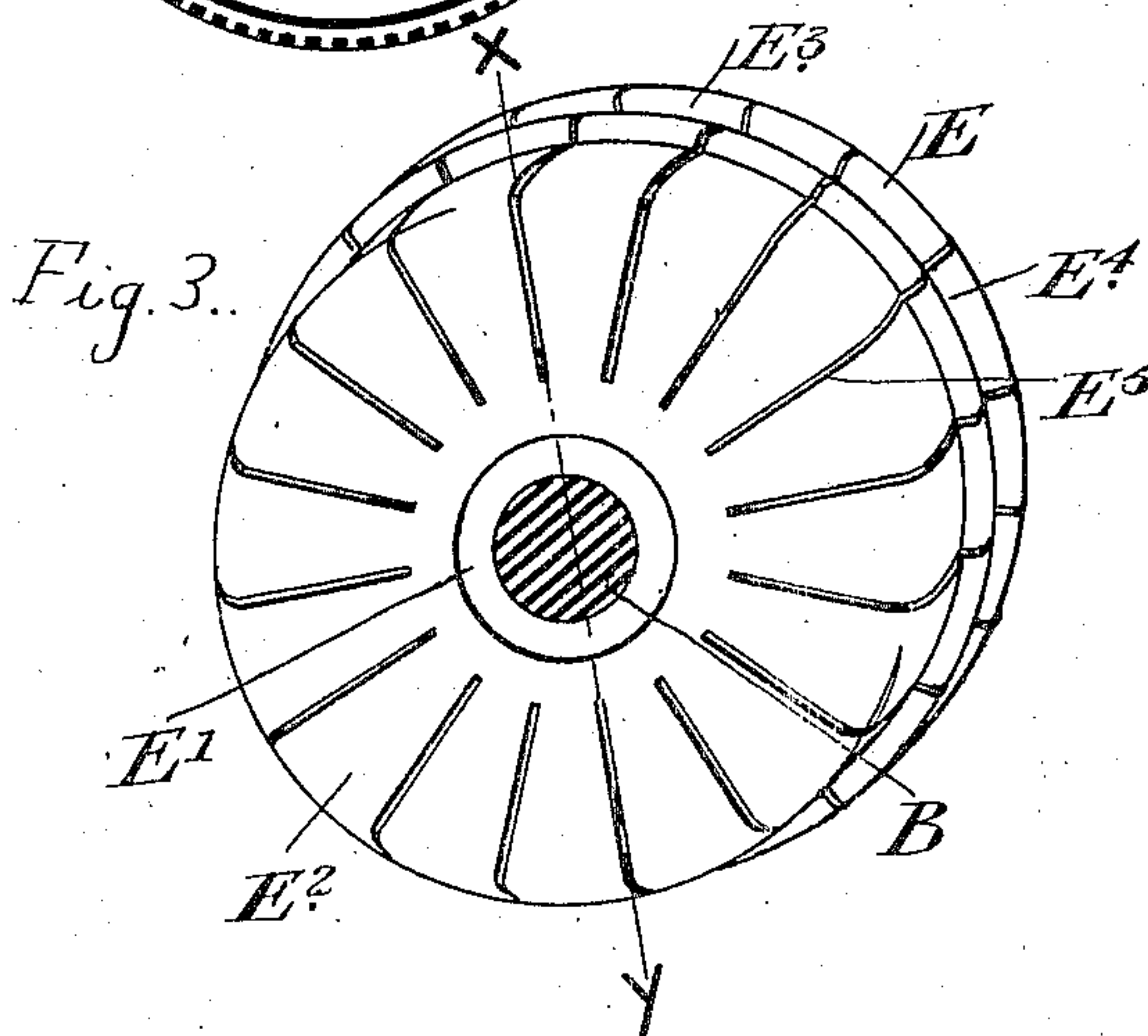
