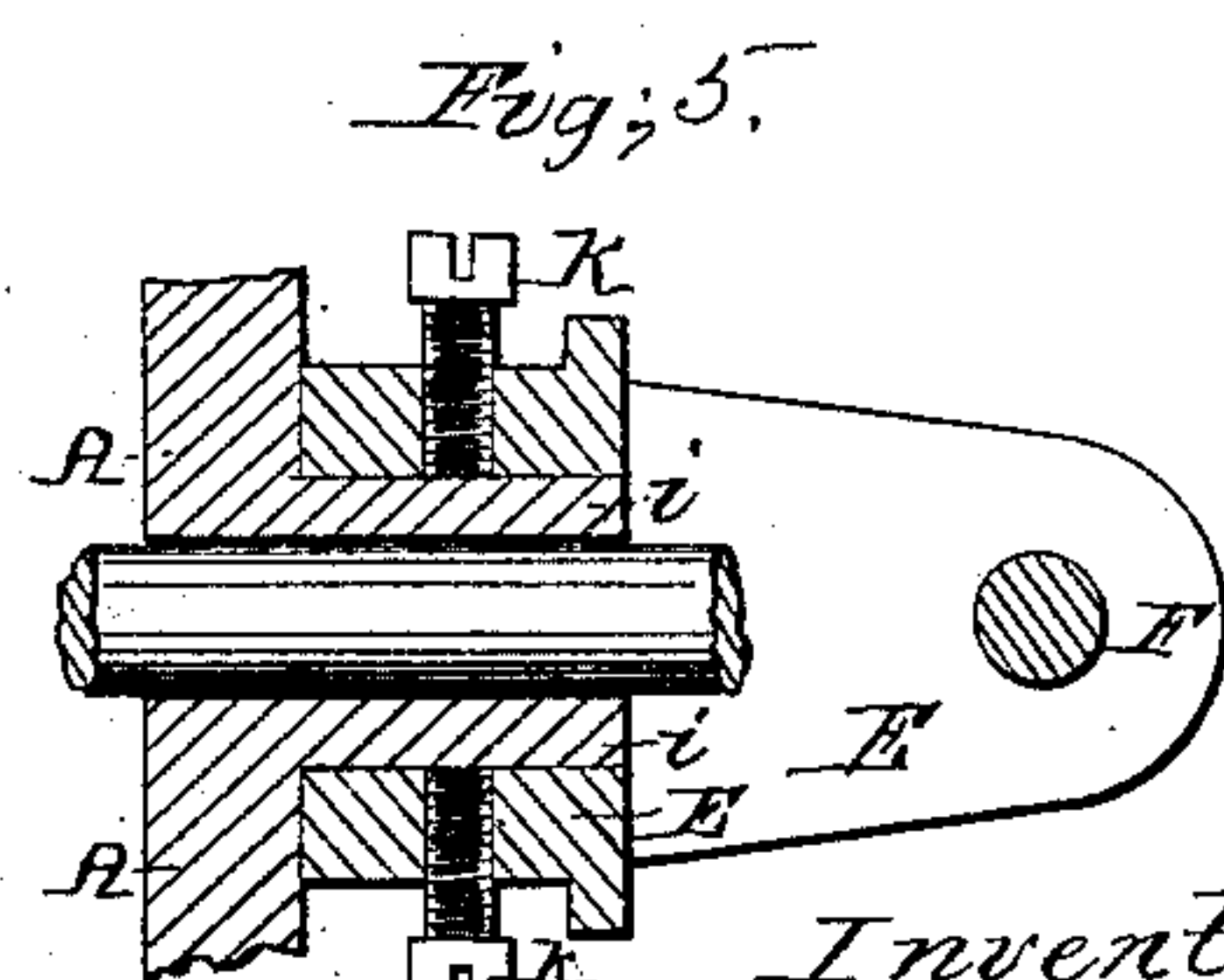
