

(No Model.)

H. F. SHAW.
GEARING.

No. 544,796.

Patented Aug. 20, 1895.

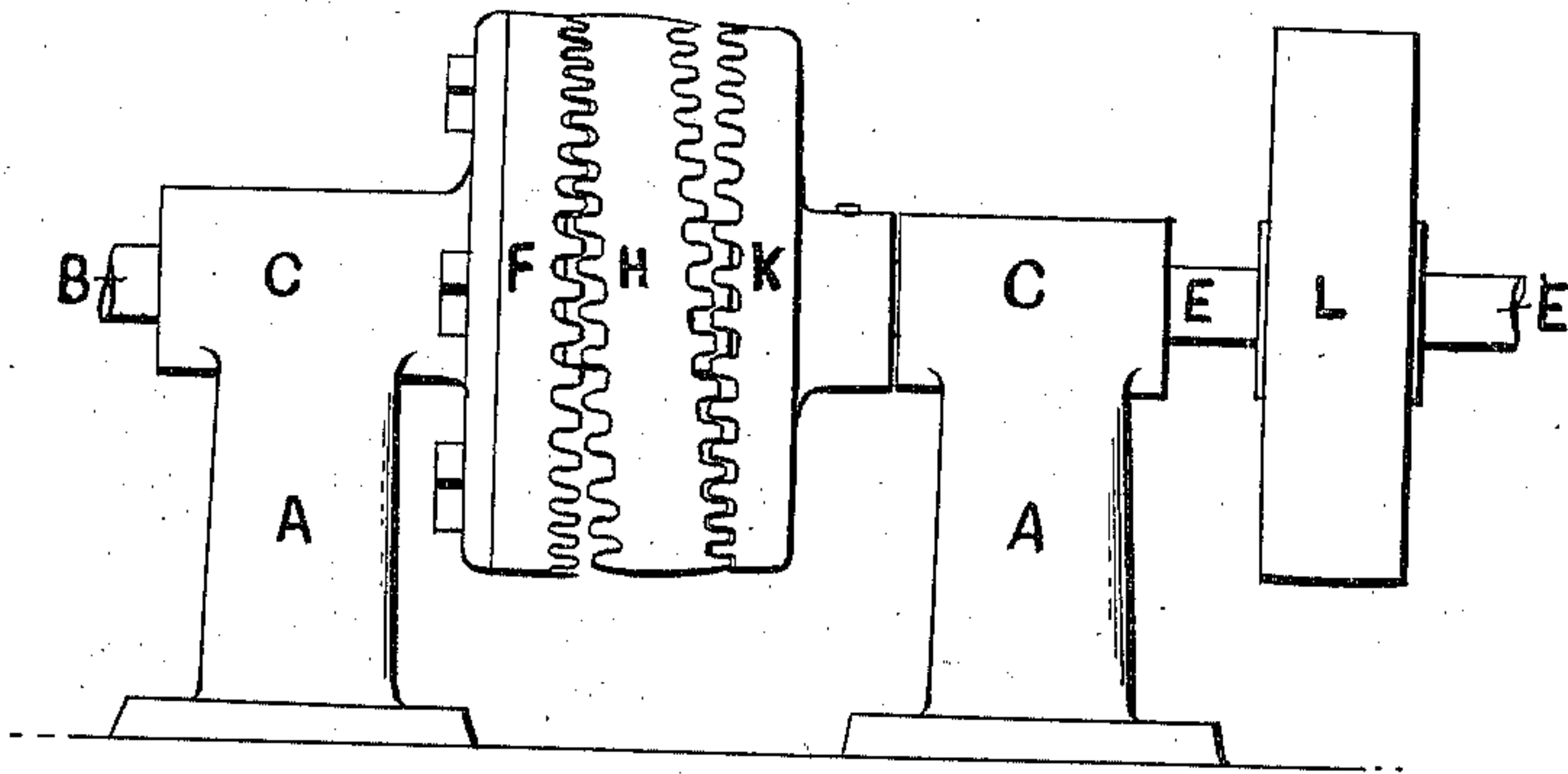


Fig. 1.

