H. H. BAKER.

Improvement in Mechanical Movement.

No. 127,294. Patented May 28, 1872.

Fig: 2.

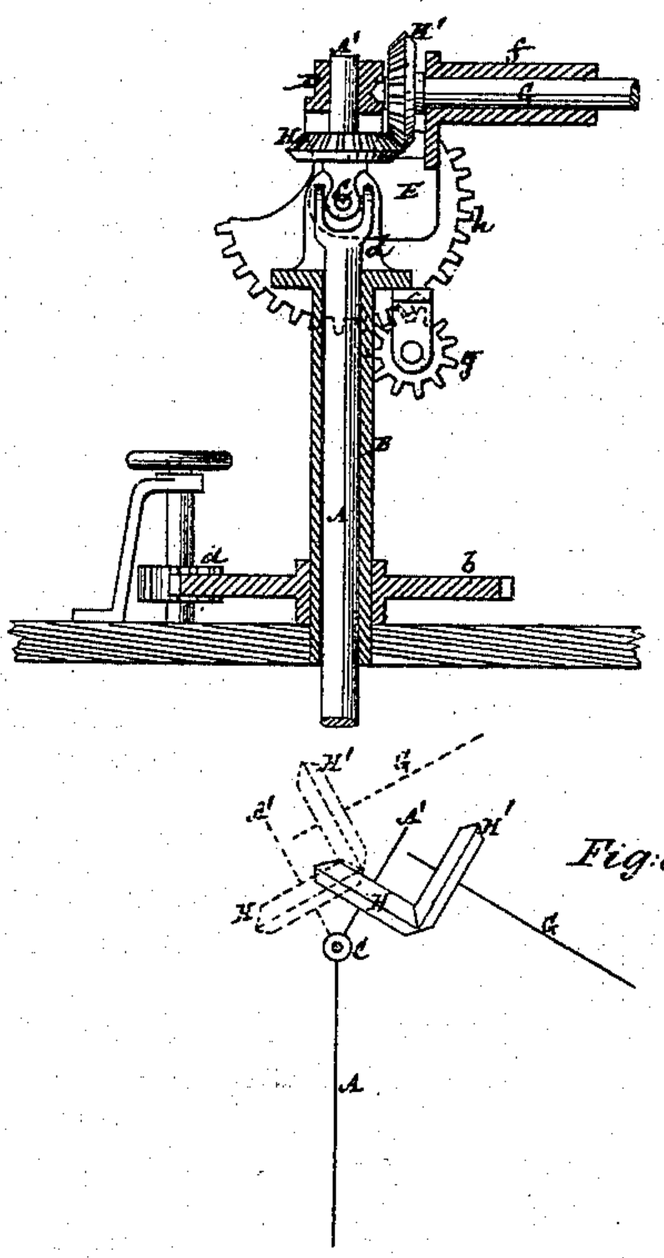

Fig: 1.

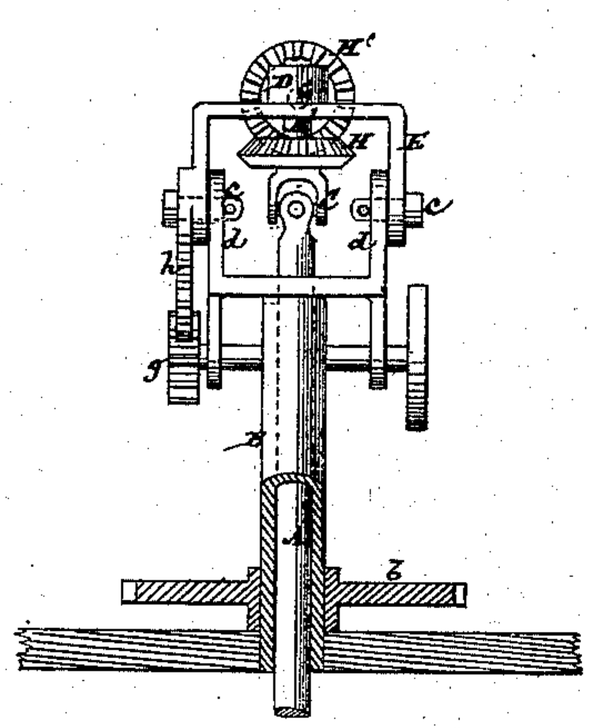

Fig: 3.

