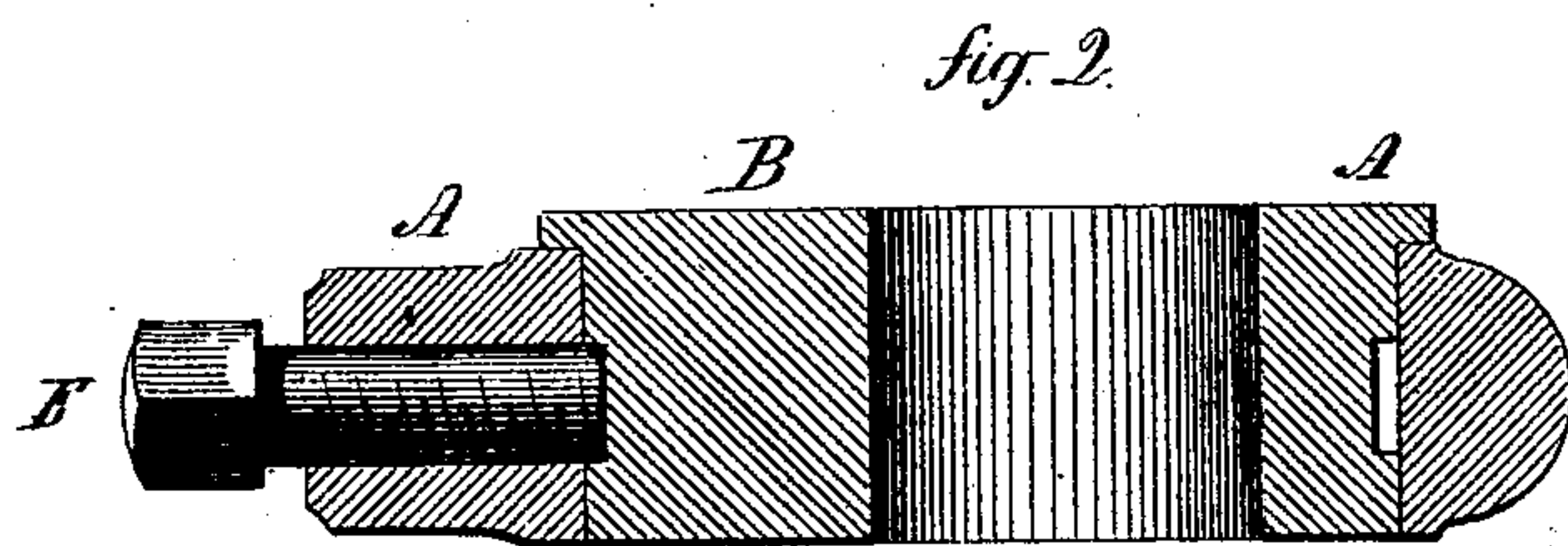
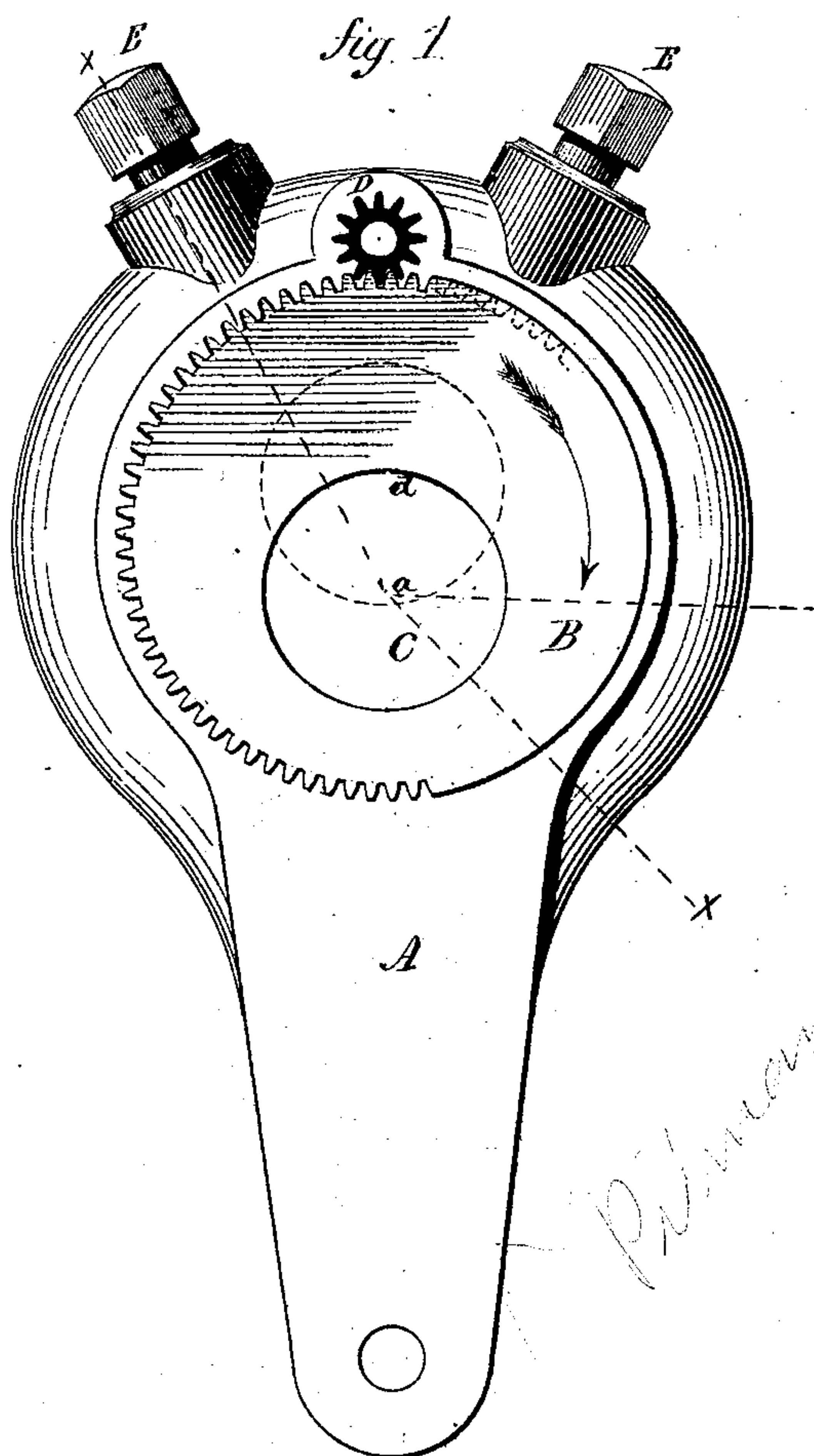