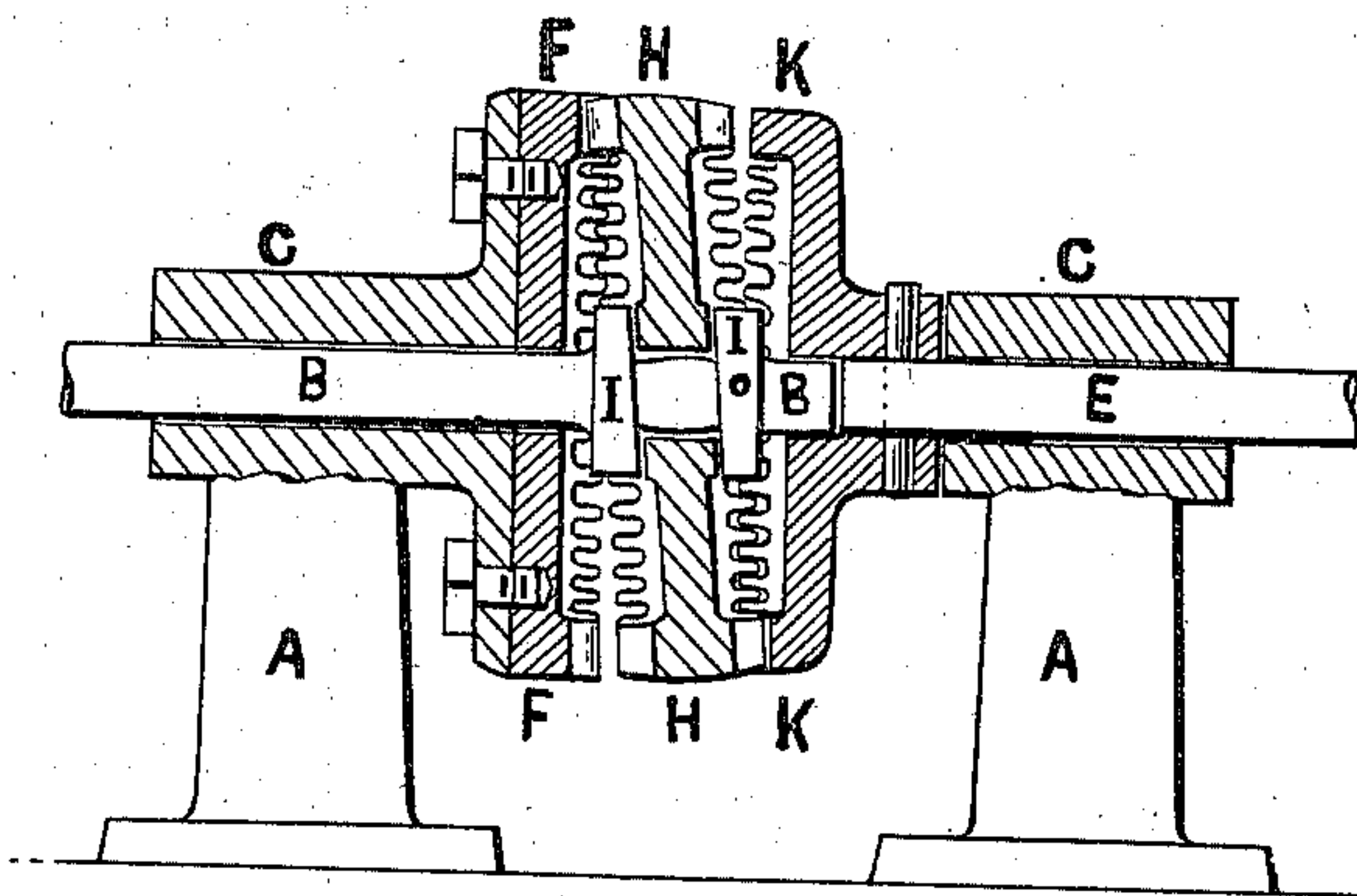


Fig. 2.

