

June 18, 1968

G. V. GALLES

3,389,366

SUPPORT HAVING SLIP RING CONDUCTOR ASSEMBLY

Filed Feb. 27, 1967

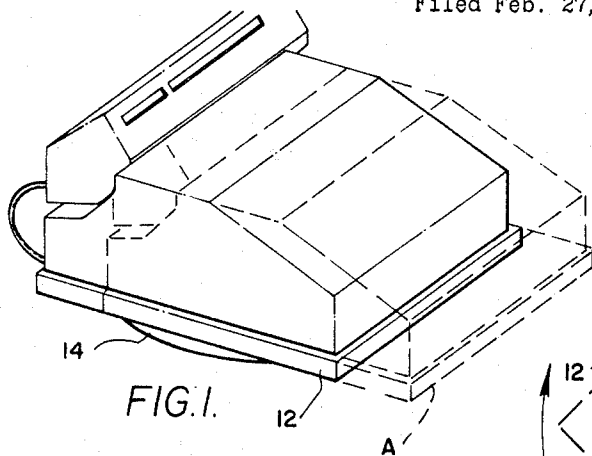


FIG. 1.

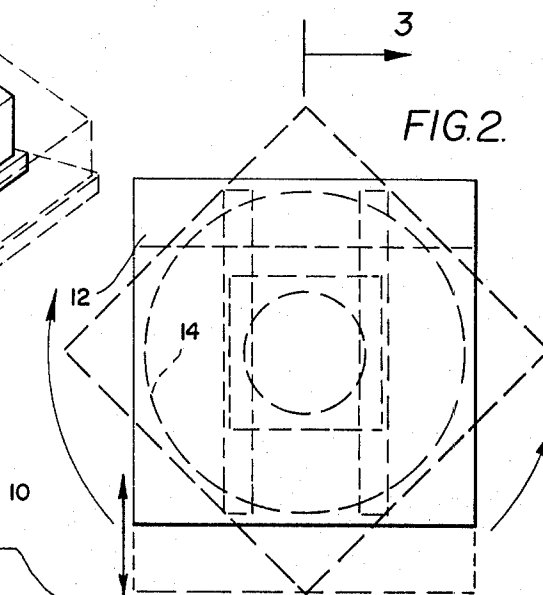


FIG. 2.

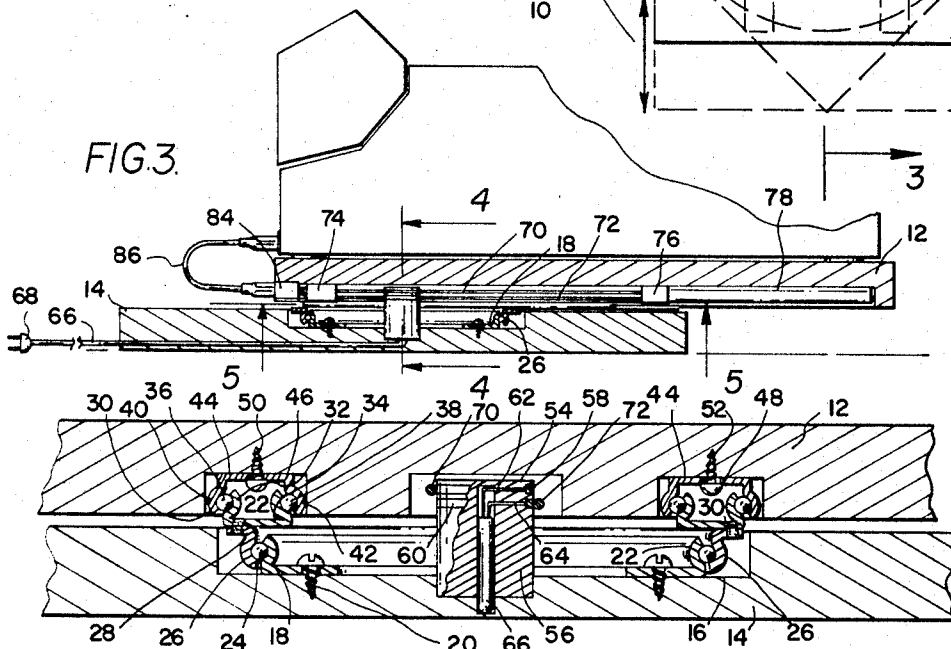


FIG. 3.

FIG. 4.

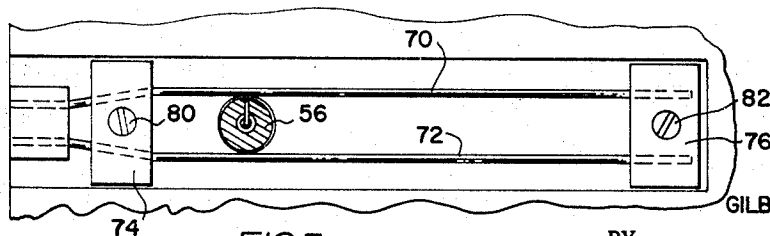


FIG. 5.