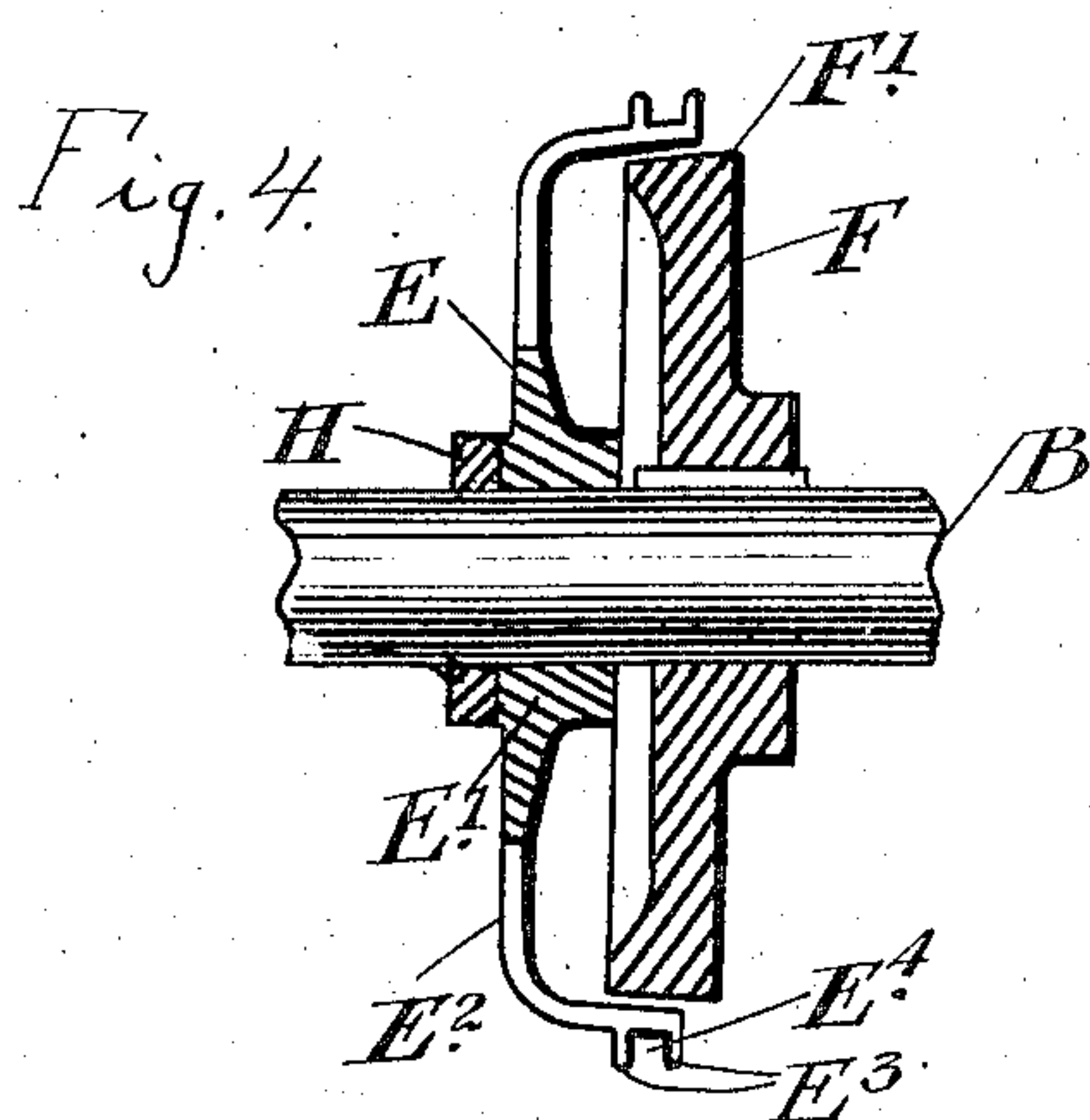
