

(No Model.)

R. CAMPBELL.

GEARING.

No. 306,809.

Fig. 1

Patented Oct. 21, 1884.

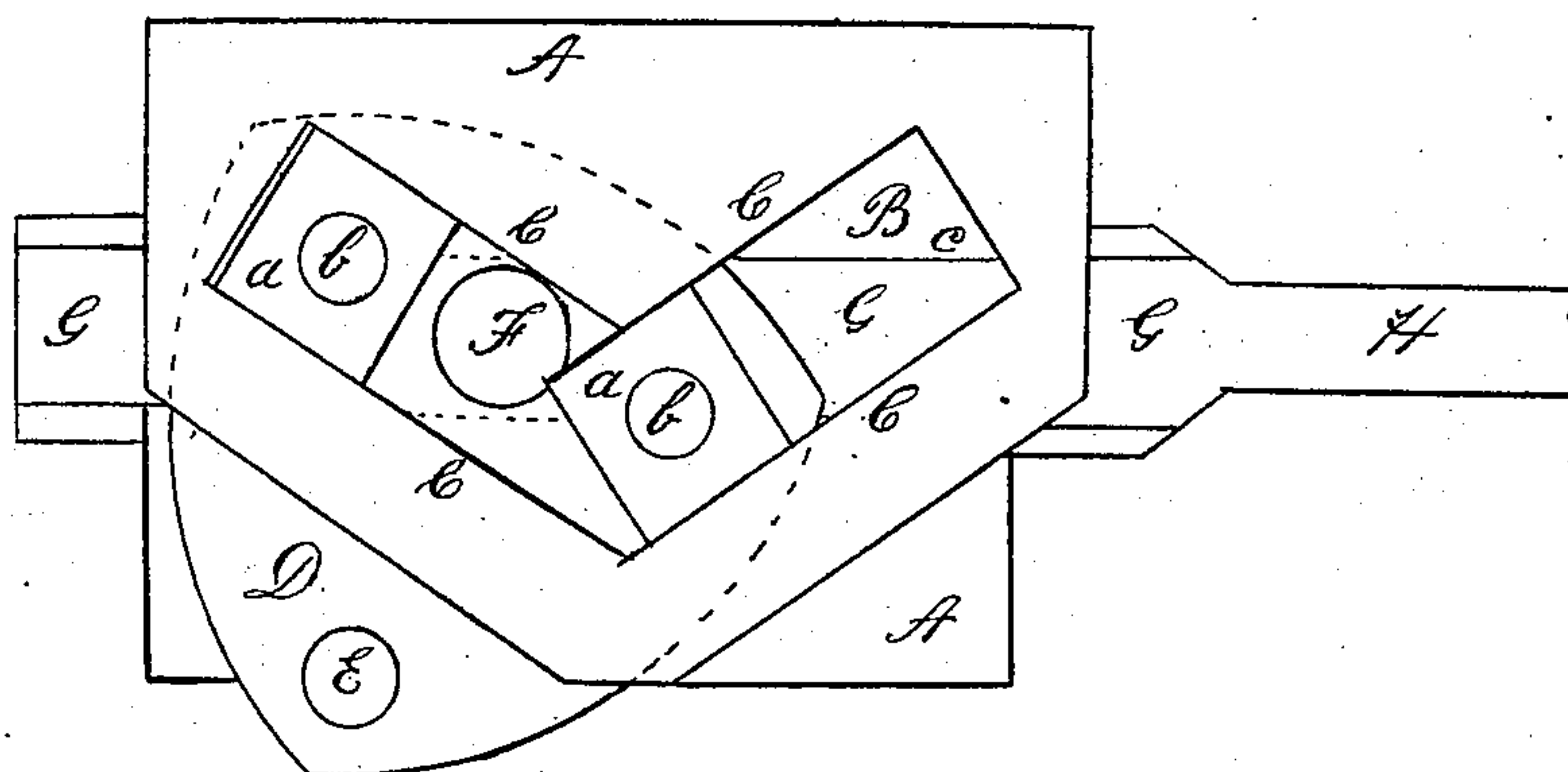


Fig. 2

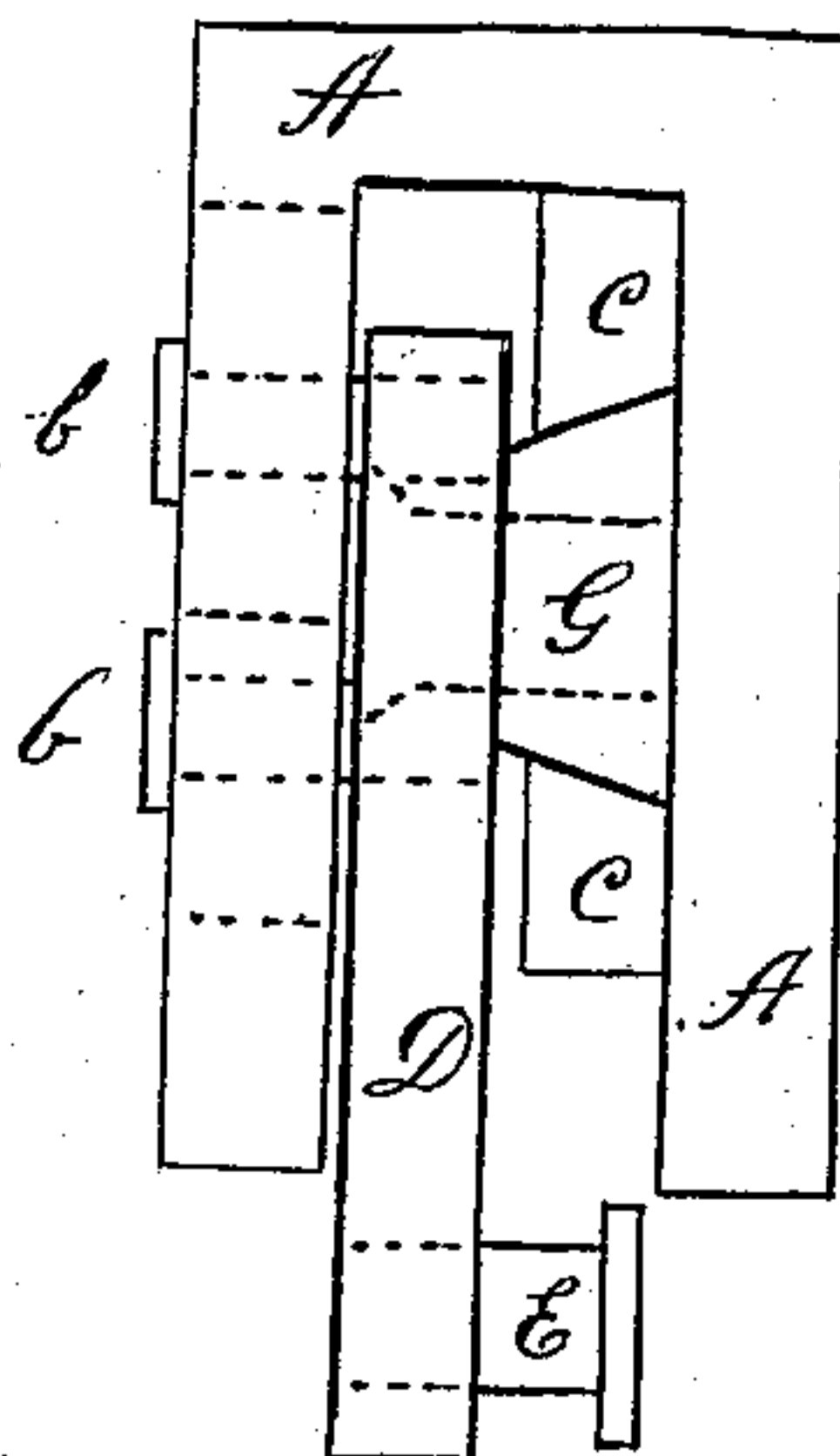


Fig. 3

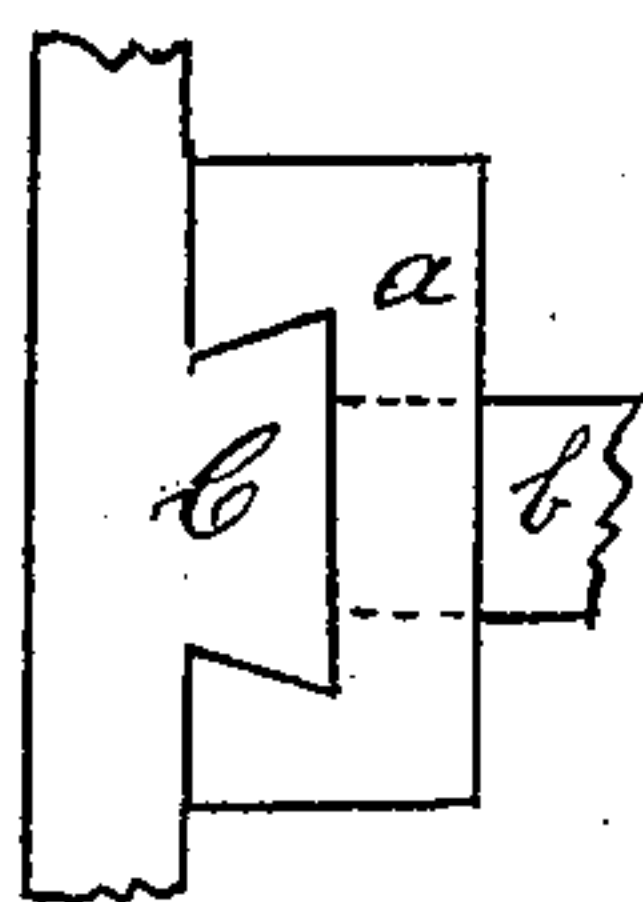
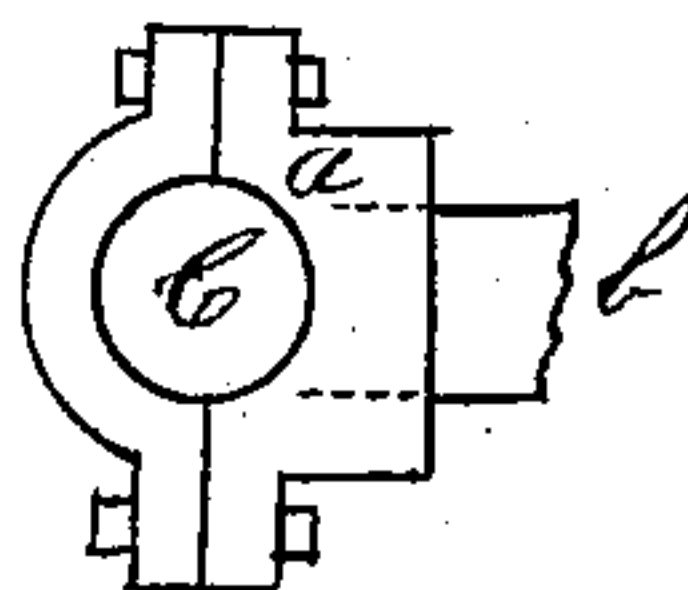


Fig. 4



Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT CAMPBELL, OF ALLEGHENY, PENNSYLVANIA.

GEARING.

SPECIFICATION forming part of Letters Patent No. 306,809, dated October 21, 1884.

Application filed March 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROBERT CAMPBELL, a citizen of the United States, residing in Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Gearing, of which the following is a specification.

My invention relates to gearing in which an arm or driving-head is attached to or forms part of an actuating piston-rod or connecting-rod, the arm or driving-head affording a bearing or fulcrum carrying a form, web, disk, or lever engaging fixed bearings arranged at determinate angles in respect to the stroke of the driving-head, arm, connecting-rod, or piston-rod.