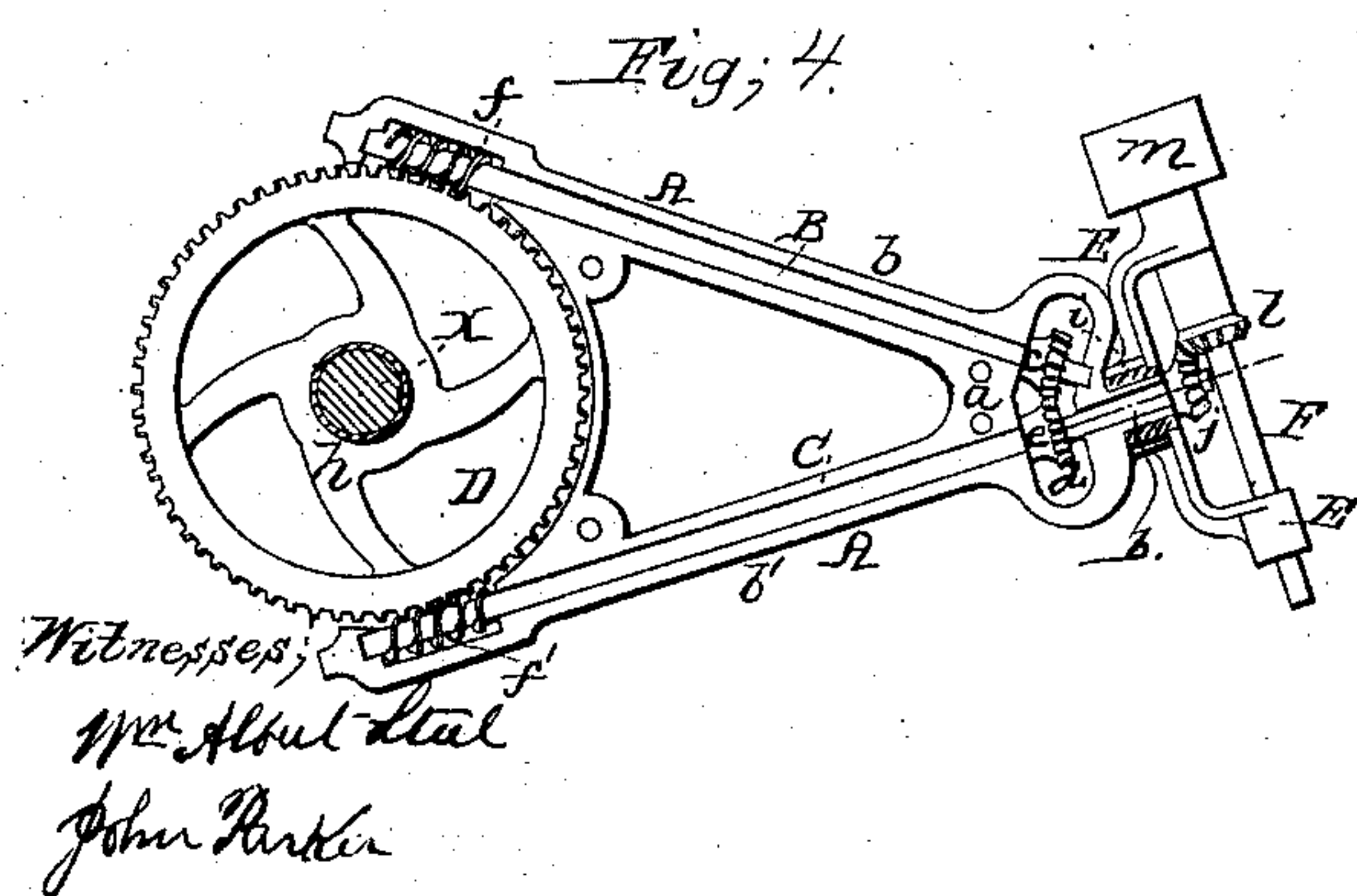
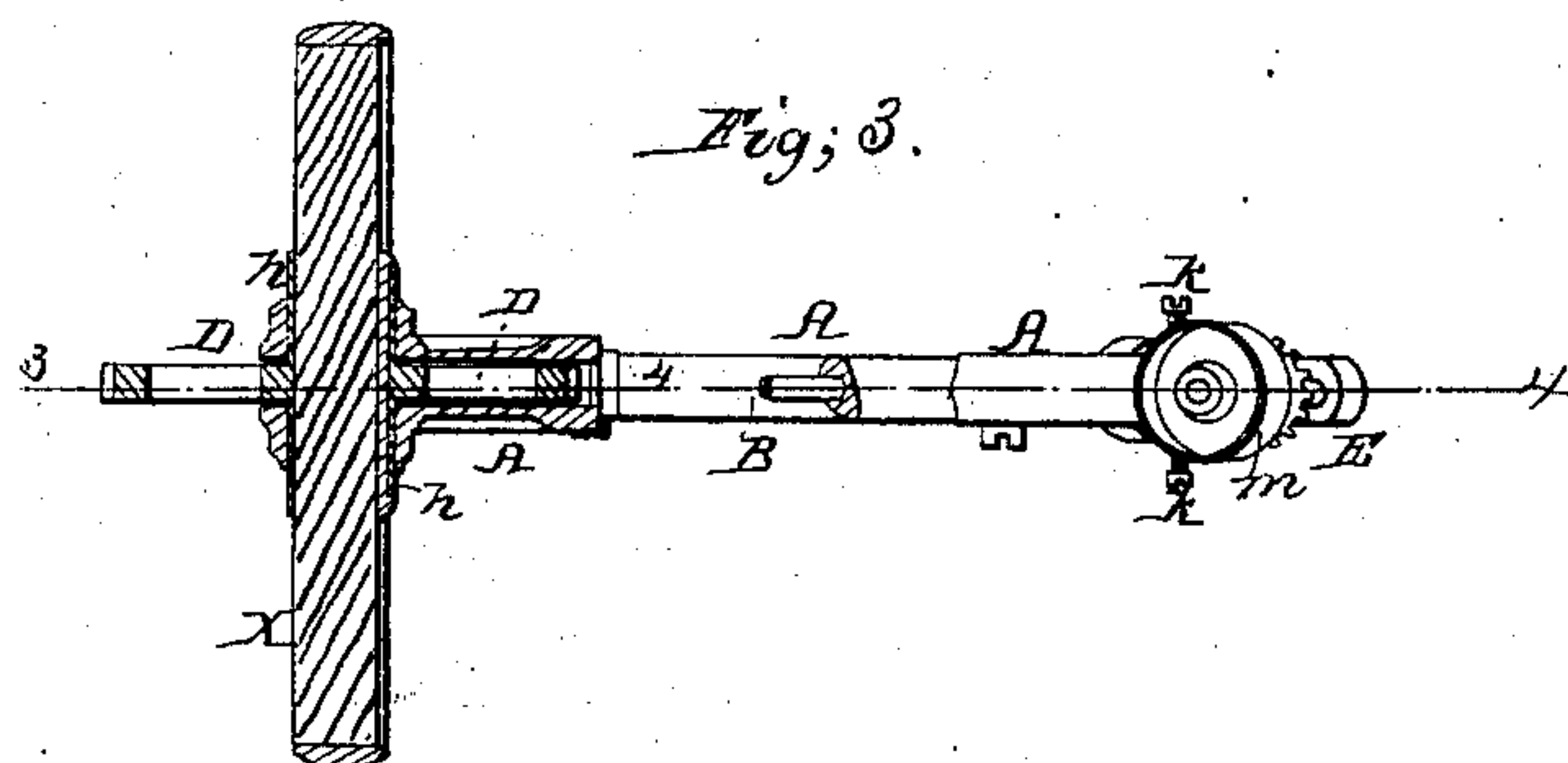