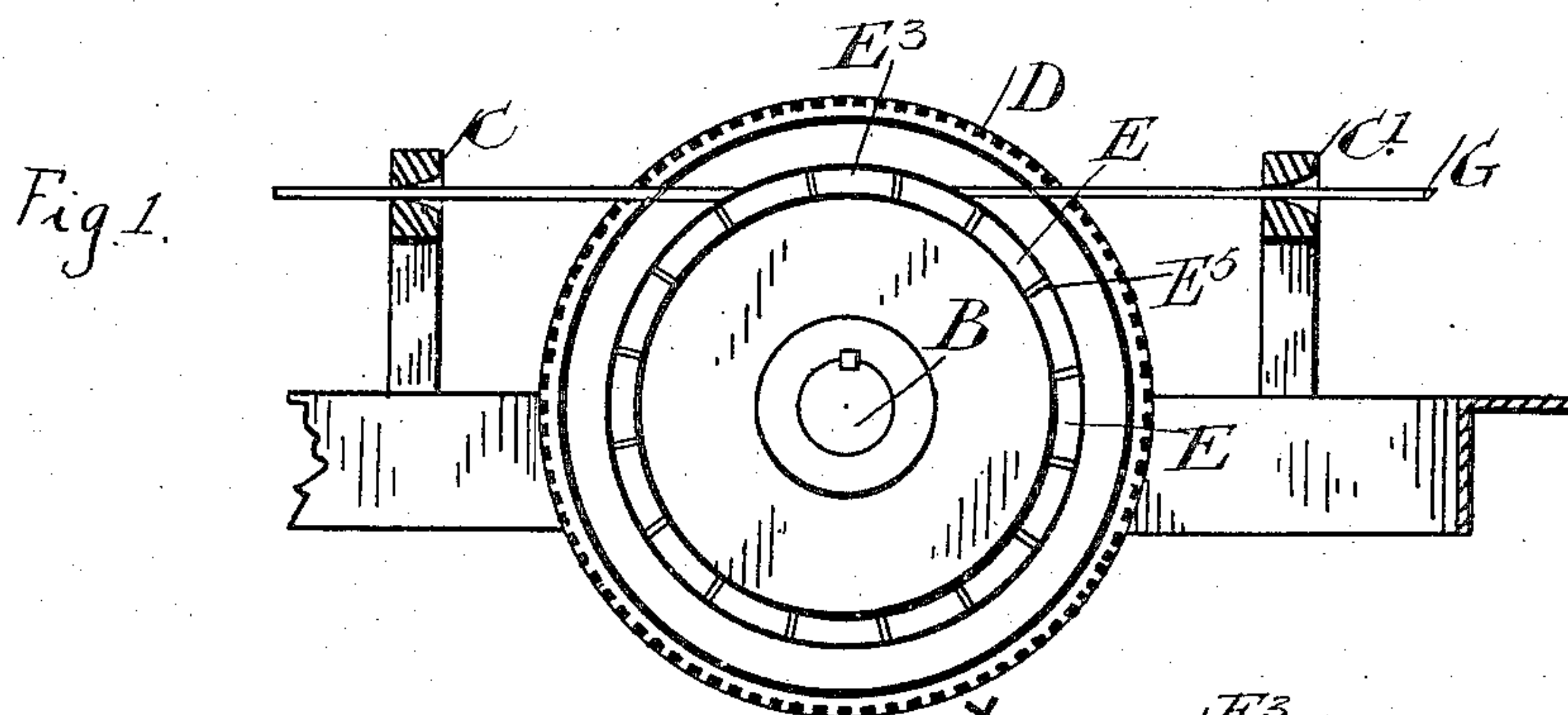