N. C. STILES.

Mode of Adjusting the Length of Pitmans.

No. 135,380.

Patented Jan. 28, 1873.



Witnesses

*W. H. Shumway*  
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By Atty?

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# UNITED STATES PATENT OFFICE.

NORMAN C. STILES, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR TO THE  
STILES & PARKER PRESS COMPANY, OF SAME PLACE.

## IMPROVEMENT IN THE MODES OF ADJUSTING THE LENGTH OF PITMEN.

Specification forming part of Letters Patent No. **135,380**, dated January 28, 1873.

*To all whom it may concern:*

Be it known that I, NORMAN C. STILES, of Middletown, in the county of Middlesex and State of Connecticut, have invented a new Improvement in Mechanical Movement; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents, in—

Figure 1, a front view, and in Fig. 2, a section on line *x x*.

This invention relates to an improvement in device for adjusting the length of pitmen or connecting-rods—that is to say, in the manner of adjusting the eccentric which is arranged in one end of the rod. This adjustment has heretofore been made by turning the eccentric and holding it rigid when adjusted by means of the device which caused its rotation. From such construction difficulties frequently arise, as, when a sudden or unusual strain comes upon the connecting-rod the eccentric will in no way yield, and some breakage necessarily follows. To overcome this difficulty is the object of this invention; which consists in forming an eccentric with a periphery wholly or partially toothed, and a pinion working in the said teeth, the axis of the pinion being parallel to the axis of the eccentric, and combined with a clamping device acting directly upon the eccentric, as more fully hereinafter described.

A is the pitman, its upper end constructed to receive an eccentric, B. This has a seat, C, formed within it to receive the crank-pin. By turning the eccentric one-half around, as from the position denoted in solid lines to that in broken lines, Fig. 1, the center *a* of the crank-pin will have been carried further from the other end equal to the eccentricity—that

is, to the point *d*, and the pitman consequently lengthened by so much. These two points, *a d*, are the two extremes of adjustment, and any intermediate point may be attained by setting the eccentric at such intermediate point. To rotate the eccentric for such adjustment I form teeth upon the periphery, as seen in Fig. 1, and combine therewith a pinion, D, the axis of which is parallel to the axis of the eccentric; therefore, by turning this pinion the eccentric will be turned accordingly, but the pinion itself will afford no means for holding the eccentric; or, if the pinion be relied upon for holding the eccentric, the required strain would come upon the teeth only, and these are insufficient. I therefore arrange an independent clamping device, as by set-screws E E, which pass through the head of the pitman and bear upon the eccentric with sufficient force to hold it in position against ordinary strain; but if at any time the strain should become sufficient to overcome the clamping device the eccentric would turn in the head of the pitman and without any liability of danger to the teeth or clamping device.

I claim as my invention—

The herein-described mechanical adjustment for pitmen or connecting-rods, consisting of the eccentric B, toothed upon its periphery, arranged in one end of the pitman and combined with the pinion D, the axis of which pinion is parallel to the axis of the eccentric, and provided with set-screws E, or other suitable clamping device acting directly upon the eccentric independent of the pinion, substantially as set forth.

N. C. STILES.

Witnesses:

J. N. CAMP,  
CYRUS H. FAY.