

UNITED STATES PATENT OFFICE.

WALKER B. BARTRAM, OF DANBURY, CONNECTICUT.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. 130,784, dated August 27, 1872.

To all whom it may concern:

Be it known that I, WALKER B. BARTRAM, of Danbury, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Mechanical Movements; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, in which—

Figure 1 is a side elevation, showing these devices in mid-stroke. Figs. 2 and 3 represent the same at either extremity of the stroke. Fig. 4 represents the coupler in section.

My invention relates to that class of mechanical movements whereby rotary or vibratory motion is converted into rectilinear reciprocating motion, or vice versa; and it consists in a disk or cylindrical bush or coupling pivoted eccentrically to one of the moving parts and fitted to work in a circular socket or bearing in the other.

That others may fully understand said invention I will particularly describe it.

A is the vibratory arm, pivoted to some stationary fulcrum and jointed to the bar B, which may reciprocate in bearings or guides C with a rectilinear movement. The motive power may be applied either to the arm A or the bar B, and transmitted to the other, respectively. A circular hole or socket, D, is made in either the arm A or rod B, as may be preferred, and a disk or cylinder, E, is accurately fitted within the said socket, so as to turn freely therein but without lost motion. The disk E, being fitted to the socket D, one part is pivoted to the other by a pin or screw, e, which is removed from the axis of

said disk a greater or less distance, as may be necessary to accommodate the extent of the vibrations of the arm A. Figs. 1, 2, 3 show the relative positions of the parts at different moments during one stroke.

This device produces a very useful coupling when it is desirable or necessary to dispense with connecting-rods. The bar B may be supposed to represent the piston-rod of an engine, and the arm A the lever of a pump, &c.; or the arm A may represent the motor-lever and the rod B the sucker-rod of a pump, &c., the arm and needle-bar of a sewing-machine, or for many other purposes not necessary here to mention.

To take up lost motion the socket D may be made conical, and a cap employed to draw said disk into its seat as snugly as may be desired, as shown in Fig. 4; or the same result may be attained by cutting a slot, s, from said socket lengthwise into the arm, and compressing the same by a screw inserted through said arm transversely to said slot, or in other well-known ways.

Having described my invention, what I claim as new is—

The combination of a vibrating arm, A, a reciprocating bar, B, and a disk, bush, or coupling, E, fitted in a corresponding socket in one part and pivoted eccentrically to the other, as and for the purpose set forth.

WALKER B. BARTRAM.

Witnesses:

MORRIS S. HILL,
RUSSELL A BELDEN.