April 13, 1926. 1,580,426

R. A. FARNAM

PRESS FOR LEVELING MAGNET ASSEMBLIES

Filed March 3, 1925

Fig. 1.

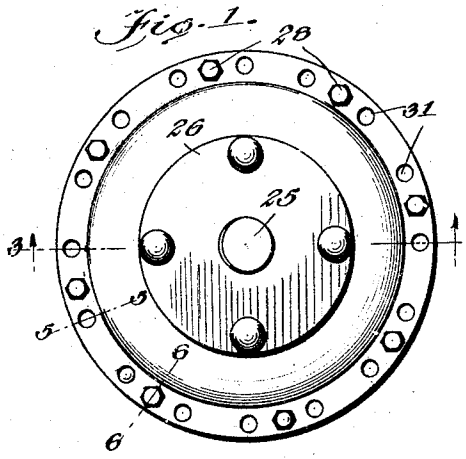


Fig. 2.

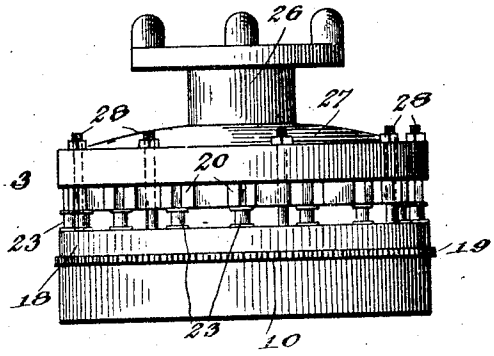


Fig. 3.

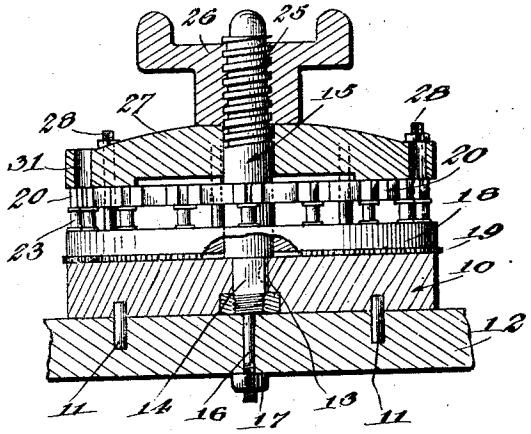


Fig. 4.

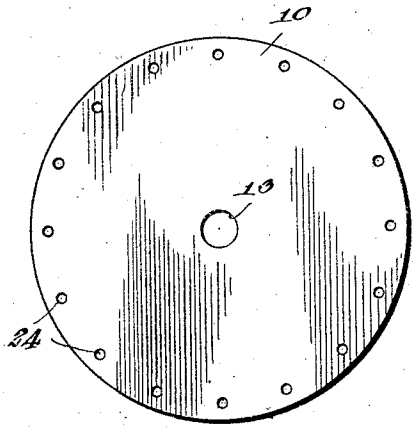


Fig. 5.

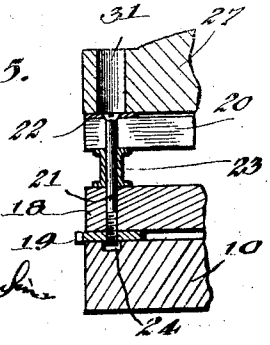
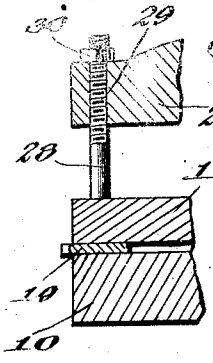


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

ROY ARTY FARNAM, OF LA GRANDE, OREGON.

PRESS FOR LEVELING MAGNET ASSEMBLIES.

Application filed March 3, 1925. Serial No. 13,007.

To all whom it may concern:

Be it known that I, ROY A. FARNAM, a citizen of the United States, and a resident of La Grande, in the county of Union and State of Oregon, have invented certain new and useful Improvements in Presses for Leveling Magnet Assemblies, of which the following is a specification.

My present invention relates generally to devices for facilitating repair work in certain instances in connection with a well known type of automobile in which magnets are assembled in connection with the fly wheel of the motor for rotation therewith adjacent to and in properly spaced relation from field coils secured in connection with a stationary support, and it is a primary object of my present invention to provide a press adapted to receive the fly wheel and to simultaneously engage and force the several magnets into proper position and level arrangement with respect to the fly wheel, and to hold the same in such position while the outer screws extending through clamping plates and spacing spools are turned securely into clamping position.

In this way, by accurately leveling the several magnets of which there are in practice a number disposed radially adjacent to one face of the fly wheel, the exact spacing of the field coils may be prejudged and these coils properly positioned before the fly wheel with its magnets is reassembled in connection with the motor, thus avoiding the present time consuming practice of placing the fly wheel in position and removing the same several times in order to obtain the proper spacing between the magnets and the field coils.

In the accompanying drawing which illustrates my present invention and forms a part of this specification,

Figure 1 is a top plan view of my improved press,

Figure 2 is a side view thereof, the fly wheel and magnet assembly being shown within the press,

Figure 3 is a vertical section taken diametrically through the press substantially on the line 3—3 of Figure 1,

Figure 4 is a top plan view of the base plate of the press, and

Figures 5 and 6 are detail radial sections, taken on slightly enlarged scales and respectively on lines 5—5 and 6—6 of Figure 1.

