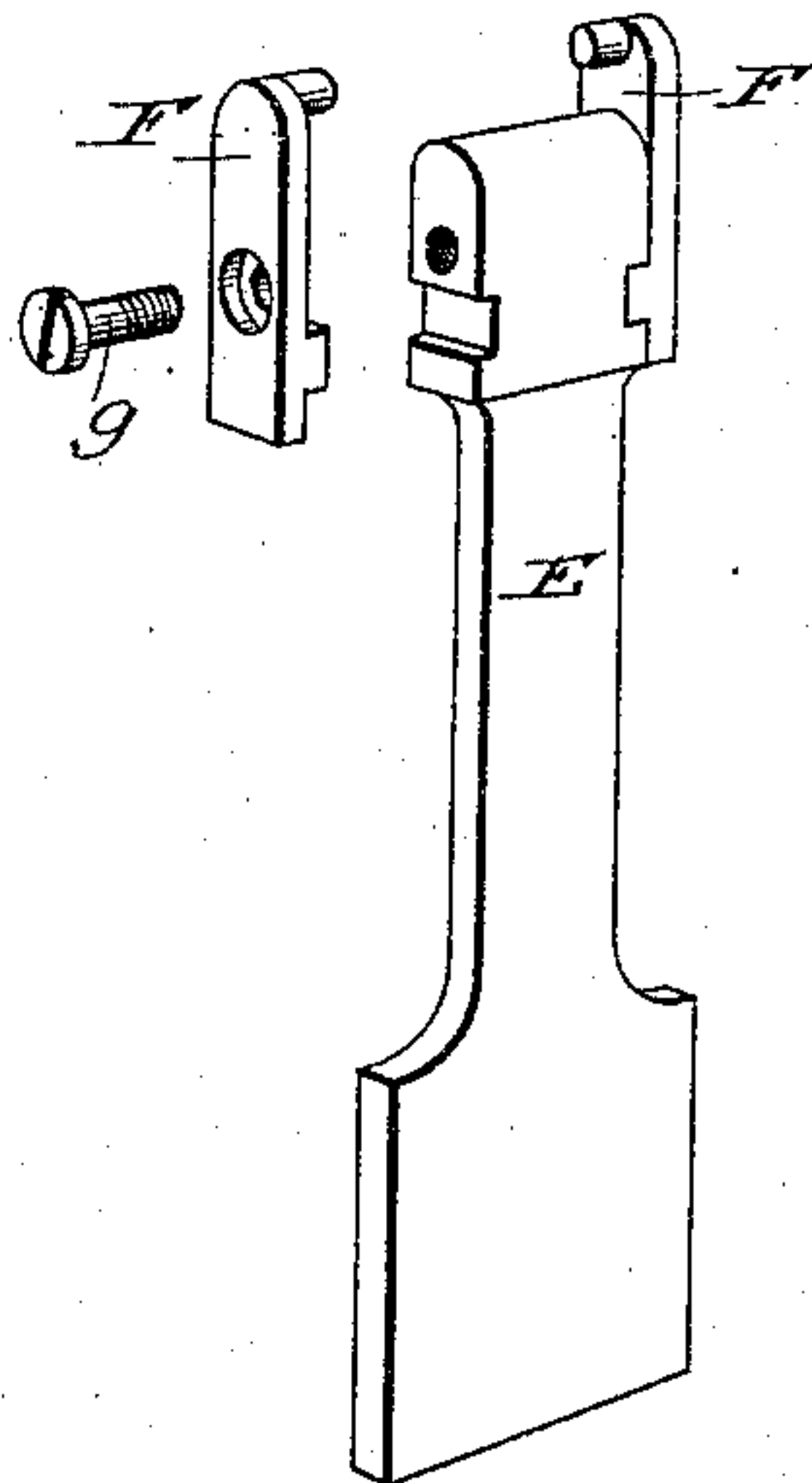


Fig. 4



WITNESSES

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JOSEPH ELDER, OF PEORIA, ILLINOIS.

TRACTION-WHEEL.

SPECIFICATION forming part of Letters Patent No. 335,904, dated February 9, 1886.

Application filed July 24, 1885. Serial No. 172,556. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ELDER, of Peoria, in the county of Peoria and State of Illinois, have invented certain Improvements in Traction-Wheels, of which the following is a specification.

This invention relates to that class of traction-wheels which are provided with blades or teeth movable outward and inward through the periphery for the purpose of engaging the soil to prevent the slipping of the wheel.