INVENTOR.
GILBERT V. GALLES

BY

Wm. H. Dean

1

3,389,366
**SUPPORT HAVING SLIP RING
 CONDUCTOR ASSEMBLY**
 Gilbert V. Galles, 2504 E. Monterosa,
 Phoenix, Ariz. 85016
 Filed Feb. 27, 1967, Ser. No. 618,695
 4 Claims. (Cl. 339-7)

ABSTRACT OF THE DISCLOSURE

A business machine support comprising a stationary base member, and a business machine supporting table member rotatably and slidably supported on the base member to rotate about a vertical axis, and to slide radially relative to the vertical axis, and wherein slip ring conductor means, coupled with an electrical energy source, are secured to the base and to the table so that a business machine supported on the table may derive electrical energy, while the table is rotated about a vertical axis, and reciprocated horizontally relative to the base member.

This invention relates to a business machine support.

Background of the invention

Various business machines, such as adding machines, calculators, and other similar machines may be used on various desks or tables in location, wherein the rotation or movement of the machine may be desirable so that the machine may be used conveniently from different angular positions, and at times shared by persons working at opposite sides of a desk, or the like. In many accounting offices, and other similar business areas, calculators, for example, may be used by several persons. In some instances, it has been found desirable to provide for the sharing of a calculator by two parties working at opposite sides of a desk, and in many instances, the width of the desk is such, that the calculator need be rotated about a vertical axis, and also movable back and forth toward opposite edges of the desk. In addition to the foregoing requirements, the calculator or other business machine must be constantly supplied with electrical energy without tangling the conventional cord-like conductors even though the machine may be constantly rotated through-out 360° about a vertical axis.

Summary of the invention

The machine of the present invention employs a base member and a table member, the table member being rotatably mounted on the base member to rotate throughout 360° about a vertical axis with respect to the base member and the table member is also capable of being moved in a rectilinear relationship to the base member in a horizontal direction and at right angles to the said vertical axis so that an electrically conducting slip ring assembly interconnecting the base and the table member may constantly supply electrical energy to a business machine supported on the table member while the table member is rotated about a vertical axis, and moved horizontally in a rectilinear manner with respect to the base member.

Accordingly, it is an object of the present invention to provide a business machine support, which provides for the convenience of operation of a single business machine, such as a calculator, by two different persons alternately using the machine at opposite sides of a desk or the like.

Another object of the invention is to provide a very useful business machine support, which allows complete vertical axis rotation of a business machine from one

2

position to another, and further provides for rectilinear horizontal movement of the machine with respect to its vertical axis of rotation in order to provide directional convenience, as well as laterally movable convenience, when a business machine is supported by the invention substantially in the middle of a wide desk or table at the opposite sides of which persons using the machine are working.

Further objects and advantages of the invention may be apparent from the following specification, appended claims, and accompanying drawings.

Brief description of the drawings

FIG. 1 is a fragmentary perspective view of a business machine such as a calculator or the like supported on the business machine support of the invention;

FIG. 2 is a top or plan view of the business machine support of the invention showing relative rotation and horizontal reciprocation of the table member of the invention relative to the base member thereof;

FIG. 3 is an enlarged vertical sectional view taken from the line 3-3 of FIG. 2;

FIG. 4 is an enlarged fragmentary sectional view taken from the line 4-4 of FIG. 3; and

FIG. 5 is an enlarged bottom plan sectional view taken from the line 5-5 of FIG. 3.

Description of the preferred embodiments

As shown in FIG. 1, a calculator or other business machine, designated 10, may be supported on a table member 12 of the invention. This table member 12 is movable relative to a base member 14 of the invention, which supports the table member 12 so as to rotate 360° about a vertical axis relative to the base member 14, and such that the table member 12 may be reciprocally moved in a rectilinear horizontal manner relative to the base member 14.

Referring to FIGS. 3 and 4 of the drawings, it will be seen that the base member 14 is provided with a recess 16 in which an angular turntable bearing element 18 is secured to the base member by screws 20. This turntable bearing member 18 is provided with an annular bearing race 22, this race 22 is substantially semi-circular in cross-section, and contains a plurality of ball bearings 24 also engaged by a semi-circular cross-section race portion 26 of an annular turntable bearing member 28.

Secured to the bearing member 28 is a rectilinear bearing track 30 having semi-circular in cross-section bearing race portions 32 and 34, which are opposed to each other, and which retain ball bearings 36 and 38, respectively, which are also retained in complementary opposed races 40 and 42 of a rectilinear bearing member 44, which forms outside opposed tracks for the ball bearings 36 and 38.