Referring now to these figures, it is contemplated that my invention may be utilized upon any work table or other suitable support, upon which the circular base plate 10 of a press directly rests. This base plate has at spaced points depending pins or tenons 11 arranged to enter conformable recesses in the table top or other support 12 so as to thus prevent rotation of the base plate. The base plate has an axial opening 13 therethrough, and through this opening extends the lower reduced portion 14 of a central upright or press shaft 15. The lower reduced end 14, within the base plate 10 is keyed to the latter so as to thus lock the shaft 15 against rotation, and said lower reduced portion 14 is also provided with a further reduced stem 16, depending through an opening of the table top or other support 12 and locked therethrough by a nut 17 threaded upon the lower end of the stem and abutting the lower surface of the table top or support 12.

The upper surface of the base plate 10 is adapted for the direct reception of the fly wheel 18 of that type of motor, to one surface of which a fly wheel gear ring 19 is connected, and to the other surface of which a radial series of magnets 20 are connected by virtue of a circumferential series of magnet holding screws 21 extending downwardly through clamping plates 22 and through the magnet 20 as well as through spacing spools 23 disposed between the magnets and the adjacent face of the fly wheel 18. The heads of these screws seat in the clamping plates or pieces 22 and the threaded ends thereof engage the gear ring 19, and it will be observed from a comparison of Figures 4 and 5 that the base plate 10 has in addition to its axial opening 13, a circumferential series of recesses 24 therearound adjacent to its outer edge, into which the slightly projecting threaded ends of the several magnet clamping screws 21 may extend as plainly seen in Figure 5.

The upper portion of the upright or press shaft 15 is threaded as indicated at 25 in Figure 3, and on these threads the clamping wheel 26 is engaged. This wheel bears upon the press or clamping plate 27, the latter of substantially the same diameter as the base plate 10 and provided with a central opening by which it is mounted to move on the shaft 15. This clamping plate 27 has at equi-distantly spaced points therearound

and adjacent to its edge, a series of depending spacing pins 28 whose upper portions are threaded as indicated at 29 in Figure 6 through the clamping plate 27, and whose upper projecting ends receive lock nuts 30 for securing the pins in adjusted position so that more or less of their lengths project below the clamping plate for engagement with the upper or outer surface of the fly wheel 18. For this purpose, the spacing pins 28 extend downwardly between certain of the magnets 20 with the parts in the position shown in Figure 3, and the clamping plate 27 is in this manner so spaced with respect to the fly wheel as to evenly and uniformly engage the several magnets 20 and evenly and uniformly hold the same in levelled position with respect to the fly wheel.

In addition to this circumferential series of spacing pins 28, the clamping plate 27 has a circumferential series of openings suitably spaced therearound to aline with the several magnet clamping screws 21, these openings of the clamping plate being indicated at 31 and being adapted for the passage of screw drivers and like implements whereby the clamping screws 21 may be tightly turned to their effective clamping positions while the fly wheel and its magnet assembly are securely held within the press.

After the clamping screws 21 have been properly tightened, the fly wheel and its magnet assembly may then be removed from the press and are at this time ready for reassembly with the motor. By the use of the press as proposed by my invention, the magnet assemblies may be set to one standard, and as all of the magnet clamping screws may be tightened while the assembly is under pressure in the press, it is thus insured that the magnet assembly will retain its level after release. Under the present practice, considerable time is wasted in bolting, removing and rebolting the fly wheel in order to get just the proper space between the magnets and the stationary field coils, and even then, considerable inaccuracy exists unless the magnets are evenly levelled. My invention permits of accurate levelling of the magnets which results in a more even flow of curent as produced by the whole magneto and eliminates all waste of time such as before mentioned.

I claim:—

1. A fly wheel and magnet levelling press including a base plate adapted to receive and support a motor fly wheel, a presser plate cooperating therewith for clamping a series of magnets against such fly wheel, means for forcing the presser plate toward the base plate to evenly engage and support such series of magnets, and means in connection with the presser plate and engageable with the fly wheel to adjustably limit movement of the presser plate toward the base plate.

2. A fly wheel and magnet levelling press including a base plate adapted to receive and support a motor fly wheel, a presser plate cooperating therewith for clamping a series of magnets against such fly wheel, means for forcing the presser plate toward the base plate to evenly engage and support such series of magnets, means to adjustably limit movement of the presser plate toward the base plate, said last named means being supported by the presser plate and adapted to extend into engagement with the fly wheel between the magnets.

3. A fly wheel and magnet levelling press including a base plate adapted to receive and support a motor fly wheel, a presser plate cooperating therewith for clamping a series of magnets against such fly wheel, means for forcing the presser plate toward the base plate to evenly engage and support such series of magnets, means to adjustably limit movement of the presser plate toward the base plate, said presser plate having a circumferential series of openings therethrough adapted to aline with fastening members utilized to secure the magnets in connection with the fly wheel.

4. A press of the character described including a base plate having a support engaging means to prevent rotation of the plate, a shaft extending axially through and connected with said plate and having support engaging and clamping means and an upper threaded end, a presser plate on the said shaft, and a hand wheel engaging the threads of the shaft for forcing the presser plate toward the base plate, said presser plate having a series of pins adjustable therethrough and projecting toward the base plate to limit movement of the presser plate toward the base plate, as described.

5. A press for levelling fly wheel and magnet assemblies including a member forming a support for a motor fly wheel, and a clamping device for evenly and uniformly engaging and holding a series of magnets thereon having means to expose the fastening elements of said magnets for tightening while the magnets are clamped and held in levelled position.

ROY ARTY FARNAM.