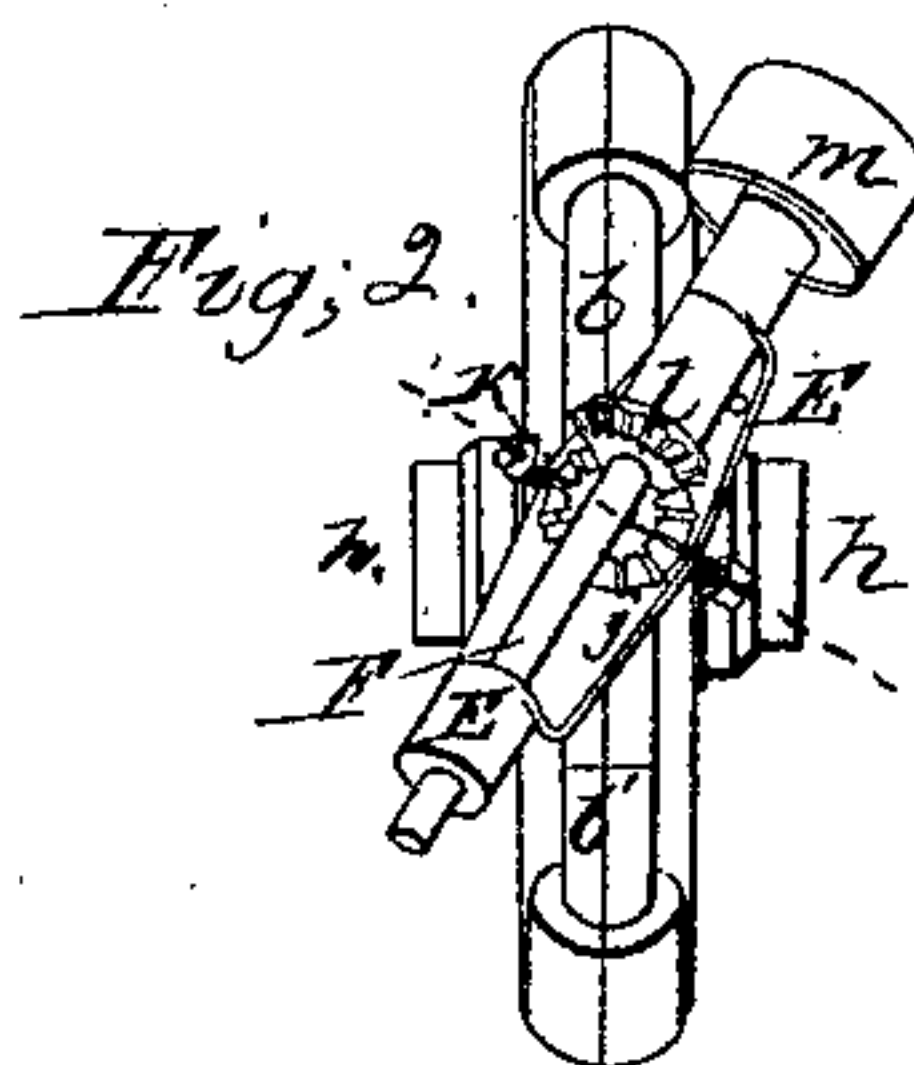
