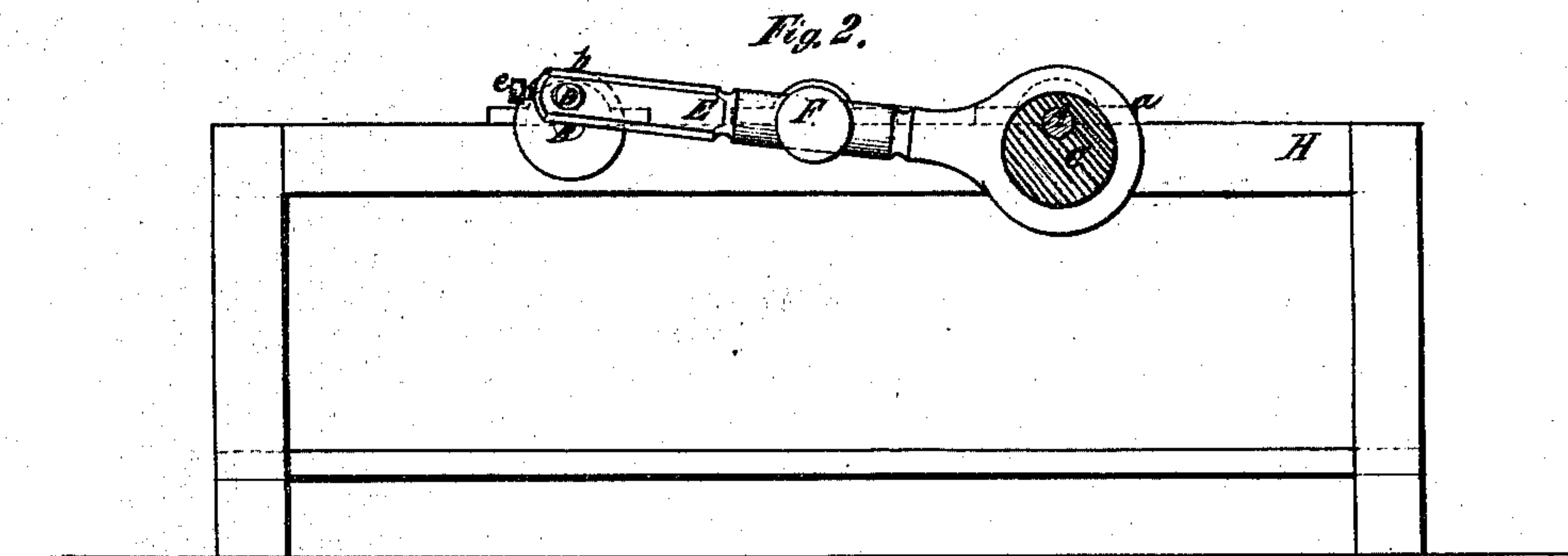
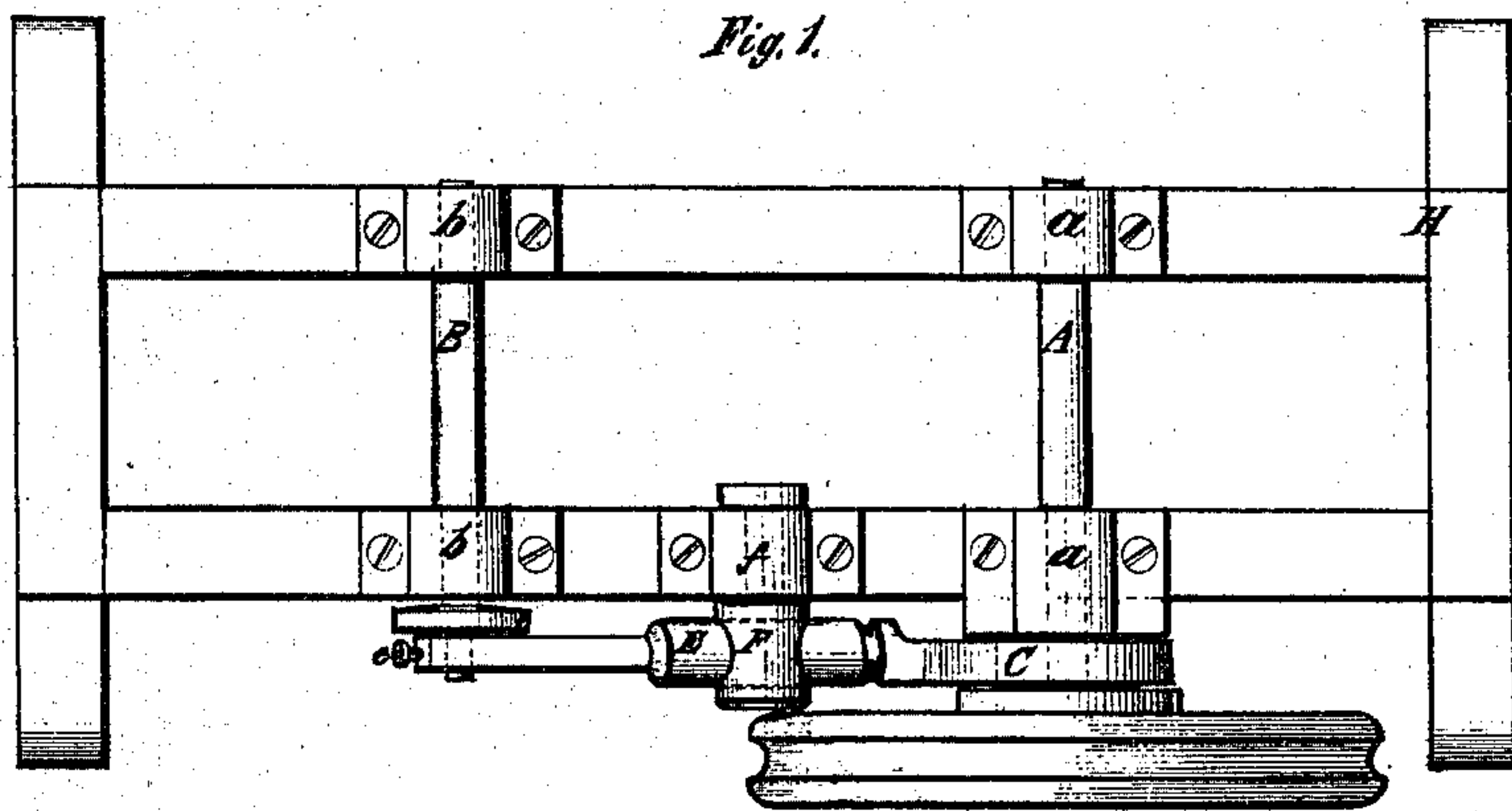


