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ADJUSTABLE TRANSFORMER AND CORE FOR TRACER MECHANISM

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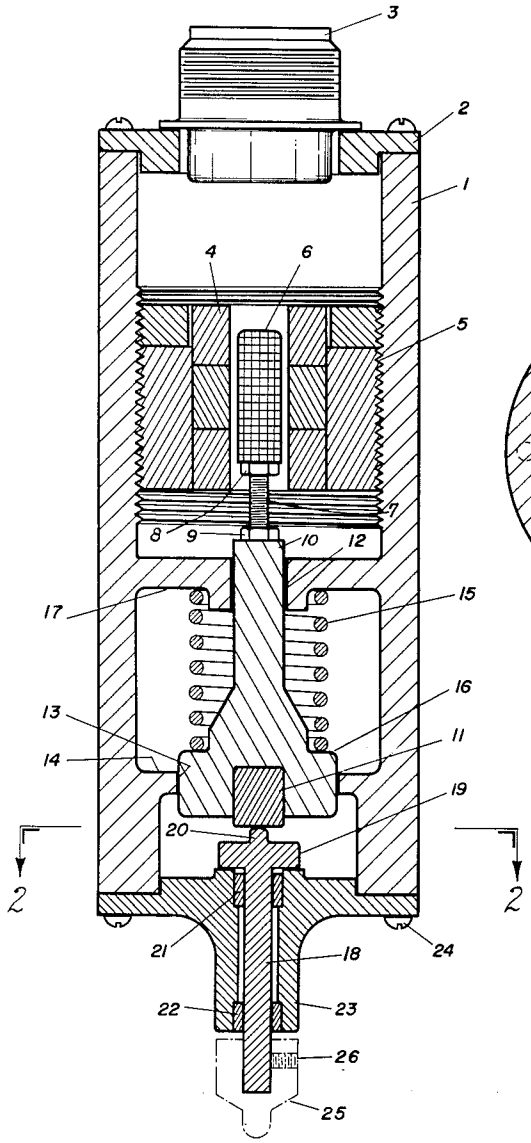


Fig. 1

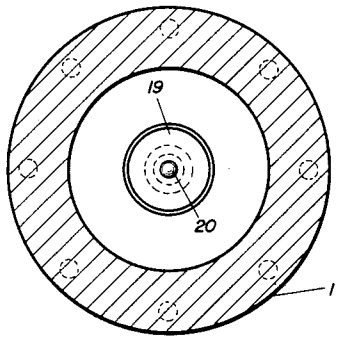


Fig. 2

INVENTOR.
Alexander P. Cameron
BY William B. Jaspert
Attorney.

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ADJUSTABLE TRANSFORMER AND CORE FOR TRACER MECHANISM

Alexander P. Cameron, Pittsburgh, Pa., assignor to Voss Engineering Company, Pittsburgh, Pa., a corporation of Pennsylvania

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This invention relates to new and useful improvements in stylus holders for tracer mechanism and it is among the objects thereof to provide a mounting for a transformer core to insure movement of the latter in an axial direction only and to provide a mounting for the transformer that is adjustable to obtain the desired electrical output.

It is a further object of the invention to provide a stylus holder for tracer mechanism in which a plunger or stylus holder actuates the core operator by insertion through wear resisting bushings and in which the core operator is provided with hardened inserts for engaging the core operator plunger at the top thereof.

The invention will become more apparent from a consideration of the accompanying drawing constituting a part hereof in which like reference characters designate like parts and in which:

FIGURE 1 is a vertical cross-sectional view of a duplicator follower assembly embodying the principles of this invention; and

FIGURE 2 is a cross section, partially in elevation, taken along the line 2—2.

In the drawing, the numeral 1 designates a cylindrical housing having a cover plate 2 and a cable connector 3 at one end thereof. Disposed within the housing is a transformer, generally designated by the numeral 4, which has threaded connection with the internal threads 5 of the housing 1 to be adjustable axially thereof. Disposed within the transformer is a transformer core 6 connected by a threaded shank 7 with lock nuts 8 and 9 to a core operator 10 which is provided with a pressure insert 11. The core operator 10 is movable in the bore 12 and the opening 13 in the radial flange 14.

A coil spring 15 rests against the shoulder 16 of the core operator and against a partition wall 17 normally biasing the core operator in a downward direction.

A plunger or stylus bar 18 having a head 19 with a contact member 20 abutting the insert 11, is movable in wear resisting bushings 21 and 22 disposed in the central bore of the end cap 23 that acts as a guide for bar 18 and is secured to the housing 1 by screws 24. The end of the stylus bar 18 extends beyond the bar guide 23 a sufficient distance to receive a stylus designated by the numeral 25, the stylus being secured by a set screw 26.

The transformer core 6 is rigidly attached to the core operator 10 and the transformer 4 is rigidly secured to the housing 1. By adjusting the transformer by rotating it on the thread 5, the desired electrical output of the transformer 6 is obtained and the correct axial location of

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the transformer core with relation to the transformer is fixed. The coil spring 15 assures constant pressure of the pressure insert 11 against the wear resisting end 20 of stylus bar 18. The bar guide 23 with its wear resistant bushings 21 and 22 assures long life to the critical moving parts and prevents undesirable radial movement of the stylus 25 while traversing a template in a direction radial to the center line of the follower.

It is evident from the foregoing description that the tracer mechanism provides for positive contact of all the moving parts at all times to make it sensitive to surface contours over which the stylus travels and because of the hardened inserts and bushings, the wear on the moving parts is eliminated and extreme accuracy of the device is maintained.

Although one embodiment of the invention has been herein illustrated and described, it will be evident to those skilled in the art that various modifications may be made in the details of construction without departing from the principles herein set forth.

I claim:

1. In a stylus holder for tracer mechanism a housing having a radially etxending integral partition wall with an electrical transformer mounted on one side of said wall, a transformer core mounted to be axially movable in a central bore of said transformer, said housing having a cover plate at one end and an end cap with a shank portion at the other, a radial flange spaced between said end cap and partition wall formed integrally with said housing, a core operator having a constricted end extending through a bore in said partition wall and rigidly secured to said transformer core, said core operator having an enlarged body portion extending through an opening of said radial flange and forming a shoulder for seating one end of a coil spring the other end of which abuts said partition wall to normally bias said core operator and core in a downward direction toward the end cap, said radial flange functioning to retain said core operator in a central position in said housing, a stylus bar extending through an opening in the shank portion of said end cap having a stylus at one end and abutting said core operator at its other end, said transformer core, core operator and stylus bar being movable in an axial direction only.

2. A stylus holder as set forth in claim 1 in which the transformer has threaded connection with the stylus housing to be axially adjustable relative to the transformer core by subjecting the transformer to rotary movement.

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JOHN F. BURNS, *Primary Examiner.*