

H. P. McCARROLL.

Improvement in Piston Packing.

No. 120,888.

Patented Nov. 14, 1871.

Fig. 1.

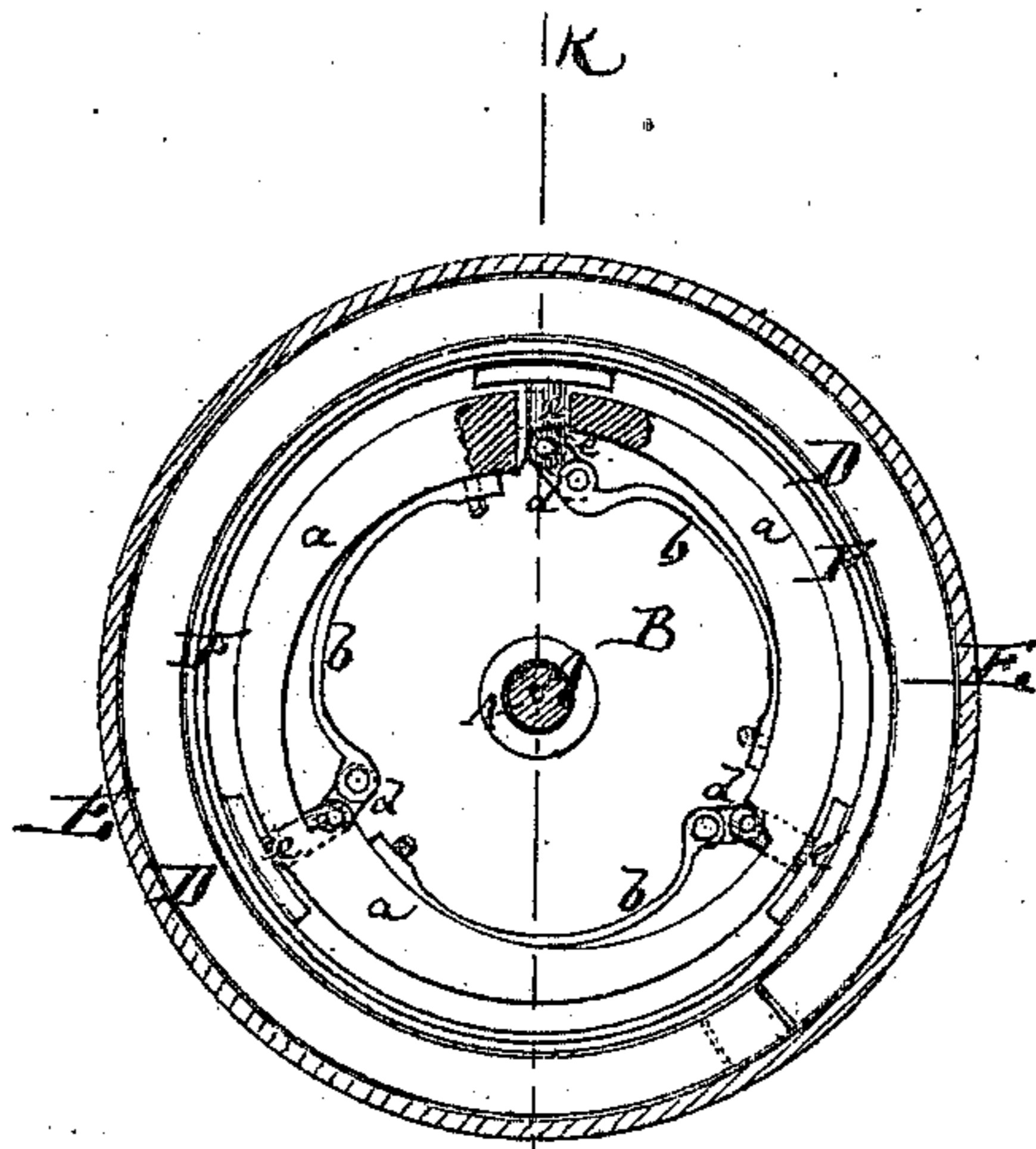
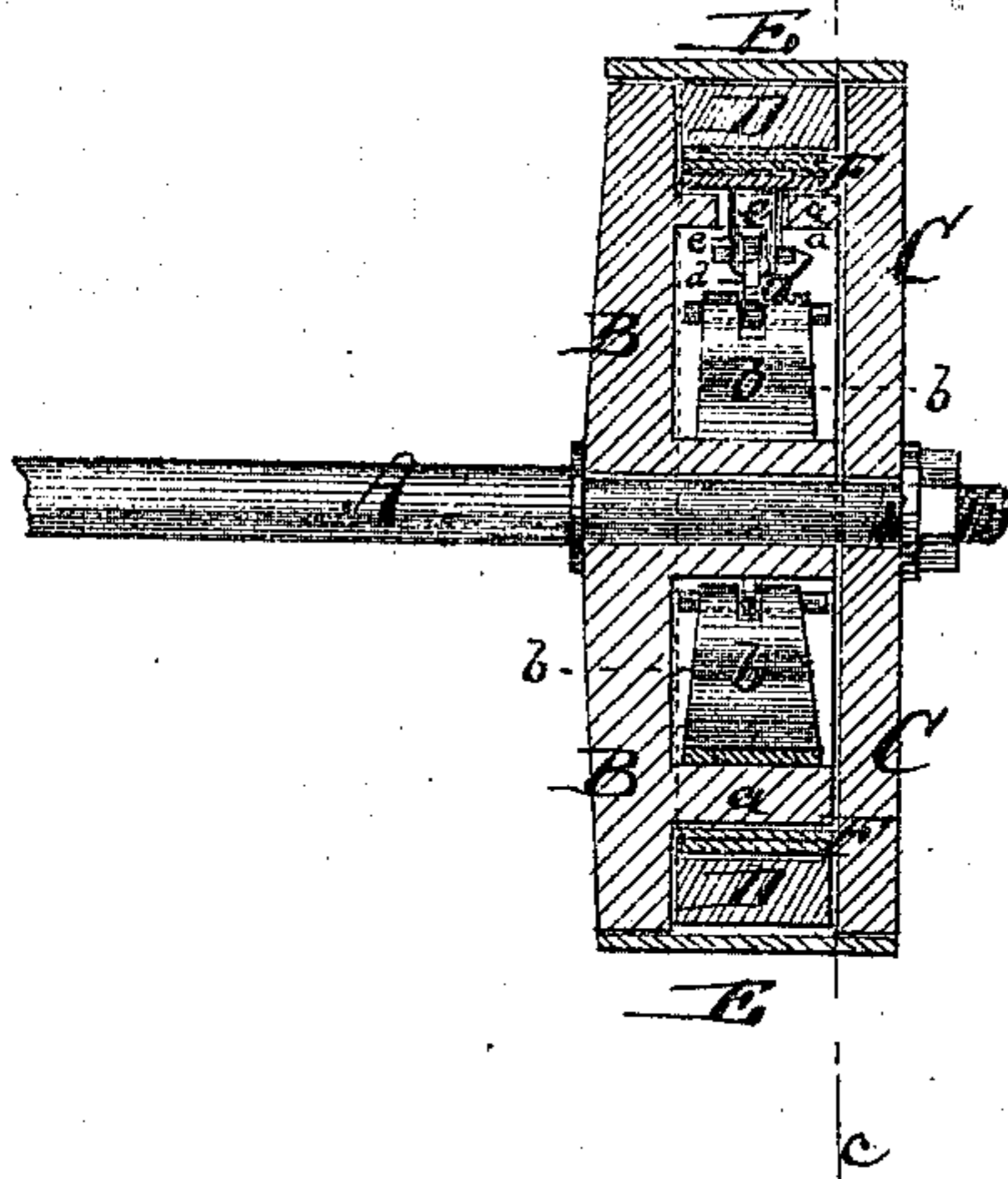