The invention relates to various features of construction, hereinafter described and claimed, whereby the wheel is simplified, the cost of construction reduced, and the parts given greater durability and rendered positive in their action.

Referring to the accompanying drawings, Figure 1 represents a side elevation of my wheel. Fig. 2 is an axial section of the same on the line *x x*. Fig. 3 is a side elevation of the wheel with one side or half of the rim detached and with several of the blades removed in order to show the bearings in which they are supported. Fig. 4 is a perspective view of one of the blades detached.

In carrying my invention into effect I first provide the main wheel, consisting of two circular halves, *A A'*, duplicates of each other, and fitted together face to face in a plane at right angles to the axis. Each half consists of a hub portion, *a*, a rim portion, *b*, and connecting-spokes *c*, which may be made of any appropriate form and attached thereto in any suitable manner, although I recommend the employment of wrought-metal spokes placed in a mold so that the metallic hub and rim portions may be cast thereon in the manner shown in the drawings. The inner faces of the hub-sections are provided with an opening to receive the central hollow axle, *B*, and are also recessed centrally in their opposing faces to receive the eccentric *C*, which is keyed or otherwise affixed firmly to the axle, and which is held normally in a fixed position thereby. The hub-section and the rim-section are provided, respectively, in their inner faces with slots or recesses *d* and *e*, extending in a radial or substantially radial position to receive and guide the sliding blades *E*. Each of these blades has its outer end, of a flanged or other suitable form, arranged to slide out-

ward through the openings *e* in the rim, and its inner end provided with lips *F*, which slide through the slots *d* of the hub to engage flanges formed on the side faces of the stationary eccentric *C*. The lips *F* are preferably formed, as shown in the drawings, as separate plates with projections to enter notches in the sides of the blades *E*, to which they are firmly secured by bolts *g* or equivalent fastening devices.

In assembling the parts the blades are held in position in one of the wheel sections or halves, the eccentric inserted and connected with the lips of the blades, the central axle inserted and secured to the eccentric, and, finally, the second half or section of the wheel applied and united to its companion by screw-bolts or other fastenings *i*, which, by uniting the two sections of the wheel, serve to secure the eccentric and the blades in position between them. The revolution of the wheel proper causes the blades *E* to be carried therewith around the stationary eccentric, which acts to force the blades outward on one side of the wheel, so that their ends project beyond the periphery, and to retract them, so that the ends stand within or flush with the periphery on the opposite side of the wheel. It will be observed that the eccentric has the effect of moving the blades both outward and inward in a positive manner. By revolving the axle *B* the eccentric may be adjusted so as to cause the projection of the blades to a greater or less extent at the under side of the wheel, or to cause them to be wholly retracted when on the under side. In this manner the blades may be caused to act with greater or less effect or thrown wholly out of action, as circumstances may demand.

The revolution of the axis to adjust the eccentric may be effected by means of a worm-wheel and worm, as shown in the drawings, or in any other appropriate manner.

I am aware that eccentrics have been variously arranged to cause the projection of the blades or teeth of a traction-wheel; but I believe myself to be the first to divide the body of the wheel at right angles to the axis and confine the blades and the eccentric between the two parts, and also the first to produce the particular construction and organization represented in the drawings, and hereinafter specified in the claims.

Having thus described my invention, what I claim is—

1. In a traction-wheel, a frame or wheel proper, in combination with a non-rotating eccentric having peripheral lips or flanges and rigid radial sliding blades mounted in the wheel and having their inner ends engaged directly with and arranged to travel around the periphery of the eccentric, as described and shown, whereby the blades are moved positively inward and outward by the direct action of the eccentric.

2. A traction-wheel consisting of the two circular halves recessed in their proximate faces, the grooved eccentric and its shaft, and the blades provided with lips engaging the eccentric, said members constructed and combined for joint operation substantially as described and shown.

3. In a traction-wheel, the combination of a circular body or wheel proper, a non-rotat-

ing eccentric at the center thereof, and radial or substantially radial blades having their opposite ends seated in guiding-slots in the rim and hub, respectively, and their inner ends engaged directly with the eccentric, so as to be both projected and retracted in a positive manner thereby.

4. In combination with a traction-wheel, a central non-rotating eccentric and a series of radially-movable blades seated in the wheel, each blade consisting of a continuous piece having at the inner end lips to engage the eccentric that the blades may be retracted thereby.

In testimony whereof I hereunto set my hand, this 2d day of July, 1885, in the presence of two attesting witnesses.

JOSEPH ELDER.

Witnesses:

H. J. EUBANK,
E. T. BRAWLEY,