The tracks 30 and 44 constitute a rectilinear bearing means which supports the table member 12 to move in a horizontal or reciprocatory direction at substantially right angles relative to the vertical axis of the turntable bearing means formed by the races 18 and 28, and the ball bearings 24.

A pair of the tracks 30 and 44 are secured to the table member 12 in recesses 46 and 48 in the underside of the table member 12. Screws 50 and 52 hold the tracks 44 in the recesses 46 and 48, and in juxtaposition relative to the table member 12.

It will be seen that the turntable bearing means provides for rotative movement of the table member 12 about a vertical axis relative to the base member 14, and that the rectilinear tracks 44, bearings 36 and 38, and the tracks 30 provide for horizontal rectilinear movement of

the table member 12 relative to the fixed vertical axis of the turntable bearing means.

Carried by the base member 14, is an annular slip ring conductor assembly 54. This assembly 54 is provided with an annular in cross-section post 56 made of electrical insulation material or other material, which has good dielectric characteristics.

Recessed in the periphery of the post 56 are annular slip rings 58 and 60 electrically connected to a pair of conductors 62 and 64, which extend through an insulation sheath 66 to a male plug 68, which may be inserted in a conventional 110 volt electrical outlet.

Engaging the annular slip ring conductors 58 and 60, is a pair of rectilinear conductors 70 and 72, which are elongated conductors adapted slidably to engage the external annular surfaces of the slip ring conductors 58 and 60 in a tangent relationship thereto, and at approximately 180° from each other, as shown best in FIG. 5 of the drawings.

The opposite ends of the rectilinear conductors 70 and 72 are held in insulated blocks 74 and 76 secured to the lower side of the table member 12 in an elongated recess 78 in the lower surface thereof. These blocks 74 and 76 secured by screws 80 and 82, as shown best in FIG. 5 of the drawings.

Coupled to the rectilinear conductors 70 and 72, is an electrical outlet female plug 84, to which a conventional extension cord 86 may be electrically coupled to deliver electrical energy to the business machine 10 carried on the table member 12.

In operation, the table member 12 may be rotated about a vertical axis of the turntable bearing means, and relative to the base member 14, and also the rectilinear bearing means provides for movement of the table member 12 to a broken line position A, as shown in FIG. 1 of the drawings, in a direction of the rectilinear bearing means, hereinbefore described. This permits horizontal rectilinear movement of the table member 12, carrying the business machine 10, so that the machine may be moved from a central position on a desk, or the like in a horizontal direction closer to one edge of the desk or another, as desired, thereby affording convenience in the use of a calculator or other business machines by two or more persons at opposite sides of a desk, table or other structure on which the base member of the invention may be supported or fixed, as desired.

It will be obvious to those skilled in the art that various modifications of the present invention may be resorted to in a manner limited only by a just interpretation of the following claims.

I claim:

1. In a business machine, the combination of: a substantially horizontal base member; a substantially horizontal table member movably mounted on said base member; turntable bearing means having a substantially vertical axis of rotation; a rectilinear horizontally movable bearing means coupled to said turntable bearing means; said rectilinear bearing means coupled to one of said members, said turntable bearing means coupled to the other one of said members; a rotary slip ring conductor assembly having a pair of annular conductors; a horizontally movable rectilinear conductor assembly having a pair of elongated conductors engaging said annular conductors in rotary and rectilinearly slidable relation thereby, said slip ring conductor assembly carried by one of said members, said rectilinear conductor assembly carried by the other of said members; and electrical power input conductor means secured to said base member, and electrically coupled to the one of said conductor assemblies carried by said base member; and an electrical power outlet conductor means secured to said table member, and electrically coupled to the one of said conductor assemblies carried by said table member, whereby an electrically operable business machine may be supported on said table member, and derive electrical energy from said outlet conductor means, while said table member is rotated about a vertical axis, and is moved horizontally relative to said base member.

2. The invention, as defined in claim 1, wherein: said pair of annular conductors are disposed in vertically spaced superimposed relation to each other.

3. The invention, as defined in claim 2, wherein: said elongated conductors engage respective ones of said pair of annular conductors tangent thereto, and said pair of elongated conductors being disposed approximately 180° apart with respect to the peripheral surfaces of said annular conductors.

4. The invention, as defined in claim 1, wherein: said rotary slip ring conductor assembly is carried by said base member, and said rectilinear conductor assembly is carried by said table member.

References Cited

UNITED STATES PATENTS

751,321	2/1904	Miller	339—7
1,322,886	11/1919	Edman	339—6

MARVIN A. CHAMPION, *Primary Examiner*.

RAYMOND S. STROBEL, *Assistant Examiner*.