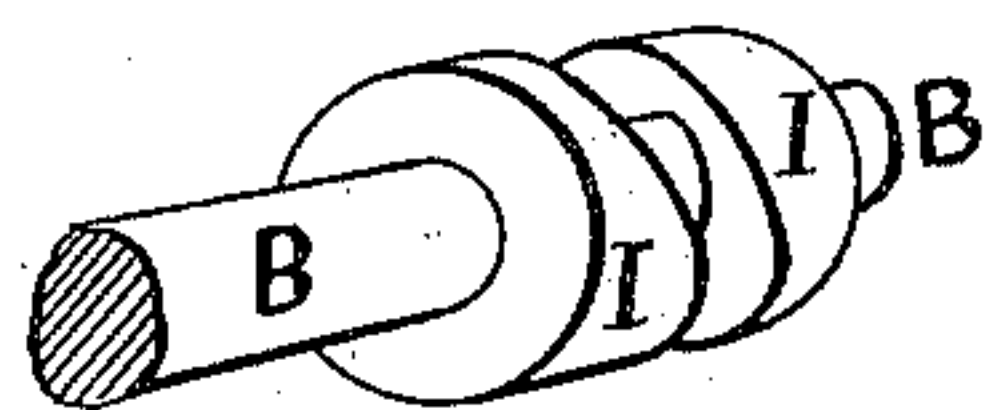


Fig. 3.

WITNESSES

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HENRY F. SHAW, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO CHARLES M. MARTIN, OF SAME PLACE, AND WILLIAM G. NIXON, OF BRAINTREE, MASSACHUSETTS.

GEARING.

SPECIFICATION forming part of Letters Patent No. 544,796, dated August 20, 1895.

Application filed June 8, 1895. Serial No. 552,121. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. SHAW, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Gearing, of which the following is a specification.

The object of my invention is to provide a system of speed-reducing gears having their axis in the same line, or in a single straight line of shafting; and it consists in the novel construction of the gears and the combination and arrangement of the same with a cam mechanism, whereby the desired result is obtained, as hereinafter more fully described, and specifically set forth in the claims hereto annexed.

To the drawings hereto annexed, which form a part of this specification, reference is made.

Figure 1 represents an elevation showing a reducing-speed-gear mechanism constructed according to my invention. Fig. 2 represents a vertical longitudinal section of the same. Fig. 3 represents a perspective view showing a detached view of a portion of the same.

A represents the main frame or support, having suitable journal boxes or bearings C, carrying the horizontal shafts B and E. To the shaft B may be secured any suitable or well-known devices for communicating power and rotary motion to the same.

F represents a stationary crown-gear bolted or secured permanently in position surrounding the said shaft B, which rotates freely therein. This crown-gear F may contain, say, twenty-five teeth, and the next wobbling gear H, meshing therewith, may have twenty-four teeth, or one less, and its opposite face may have twenty-three teeth, or one less than the first face. Now, to the said shaft E, near the inward end thereof, is secured the reverse crown-gear K, and at any desired point thereon is secured the gear or belt pulley L. The said crown-gear K may be provided with twenty-two teeth, or one less than face of the crown-gear with which it meshes. The said middle double crown-gear H is made to wobble by means of the face-cams I, secured upon the said shaft B, and bearing against the op-

posite sides or faces of the said double crown-gear H, when rotated, causes the said gear H to wobble, and as its face, which has twenty-four teeth, meshes with the said stationary gear F, which is provided with twenty-five teeth, causes the said gear H to rotate at a slow speed, or only one revolution to twenty-five revolutions of the said shaft B, and as the opposite face of the said gear H corresponds in its movements and resultant effects with the said crown-gear K, secured upon the shaft E, will cause it to make two revolutions of the shaft E only, to twenty-five revolutions of the said driving-shaft B. Now, it will be seen and understood that if the face of the said wobbling gear H is provided with the same number of teeth as the said non-rotative gear F, it would have the wobbling motion imparted to it by the rotary cams I, but would not rotate upon its own axis, but only rotate the said shaft E at one-half the former speed, above described.

It will be understood that the diameter of the gears and the numbers of teeth may be increased to any extent desired, or reduced and their relative proportions varied, as circumstances may require, and not depart from the essential features of my said invention or limit its scope of construction.

Having thus described my invention, I claim—

1. The combination of the shafts, B and E, journaled in the frame A, the stationary crown gear F, the double crown wobbling gear H, the rotary crown gear K, and the cams I secured upon the said shaft B, for the purposes set forth.

2. The combination with the frame A of the shafts B and E, journaled therein, the stationary crown gear F, the double crown rotary wobbling gear H, the cams I secured upon the said shaft B, and the rotary crown gear K secured upon the said shaft E, substantially as described.

HENRY F. SHAW.

Witnesses:

SYLVENUS WALKER,
JOS. H. HANSON.