The object of my invention is an increase of leverage, or a more equal distribution of the current force into power and speed. I attain this object by mechanism illustrated in the accompanying drawings, which form a part of this specification.

Similar letters refer to similar parts in the several views.

Figure 1 represents a frame, A, with bearings or guides C C C C (*c c*, Fig. 2) forming part of or affixed to it. The driving-arm G carries the fulcrum F, on which the disk or lever D vibrates. The arms *b b* connect the disk or lever D with the bearing-heads *a a*, which slide on the faces of the guides C C C C, which deflect the stroke of the arms *b b* and cause the disk or lever D to vibrate on the fulcrum F. B is the groove, through which is seen the arm G and guide *c*. H is part of the piston-rod. E is the effective arm of the disk or lever D.

Fig. 2 is an end view of Fig. 1. *c c* are guides in which the driving-arm G operates.

Figs. 3 and 4 represent different kinds of bearings. While the bearings may be curved or straight, external or internal, superficial, salient, or re-entrant, long or short—long to serve short bearing-heads, as shown in the drawings, or short to serve long bearing-arms with equal effect, but not shown in the drawings—it is preferable to use straight bearings to secure an accurate measure of the distribution of the current force and a higher leverage.

The distinctive character of the invention is that the arm E is not dependent on a fixed fulcrum. I therefore disclaim the use of hypocycloidal curves in connection with a fixed fulcrum.

Having described my invention clearly, I claim as my invention the following:

1. In gearing, a web, disk, or lever fulcrumed on a vibrating arm or driving-head, substantially as set forth, and for the purposes described.

2. In gearing, a disk, web, or lever engaging deflecting bearings, substantially as set forth, and for the purposes described.

3. In gearing, bearings substantially as set forth and described, and for the purposes alleged.

ROBERT CAMPBELL.

Witnesses:

C. I. McKEE,
R. B. McKEE.