(No Model.)

J. PEASE.

TRAVERSING APPARATUS FOR COMMUTATORS.

No. 537,354. Patented Apr. 9, 1895.

FIG. 1.

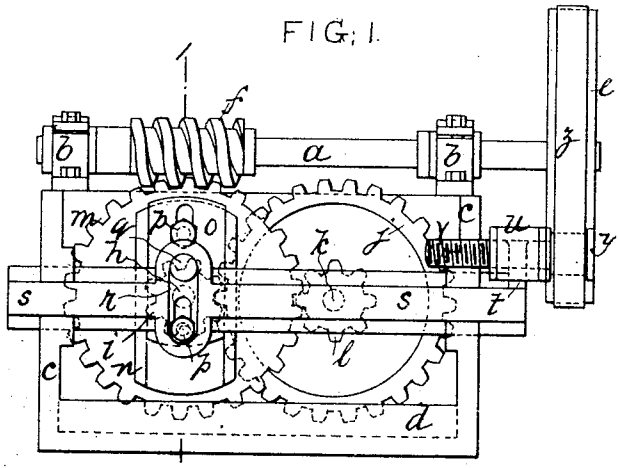


FIG. 2.

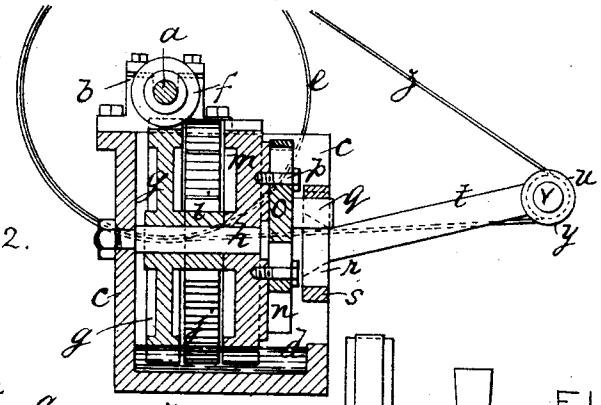


FIG. 3.

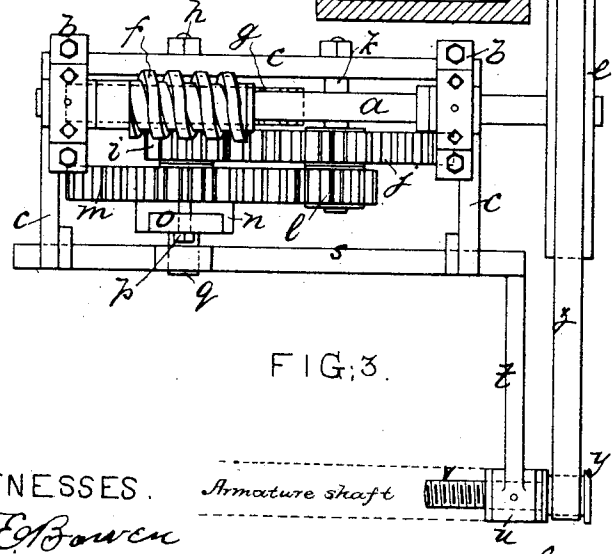
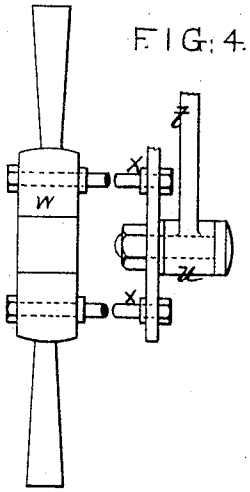


FIG. 4.



WITNESSES.

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UNITED STATES PATENT OFFICE.

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TRAVERSING APPARATUS FOR COMMUTATORS.

SPECIFICATION forming part of Letters Patent No. 537,354, dated April 9, 1895.

Application filed July 28, 1894. Serial No. 518,815. (No model.) Patented in England July 5, 1893, No. 13,111.

