

(No Model.)

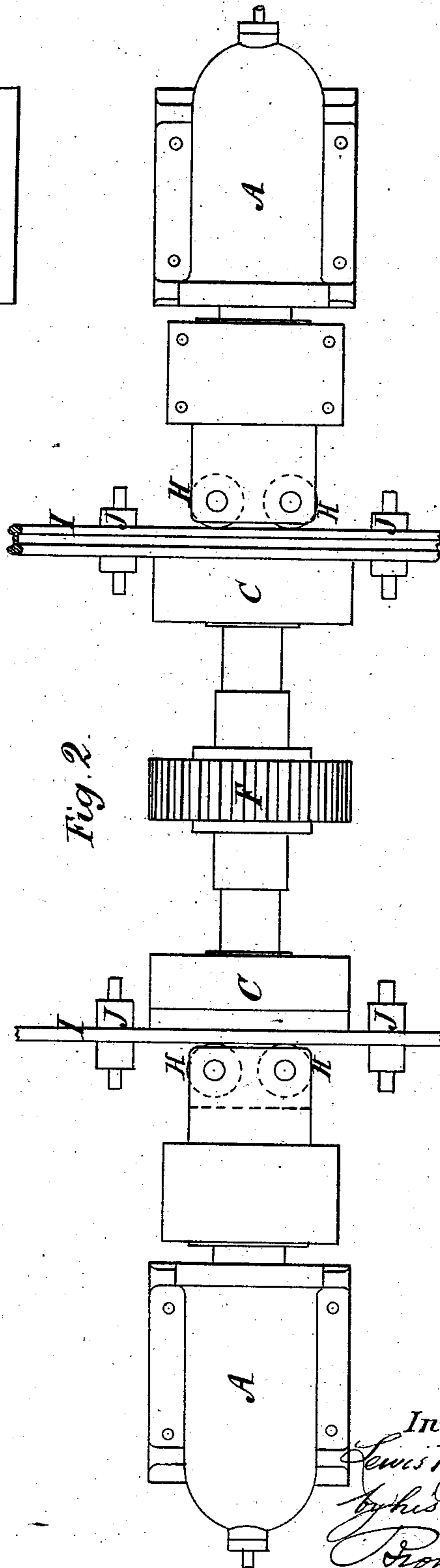
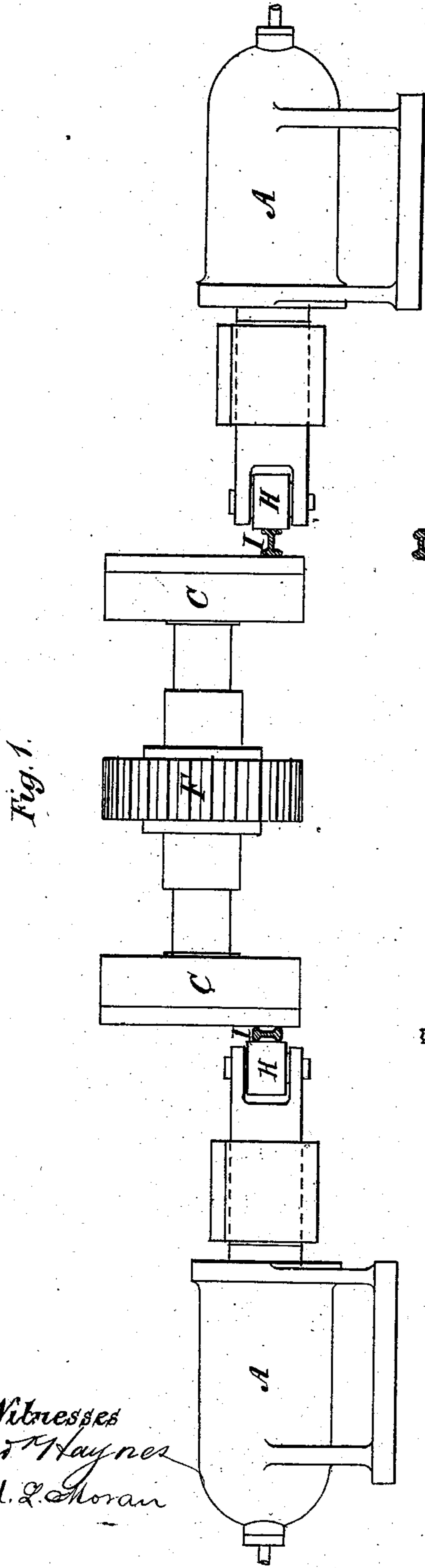
3 Sheets—Sheet 1.