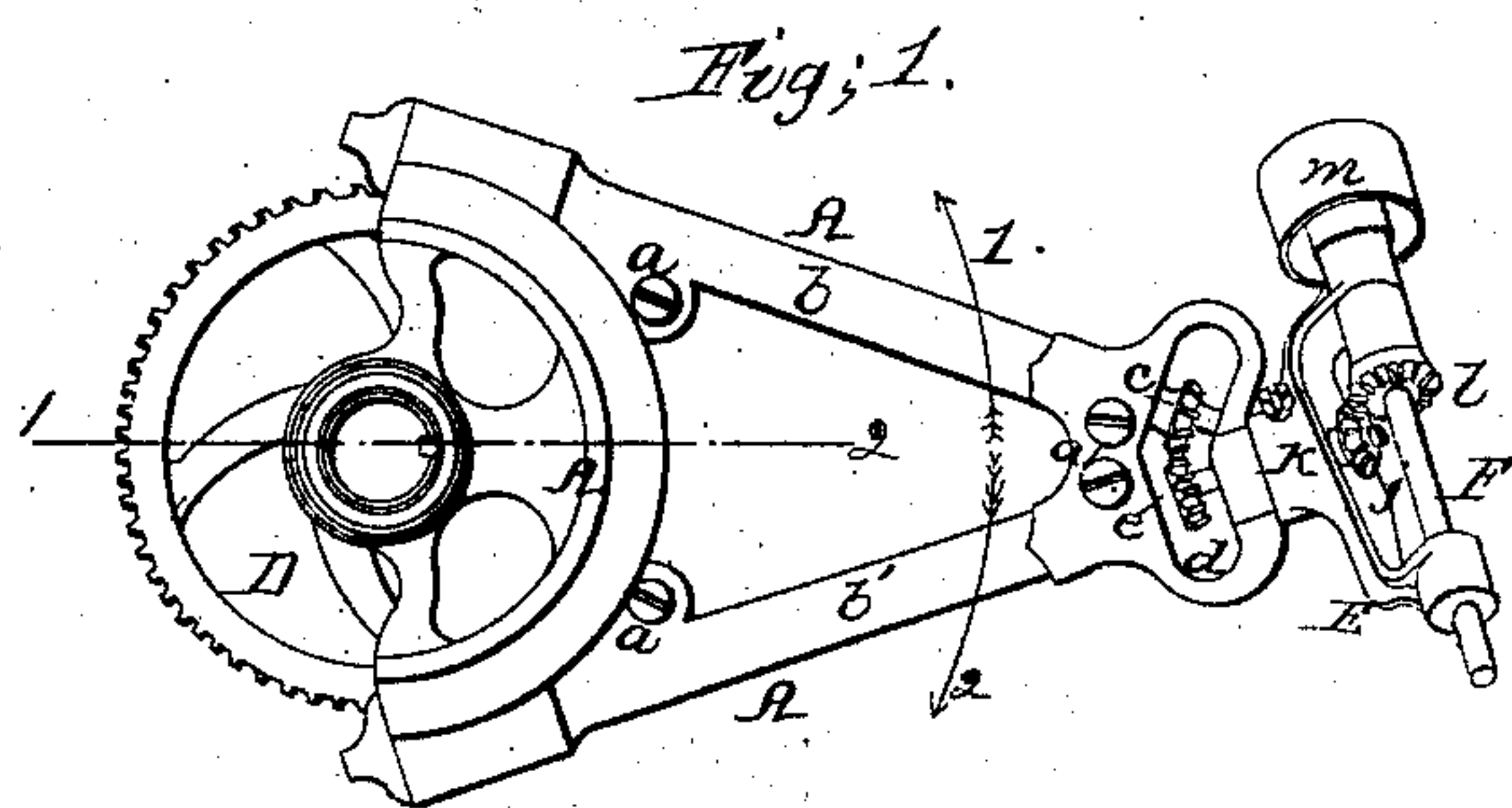