Witnesses:

Henry T. Brown

Fred. Haynes

H. H. Baker

127,294

UNITED STATES PATENT OFFICE.

HALSEY H. BAKER, OF NEW MARKET, NEW JERSEY.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. 127,294, dated May 28, 1872.

Specification describing an Improved Mechanical Movement, the invention of HALSEY H. BAKER, of New Market, in the county of Middlesex and State of New Jersey.

This invention, which may be used for operating a drill and for various other purposes, consists in a novel combination of details and construction of parts, whereby a revolving driving-shaft is made to communicate rotary motion to a secondary shaft in varied positions of the latter, both around the axis of the driving-shaft and at different angles, varying from an obtuse to an acute angle, relatively to the driving-shaft.

In the accompanying drawing, which forms part of this specification, Figures 1 and 2 represent views, at right angles to each other, of the improved movement under a vertical arrangement of the driving-shaft, which position, however, may be changed, Fig. 1 being a partly broken view, and Fig. 2 a sectional one. Fig. 3 is a diagram in illustration of the action and capacity of the movement.

Similar letters of reference indicate corresponding parts throughout the several figures of the drawing, and the shafts of the movement only being represented by single lines in Fig. 3.

A is the driving-shaft, or one portion thereof, here shown as occupying a vertical position, and as arranged to revolve within and through an upright sleeve, B, capable of independent rotation around said shaft by means of a pinion, *a*, and spur-wheel *b*, or otherwise. The portion A of the driving-shaft is connected by a universal joint, C, beyond or above the sleeve B, with a shaft-section, A′, which virtually forms a jointed extension of the driving-shaft. This shaft-section turns and is supported at its outer end in a box, D, mounted on a frame, E, which is hung to rock on trunnions *c c*, connected with the supports *d d*, fast to the sleeve B, and arranged so that the trunnions are on opposite sides of the driving-shaft in intersecting line with the universal joint C. The rocking frame E also carries a shaft, G, which may be centered in the box D and be borne by a sleeve, *f*, fast to the frame E, said shaft G being arranged with its axis in a plane at right angles to the axial line of the trunnions and in line with the axial line of the driving-shaft. Thus arranged, the shaft-section A′ and shaft G are geared together by bevel-wheels H H′, which may either be of the same or different diameters, according to the relative velocities required of the shafts A and G.

The frame E may be rocked on its trunnions *c c* by a pinion, *g*, having its bearings in projections from the sleeve B, and arranged to gear with a toothed sector, *h*, fast to the frame E.

By the combination, with the universal joint C in the driving-shaft, of the rocking frame E, having its trunnions *c c* in intersecting line with said joint, the box D, and shaft G, together with the bevel-gear H H′, the shaft G may be rotated on its axis by the driving-shaft in various angular positions relatively to the driving-shaft or portion A thereof, the same varying from a right-angled position, as shown in Figs. 1 and 2, to either an acute or obtuse one, as illustrated by full and dotted lines in Fig. 3.

Furthermore, by the support of the rocking frame E, with the devices which it carries, on a sleeve or support, B, arranged so as to be capable of rotation around the driving-shaft or portion A thereof, not only may the angular position of the shaft G relatively to the portion A of the driving-shaft be changed, as described, but the position of the shaft G in horizontal relation with or around the portion A to the extent of the whole circle be varied, as required.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination of the rocking frame E and trunnions *c c* with the universal joint C, the shaft-sections A A′, the box or bearing D, the bevel-gear H H, and the shaft G, substantially as herein described.

2. The combination, with the elements recited in the preceding clause of claim, of the revolving sleeve or support B, arranged in relation with the section A of the driving-shaft, essentially as specified.

H. H. BAKER.

Witnesses:
HENRY T. BROWN,
FRED. HAYNES.