L. RICHARDS.

APPARATUS FOR STRAIGHTENING RAILS.

No. 294,273.

Patented Feb. 26, 1884.



Witnesses
Mrs. Haynes
Ed. L. Moran

Inventor
Lewis Richards
by his Attorneys
Brown & Brown

(No Model.)

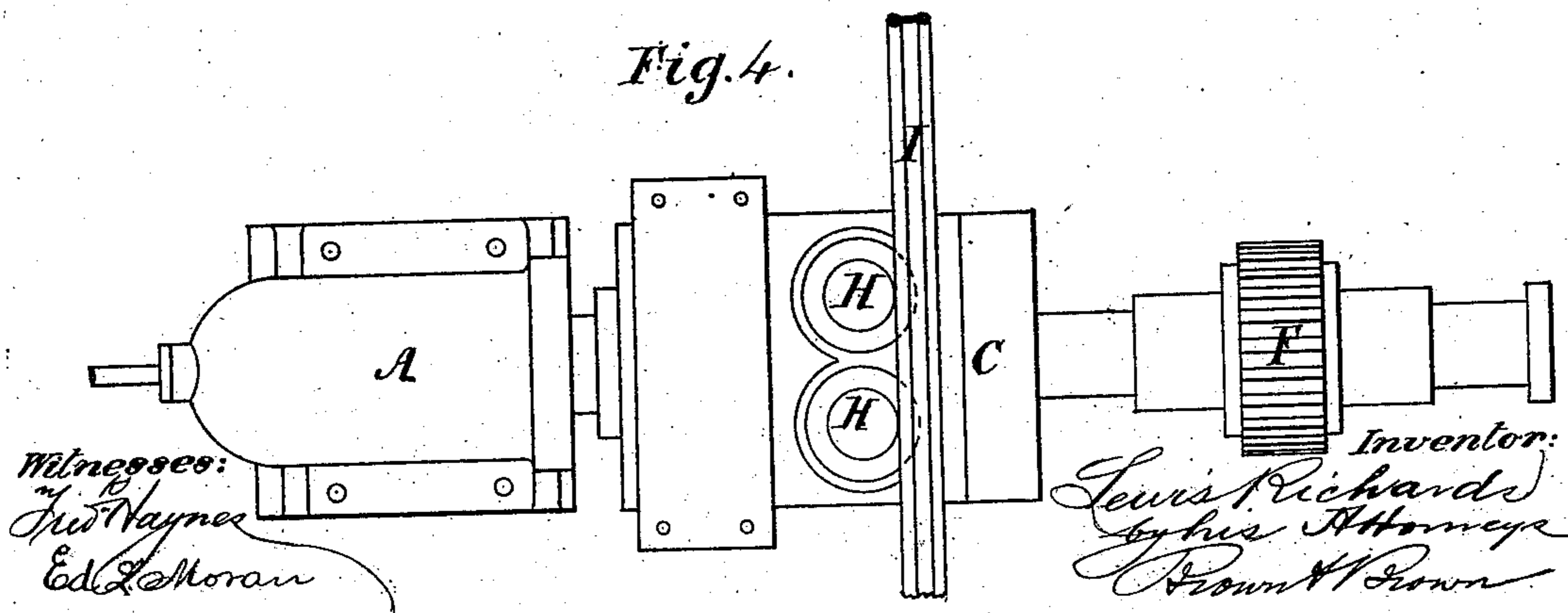
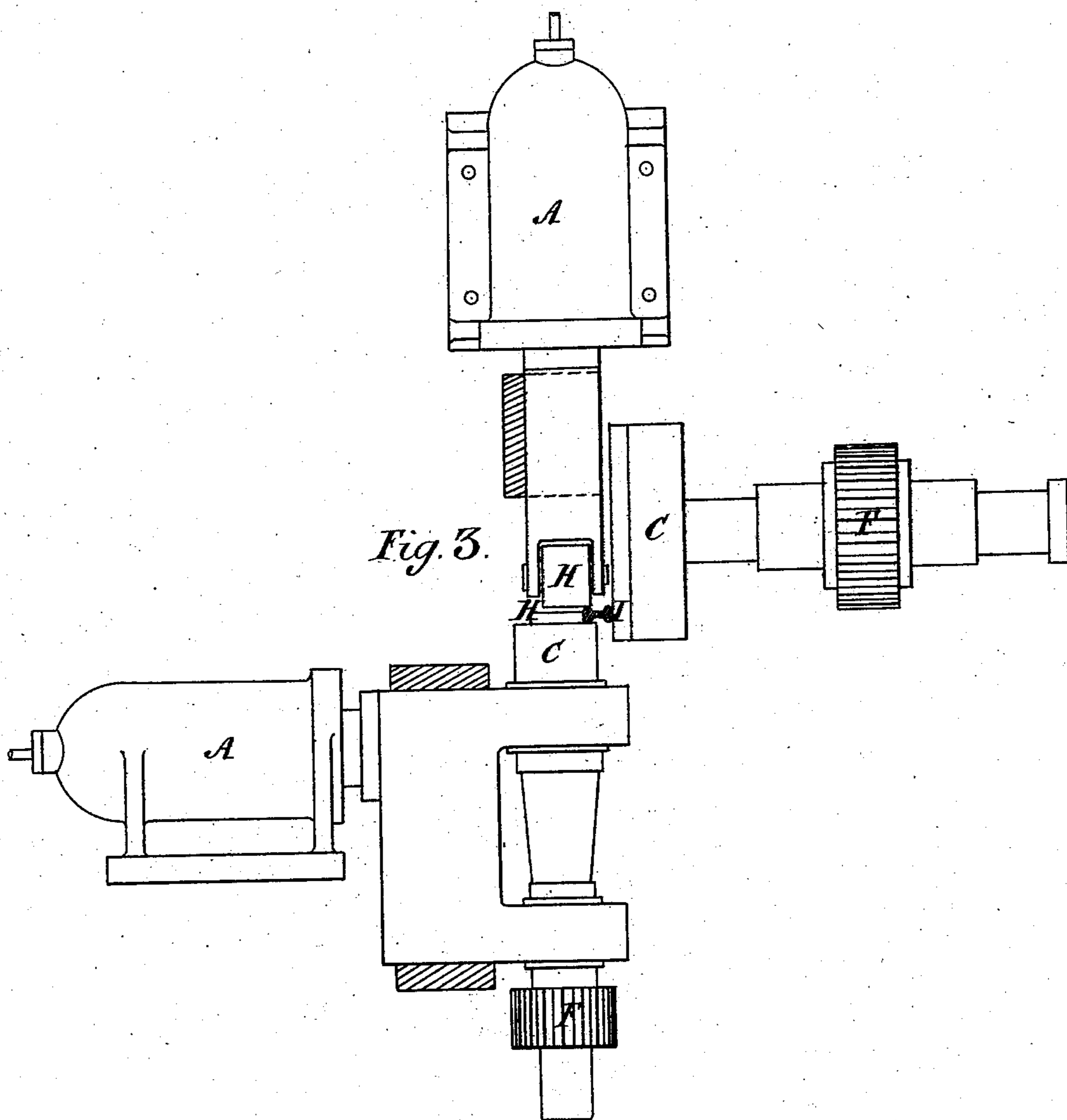
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Patented Feb. 26, 1884.



Witnesses:
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3 Sheets—Sheet 3.

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APPARATUS FOR STRAIGHTENING RAILS.