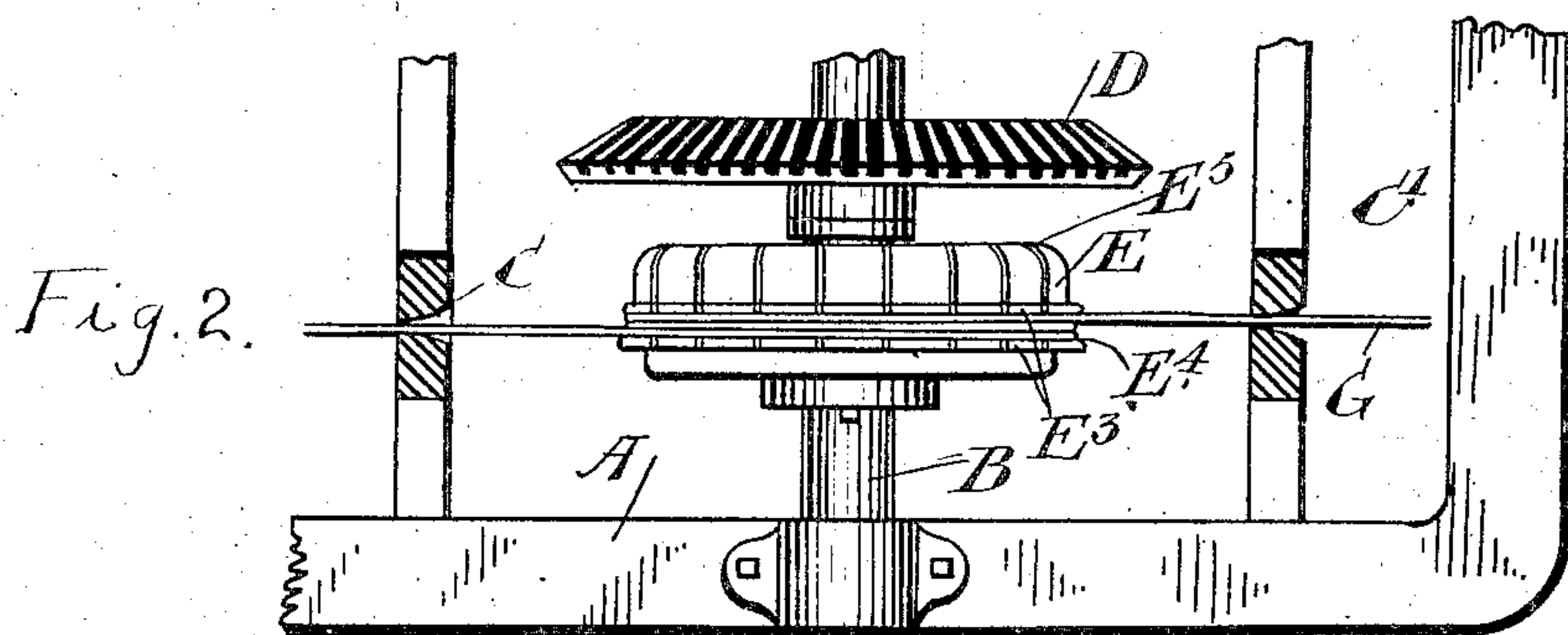