*H. J. Hancock,*

*Converting Motion.*

*No. 105,937.*

*Patented Aug. 2. 1870.*



*Witnesses.*  
*Wm. H. Hays*  
*Chas. T. Hays*

*Henry J. Hancock*

# United States Patent Office.

HENRY J. HANCOCK, OF NEW YORK, N. Y.

Letters Patent No. 105,937, dated August 2, 1870.

## 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, HENRY J. HANCOCK, of the city, county, and State of New York, have invented a new and improved Device for Transmitting Rotary Motion, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification.

This invention relates to means of transmitting rotary motion from one shaft or body to another, having parallel axes.

It consists in a crank or eccentric on the driving-shaft or body, a crank or eccentric on the shaft or body to be driven, and a connecting-rod or lever connecting the said cranks or eccentrics, and working through a guide in a pivot-oscillating fulcrum, the axis of which is arranged between and parallel with the axes of the driving and driven shafts or bodies.

In the accompanying drawing—

Figure 1 is a plan view, illustrating the application of my invention, and

Figure 2 is a front view of the same, with the fly-wheel of the driving-shaft removed.

Similar letters of reference indicate corresponding parts in both figures.

A is the driving-shaft, and

B, the driven shaft, arranged parallel with each other, in bearings *a a* and *b b*, on the frame H.

C is an eccentric on one end of the driving-shaft, and

D is a crank having a similar throw on the corresponding end of the driven shaft.

The eccentric and crank are connected by the rod E, which has a bearing formed in one end to receive the wrist of the crank D, and a hoop or band formed on or attached to the other, to receive the eccentric C.

The length of the rod or lever E, between the centers of the crank-pin bearing and eccentric-hoop or band is equal to the distance between the axes of the two shafts.

F is the oscillating pivot containing the guide for the rod E.

This pivot is fitted to a stationary bearing, *f*, on the

frame H, its axis being parallel with and in the same plane with the axes of the shafts A B.

The guide consists simply of an opening made through the said pivot transversely to its axis, of a size and form for the rod E to slide freely through.

The oscillating pivot is shown in the drawing as being midway between the two shafts. When it is thus arranged, the distances of the centers of the eccentrics and crank-wrist from the centers of their respective shafts A B, or, in other words, the throw of the cranks or eccentrics, must be alike; but the oscillating bearing might be arranged nearer to one shaft than the other, in which case that shaft to which it is nearest has the center of its eccentric or crank arranged correspondingly nearer to the center of said shaft.

The connecting-rod thus connected by the eccentrics or cranks, and passing through the guide in the oscillating pivot F, has imparted to it, by the driving eccentric, both a reciprocating longitudinal motion and an oscillating or lever-like motion with and from the axis of the pivot F, which may be considered as a fulcrum, and the said rod or pivot is thereby caused to impart rotary motion to the crank of the driven shaft in the opposite direction to that of the driving-shaft, in a very positive manner, there being no dead center throughout the stroke.

This invention is particularly applicable to the transmission of rotary motion, from one shaft to another, of sewing-machines, in which, while a very positive motion is required, the noise of gear is objectionable.

It is obvious that a crank or eccentric may be used on each or either shaft.

What I claim as my invention, and desire to secure by Letters Patent, is—

The lever E, arranged to slide through the oscillating fulcrum F, in combination with the eccentrics or cranks C D, substantially as shown and described.

HENRY J. HANCOCK.

Witnesses:

FRED. HAYNES,  
FERD. TUSCH.