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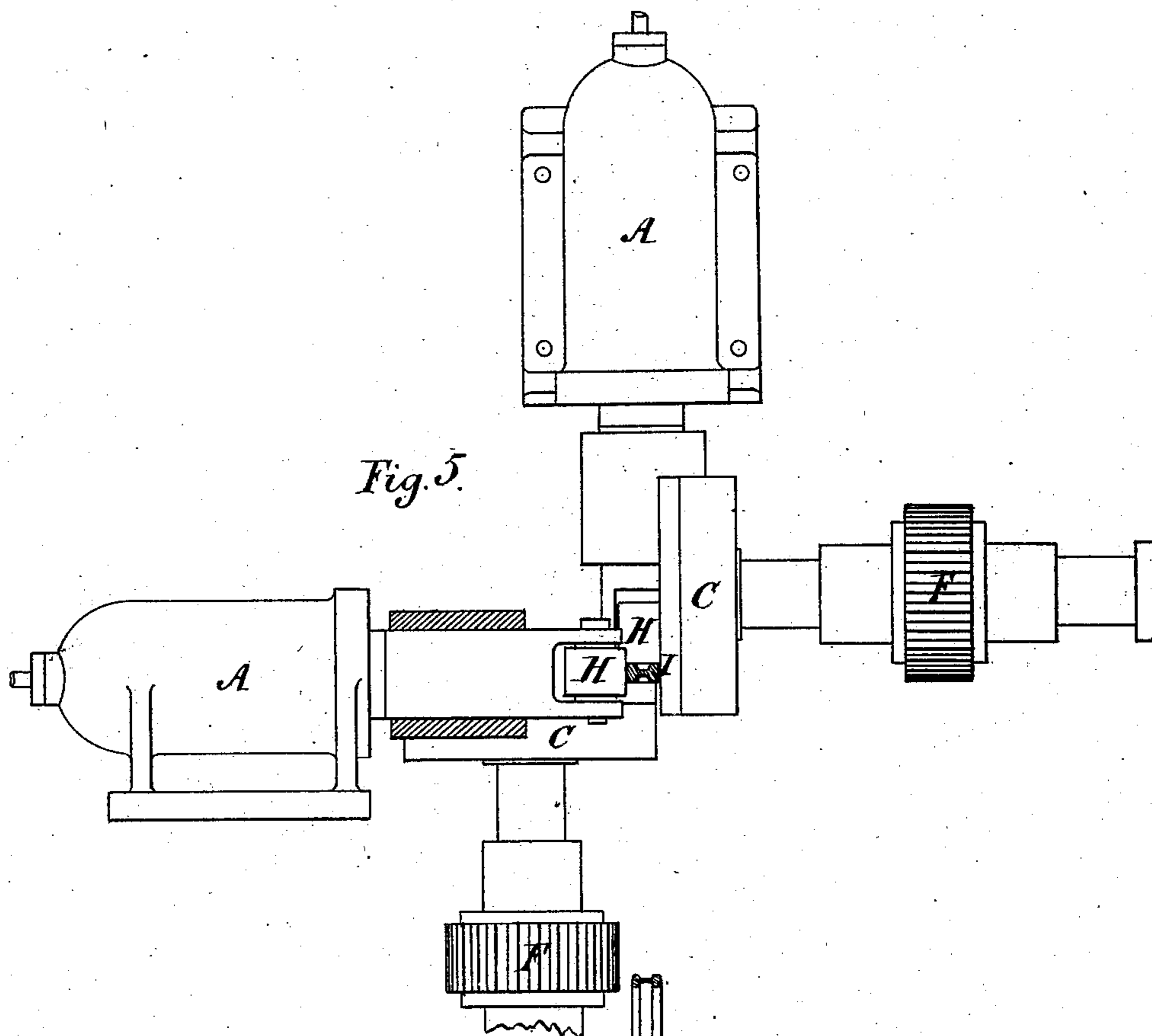
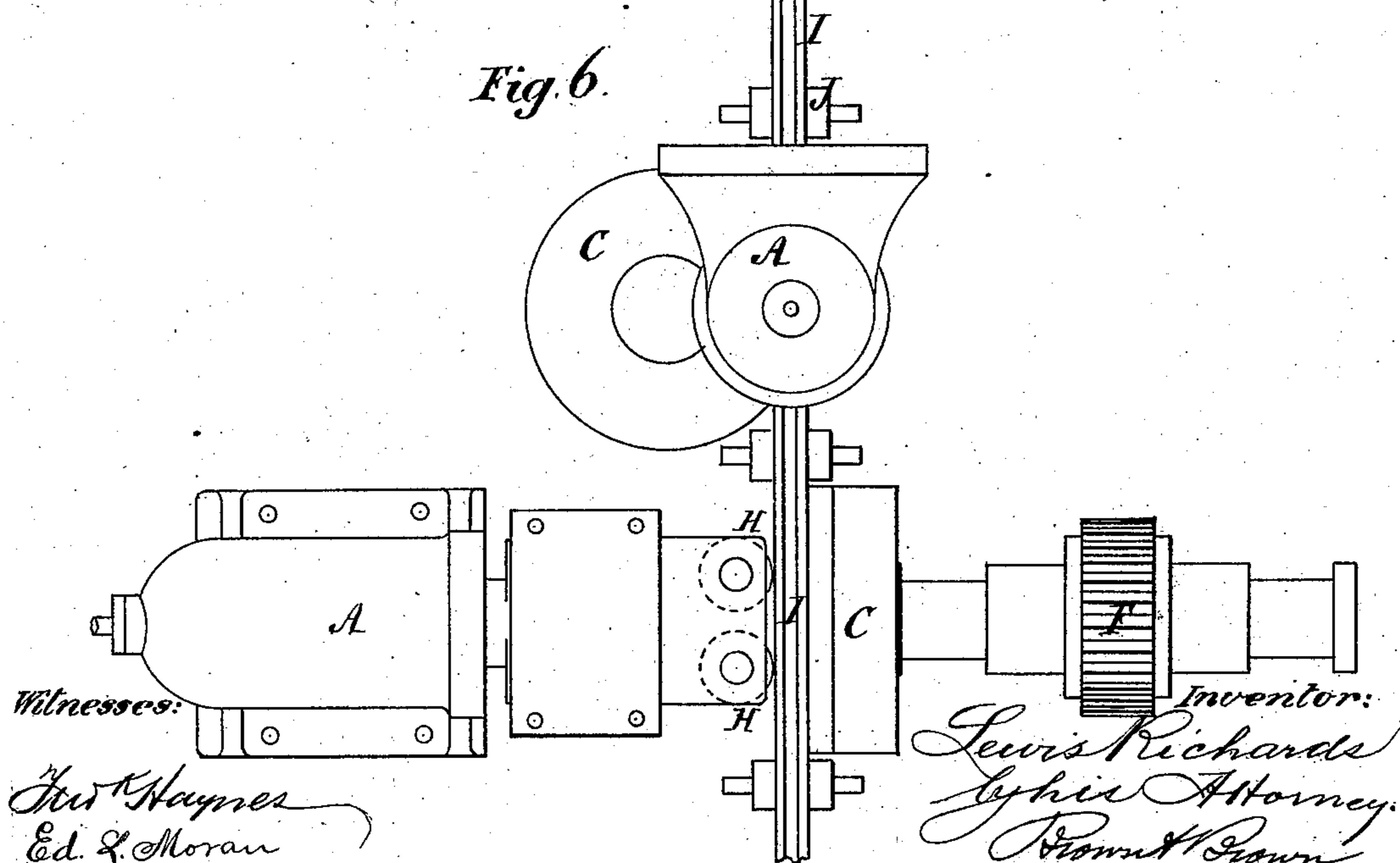