No. 845,462.

PATENTED FEB. 26, 1907.

W. J. HERALD.
WIRE DRAWING MACHINE.
APPLICATION FILED JUNE 25, 1906.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM JOHN HERALD, OF HAMILTON, ONTARIO, CANADA.

WIRE-DRAWING MACHINE.

No. 845,462.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed June 25, 1906. Serial No. 323,400.

To all whom it may concern:

Be it known that I, WILLIAM JOHN HERALD, of the city of Hamilton, in the county of Wentworth, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Wire-Drawing Machines, of which the following is the specification.

My invention relates to improvements in wire-drawing machines; and the object of the invention is to devise a form of drum for drawing the wire whereby all slipping or abrasion of the wire will be eliminated no matter what variation there may be in the speed or call of the wire within certain limits.

Further objects are to provide a device as set forth above that will provide for wet or dry wire-drawing, in which the wire will pass from one die to the other with a minimum amount of pull, and in which any slip will not result in the wire contracting; and a further object is to provide a simple means whereby the wear may be taken up.

To effect these objects, I have constructed a drum having the face and periphery slitted radially and axially, said drum being of spring metal, and a friction-gear held on the shaft with a suitable key and adjustable thereon, the parts being otherwise constructed and arranged in detail as hereinafter more particularly explained.

Figure 1 is a plan view of my device, showing the wire in position to be drawn around the drum. Fig. 2 is a sectional elevation of the device shown in Fig. 1. Fig. 3 is a perspective detail of the drum. Fig. 4 is a vertical section of the drum, taken on the line xy , Fig. 3.

In the drawings like letters of reference indicate corresponding parts in each figure.

A represents a portion of a frame of a wire-drawing machine. B the shaft, and C and C' the opposing dies.

D is one of the miter-gears forming the drive, which it is not necessary here to describe.

E is the drum, having the hub E' suitably secured to the shaft. The face E² is curved at the outer end and merged into the periphery, which is provided with an annular projection E³, forming a groove E⁴. The drum is provided with slits E⁵, extending from a point near the hub to the outer edge of the periphery, such slits E⁵ extending radially

on the face and substantially axially or parallel with the axis on the periphery. The periphery, it will be noted, has a slight outward flare from the face.

F is a wheel, having the periphery F' thereof tapered from outside to inside to substantially correspond with the taper of the interior of the periphery of the drum E. The wheel F is a friction-wheel and is secured by a key F² on the shaft, which permits of longitudinal adjustment on the shaft on which the wheel F is supported so as to take up the wear caused by the frictional contact of the inner periphery of the drum with the periphery of the wheel F.

G is a wire which passes one or more times around the drum and tangentially leads therefrom to the dies C, through which the wire is drawn.

It will be understood that an initial tension is required to pull down the drum on the wheel, the sections between the slits and drums collapsing, or, in other words, the slits closing in order to reduce the diameter of the drum and cause the frictional contact with the wheel F. The drum of course is secured loosely on the shaft and is held from longitudinal displacement by the collar H.

It will now be seen that any slip, which occurs due to different speeds of wire, will take place between the drum and the friction-wheel and not between the drum and wire, and will not cause the wire to contact with itself, and consequently any chafing or abrasion will be obviated no matter what variation there may be in the speed or call of the wire. The drum may of course be made very sensitive, and consequently act most effectually in response to the call of the wire from die to die.

Of course it will be understood that there may be several drums in the same cross-shaft, and the dies and drums may be arranged alternately lengthwise of the machine. Necessarily, also, there will be a corresponding number of dies alined with their respective drums. It will also be understood that with the alined drums and dies extending throughout the length of the machine there are several reductions made in the wire. As this arrangement of the machine is old, I do not describe it specifically, as it forms no feature of my invention. In order to show

the function of the invention, I have therefore confined the specification and drawings to merely one drum and coacting dies.

What I claim as my invention is—

5 1. The combination with a drum loosely supported on a suitable shaft and provided with slits extending radially in the face of the drum and from one edge of the periphery to the other edge, of a friction-wheel secured on
10 the shaft and with which the interior periphery of the drum is adapted to contact as the drum is contracted upon the call of the wire, as and for the purpose specified.

2. The combination with a drum loosely
15 supported on a suitable shaft and provided

with slits extending radially in the face of the drum and from one edge of the periphery to the other edge, said drum flaring internally outwardly, of a friction-wheel having a taper substantially corresponding to the internal 20 flare of the drum and adjustably secured on the shaft and with which the interior periphery of the drum is adapted to contact as the drum is contracted upon the call of the wire, as and for the purpose specified.

WILLIAM JOHN HERALD.

Witnesses:

E. K. THOMAS,

M. SCHWÄRZ.