Fig. 2.



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## IMPROVEMENT IN PISTON-PACKINGS.

Specification forming part of Letters Patent No. 120,888, dated November 14, 1871.

*To all whom it may concern:*

Be it known that I, HERSCHEL P. McCARROLL, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Piston-Packing; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 represents a transverse section of my improved piston-packing on the line *c c*, Fig. 2. Fig. 2 is a longitudinal section of the same on the line *k k*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to the use of a continuously self-acting expansion spring within the ordinary packing-spring of a steam-engine or pump-piston, and to a new arrangement of interior steady-pins, as hereinafter more fully described.

A in the drawing represents the piston-rod, B and C are the piston-heads, D is the packing-spring, and E a portion of the cylinder within which the piston works. One of the heads B has a projecting ring, *a*, against which the head C rests. Between this ring *a* and the packing-spring D is interposed a coiled spring, F, which

bears with constant pressure against the spring D and counteracts the contracting efforts of the same. The power of the springs D F will always be balanced, for the latter becomes weaker as the former is enlarged, and consequently also weakened. In this manner an equal pressure on all points of the packing-spring is sustained. To the inner side of the ring *a* is secured a series of springs, *b b*, which are, by jointed links *d d*, connected with radial steady-pins *e e*. These pins fit through the ring *a* and bear, by the power of the springs *b*, against the inner face of the spring F, as is clearly shown in Fig. 1. The pins *e* serve to steady the coiled spring and make it act uniformly against the packing-spring.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The circular and expansive spring F, when combined with the ring D, springs *b*, and pin *e*, as and for the purpose specified.

2. The steady-pins *e* applied by the pressure of the springs *b* against the inner periphery of the coiled spring F, as specified.

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