Fig. 6.



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UNITED STATES PATENT OFFICE.

LEWIS RICHARDS, OF DOWLAIS, COUNTY OF GLAMORGAN, ENGLAND.

APPARATUS FOR STRAIGHTENING RAILS.

SPECIFICATION forming part of Letters Patent No. 294,273, dated February 26, 1884.

Application filed July 27, 1883. (No model.) Patented in England October 30, 1882, No. 5,145.

To all whom it may concern:

Be it known that I, LEWIS RICHARDS, a subject of the Queen of Great Britain, residing at Dowlais, in the county of Glamorgan, South Wales, Great Britain, engineer, have invented Improvements in Apparatus for Straightening Railway-Rails, (for which I have obtained a patent in Great Britain, No. 5,145, dated October 30, 1882,) of which the following is a specification.

My invention relates to a machine in which a railway-rail may be straightened by subjecting it to pressure or force between devices which are arranged opposite each other and act upon opposite sides of the rail at opposite points. Such a method of straightening is preferable to the more common method, which involves the placing of the rail on supports, with a space between them for the rail to deflect in, and the application of pressure to the opposite side of the rail at a point between the supports.

The invention consists in the combination, in an apparatus for straightening rails, of a rotary disk and a roller or rollers arranged opposite the face of the disk and adapted to rotate in a plane at right angles to the face of the disk, as hereinafter more fully described.

My invention therefore consists in a novel method of straightening rails, which involves subjecting the rail to pressure or force between devices which are arranged opposite each other, and which act upon opposite sides of the rail at opposite points. For straightening rails by this method I may employ rolling devices, such as two disks having their axes parallel or in line, or a disk and a roller having its axis transverse to the axis of the disk and arranged opposite the face of the disk; or I may employ an anvil and a hammer or striker adapted to operate on the side of the rail opposite that which rests on the anvil.

The invention, therefore, also consists in a method of straightening rails which involves subjecting the rail to pressure between rolling or rotary devices which are arranged opposite each other, and which act on opposite sides of the rail at opposite points.

The invention also consists in the combination, in an apparatus for straightening rails, of a rotary disk and a roller or rollers ar-

anged opposite the face of the disk and adapted to rotate in a plane at right angles to the face of the disk, as hereinafter more fully described.

In the accompanying drawings are represented different forms of apparatus, varying somewhat from one another, but all embodying my invention.

Figures 1 and 2 represent in elevation and plan an arrangement in which the straightening of the rail is effected by passing the rail between rollers movable under pressure or fixed at the proper distance, and revolving disks. C C are two revolving disks, with a driving-wheel, F, on the same shaft between them. H H are the rollers, arranged opposite the faces of the disks C C, and adapted to rotate in planes at right angles to the faces of the disks, so as to press the rail I against the outer face of the disks. The rollers H H may run either loosely or be driven by suitable gear, and they may be fixed at the proper distance to suit the section of rail to be operated upon; or they may be movable and be pressed forward toward the face of the disks C C by means of hydraulic power, as shown at A, or by other suitable means; and the rail is to be straightened as required—on the flat on one disk, and on the edge, or in the direction of its depth, on the other disk—by its being placed as shown and being passed between the rollers and the face of the disk.

Figs. 3 and 4 represent in elevation and plan an arrangement in which the disks and rollers with the pressing apparatus are caused to operate on the rail in both ways or directions simultaneously. In Fig. 4 the rollers acting on the side of the rail are supposed to be removed. On reference to these figures it will be seen that the disks C C and the rollers H H are arranged so as to act both horizontally and vertically on the rail as it is passed between them, as shown more particularly in the elevation, Fig. 3. It will be seen, also, that the parts are combined in such a manner as to be more concentrated in their united action on the rail than in the previous arrangement.

Figs. 5 and 6 are views of an arrangement in which the rail is operated upon on different sides simultaneously by two disks, C C, ar-

ranged one above the other, as shown, one being arranged so as to revolve vertically and the other horizontally, with rollers H H pressed against the rail by means of hydraulic apparatus A A.

The number of disks C C or of rollers H H is not limited to what is shown in the drawings, but the number may be varied, as required.

The rail I, in its passage between the disk C and rollers H, is supported by bearing-rollers J.

In each example of my invention here shown there is comprised a rotary disk and a roller

or rollers arranged opposite the face of the disk and adapted to rotate in a plane at right angles to the face of the disk.

I claim as of my invention—

The combination, in an apparatus for straightening rails, of a rotary disk and a roller or rollers arranged opposite the face of the disk and adapted to rotate in a plane at right angles to the face of the disk, substantially as herein described.

LEWIS RICHARDS.

Witnesses:

THOMAS L. RICHARDS,
MARGARET RICHARDS.