To all whom it may concern:

Be it known that I, JOHN PEASE, engineer, a subject of the Queen of Great Britain and Ireland, residing at Apperley Bridge, Yorkshire, England, have invented a certain new and useful Traversing Apparatus for the Commutators and Brushes of Dynamos and Electric Motors, (for which I have obtained Letters Patent in Great Britain, No. 13,111, dated July 5, 1893,) of which the following is a specification.

This invention relates to means for traversing the commutator or the brushes of dynamos and electric motors relatively to the other, for insuring an action of the brushes equally over the whole surface of the commutator.

On the accompanying drawings:—Figure 1, represents a front elevation. Fig. 2, represents a sectional elevation through 1—1, Fig. 1. Fig. 3, represents a plan, and Fig. 4, represents a partial view.

In the improved device, a shaft *a*, is supported by bearings *b*, carried by a frame *c*, which is adapted to contain a supply of oil *d*, Fig. 2, to lubricate the gearing. On the shaft *a*, are keyed a pulley *e*, and a worm *f*, which latter gears with a worm-wheel *g*, loosely mounted on a shaft *h*, supported by the frame *c*. To the worm wheel *g*, is secured a toothed pinion *i*, which gears with a toothed wheel *j*, loosely mounted on a shaft *k*, also supported by the frame *c*. To the wheel *j*, is secured a toothed pinion *l*, which gears with a toothed wheel *m*, loosely mounted on the shaft *h*. The wheel *m*, is formed or fitted with slides *n*, in which a slotted crank plate *o*, can be adjusted and set by screws *p*, so as to regulate the throw of a crank pin *q*, projecting from the plate *o*, according to the extent of traverse desired to be imparted to the commutator or to the brushes of the dynamo or electric motor. The crank-pin *q*, engages with a slot *r*, in a slide *s*, which is supported by the frame *c*, and is formed with an arm *t*, adapted for connection in any suitable manner with the commutator or with the brush-carrier.

As represented in Figs. 1 to 3, the arm *t*, is formed with a bearing *u*, for a spindle *v*, fitted with a pulley *y*, by which, and a connecting strap *z*, the pulley *e*, may be driven from the dynamo shaft, into which the spindle *v* may be screwed. The pulley *e*, may, however, be driven from any other convenient shaft.

As represented in Fig. 4, the arm *t*, is connected to the brush-carrier *w*, by a frame *x*.

By the aforesaid means, the armature and commutator or the brushes may be caused to traverse any required distance to and fro and at any required speed, whereby an action of the brushes equally over the whole surface of the commutator may be insured, the traversing of the commutator and armature, if effected, also causing the journals of their shaft to slide in their bearings and insure evenness of wear.

I claim as my invention—

1. In apparatus for traversing the commutator relatively to the brushes, or vice versa, of dynamos and electric motors, the combination with a worm shaft *a*, *f*, supported in bearings on frame *c* and worm-wheel *g* mounted on shaft *h*, of slotted slide *s* formed with an arm *t* adapted to be connected to the commutator shaft or to the brush-carrier, suitable gearing between said worm-wheel *g* and the slide *s* including slides *n*, slotted and adjustable crank plate *o*, and crank pin *q* which engages with the slot in the slide *s*, substantially as set forth.

2. In apparatus for traversing the commutator relatively to the brushes (or vice versa), of dynamos and electric motors, the combination of a wormed shaft *a*, *f*; crank slide wheel *m*, *n*; gearing *g*, *i*, *j*, *l*, connecting the worm *f*, and wheel *m*; supporting shafts *h*, *k*; adjustable crank plate *o*, *q*; set screws *p*; slotted slide *r*, *s*, *t*, *u*; supporting frame *c*, *d*; the said slide adapted to be connected to the commutator shaft or brush carrier, as set forth.

3. The combination with a supporting frame *c*, *d*, a worm shaft *a*, *f*, crank slide wheel *m n*, gearing *g*, *i*, *j*, *l*, connecting the worm *f* and wheel *n*, shafts *h*, *k*, and adjustable crank plate *o*, *q*, of slotted slide *r*, *s*, *t*, *u*, pulleys *y*, *e*, and connecting strap *z*, substantially as set forth.

Signed at Bradford, Yorkshire, England, this 5th day of July, 1894.

JOHN PEASE.

Witnesses:
FREDERIC WM. JARRATT,
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