L. B. Flanders, Mechanical Movement.

N^o 69787.

Patented Oct. 15, 1867.



Inventor;
L. B. Flanders
By his Atty
H. Howson

United States Patent Office.

L. B. FLANDERS, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 69,787, dated October 15, 1867; antedated October 1, 1867.

IMPROVEMENT IN DEVICE FOR TRANSMITTING ROTARY MOTION.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, L. B. FLANDERS, of Philadelphia, Pennsylvania, have invented an Adjustable Device for Transmitting Rotary Motion; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention consists of a device, fully described hereafter, by which a rotary motion may be transmitted from one shaft to another, no matter what the relative position of the two shafts may be, the device being such that the shaft to be driven is not subjected to any lateral strain.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation. On reference to the accompanying drawing, which forms a part of this specification—

Figure 1 is a front view of my device for transmitting motion.

Figure 2 an end view,

Figure 3 a sectional view on the line 1-2, fig. 1,

Figure 4 a section on the line 3-4, fig. 3, and

Figure 5 a detached sectional view of part of the device, drawn to an enlarged scale.

Similar letters refer to similar parts throughout the several views.

The frame of the device consists of the two arms *b* and *b'*, connected together at their opposite ends, the frame being divided longitudinally into two parts, secured together at points *a* by suitable bolts. Passing through the arm *b* of the frame, and turning in the same, is a shaft, *B*, a similar shaft, *C*, turning in the opposite arm *b'* of the frame. On one end of the shaft *B* is a bevel-wheel, *e*, which revolves in an opening, *d*, formed in one end of the frame, and gearing into this wheel *e* is a similar bevel-wheel, *e'*, turning upon the shaft *C*. Upon the opposite end of this shaft is a worm, *f*, and a similar worm *f'* is formed on or secured to the end of the shaft *C*. Between the diverging ends of the shafts *B* and *C*, and gearing into the worms *f* and *f'*, is a worm-wheel, *D*, the tubular hubs *h h* of which turn in the frame. The shaft *C* projects through and turns in the tubular piece *i* of the frame *A*, and terminates in a bevel-wheel, *j*. A frame, *E*, is arranged to turn freely on the tubular projection *i* of the frame *A*, and may be secured to the same in any desired position by means of set-screws *k k*, (fig. 5,) and in this frame *E* turns a shaft, *F*, provided with a pulley, *m*, and a bevel-wheel, *l*, gearing into the wheel *j* of the shaft *C*. Let us suppose the shaft *X* to be a boring-bar, to which it is necessary to impart a rotary motion from some adjacent line of shafting. The tubular hub of the worm-wheel *D* is adjusted to the boring-bar in any desirable manner, and secured thereto, after which the frame *A* can be turned upon the bar *X* as a centre to any desired position, and secured by suitable appliances after adjustment, after which the frame *E* is turned on the tubular projection *i* of the frame to such a point that its pulley *m* shall be in a proper position for receiving the driving-belt, by which a rotary motion is imparted to the shaft *F*, and thence through the wheels *l* and *j*, *e* and *e'*, shafts *B* and *C*, and worms *f f'* to the worm-wheel *D* and boring-bar *X*.

Although I have alluded to the device as being used in connection with a boring-bar, it may be employed in transmitting motion in other cases where a complex system of gearing or driving-belts has been heretofore used.

An important feature in my invention is the application of power to opposite or nearly opposite edges of the wheel *D*—an arrangement which must relieve the shaft or bar *X* from all lateral strain.

I do not desire to confine myself to the precise form or construction of the frame *A*, as the same may be modified without departing from the main features of my invention; but I claim as my invention, and desire to secure by Letters Patent—

The shafts *B* and *C*, geared together, and each furnished a worm, *f*, gearing into a wheel *D*, in combination with an adjustable frame *E*, shaft *F*, and bevel-wheel *l*, gearing into a bevel-wheel on the shaft *C*, the whole being constructed and operating substantially as described.

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

L. B. FLANDERS.

Witnesses:

WM. HALL WAXLER,

W. J. R. DELANY.