Jan. 29, 1957 H. BERTUCH 2,779,559

MACHINE MOUNTING DEVICE

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Fig. 1

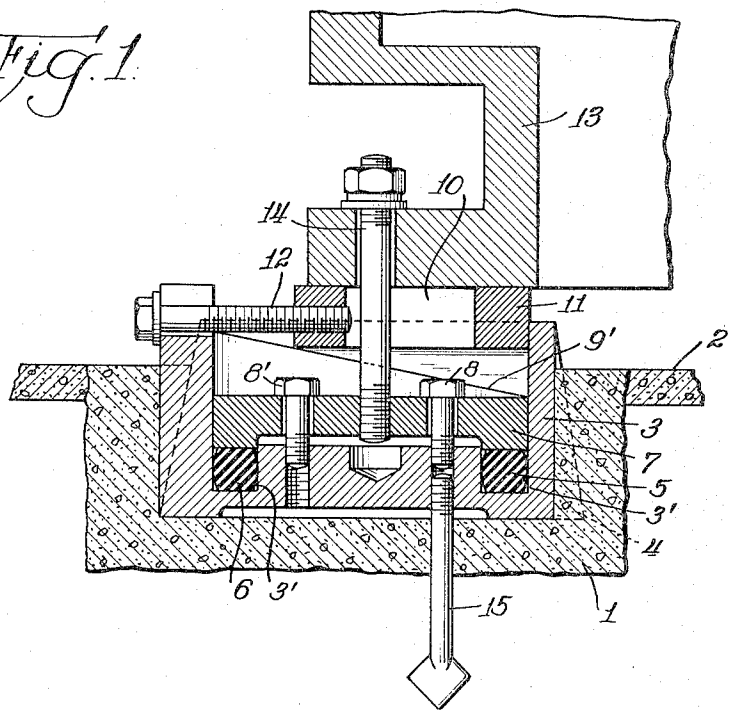
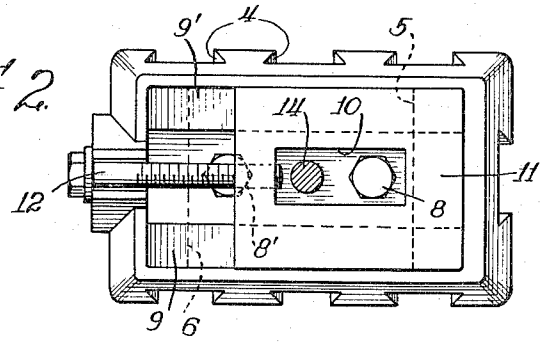


Fig. 2



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MACHINE MOUNTING DEVICE

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6 Claims. (Cl. 248—24)

This invention relates to a mounting device and more particularly to such a one adapted for use in mounting heavy machines, in particular machine tools.

A general object of the invention is to provide a mounting device for supporting machines that is simple and practical in construction, strong and reliable in use, small and compact in structure, relatively inexpensive to manufacture, and otherwise well adapted for the purpose for which the same is intended.

Up to the present time machines, particularly heavy machine tools, have generally been erected upon a solid concrete foundation provided with embedded foundation bolts, and after leveling of the machine, the machine base has been united with the concrete foundation by grouting.

This hitherto usual method of machine mounting requires relatively high expenditure in labor and material and has proved to be disadvantageous in many respects as, for example, when the machine must be moved to another location, or arranged in another group, in case of change in the production schedule.

It is the principle object of the invention to eliminate the hitherto usual foundation by providing a mounting device composed of several elements, so that according to the invention the machine bed is supported upon several, preferably adjustable, supports each of which is mounted in a housing preferably sunk in the floor and concreted. It is thus readily apparent that in place of the large concrete foundation only the comparatively small housings of the mounting devices need be sunk and concreted in the floor.

A still further object of the invention is the provision of a mounting device which is also effective as a damper against undue vibrations in that resilient non-metallic cushions, upon which the support rests, are mounted in the housing.

More specific objects of the invention are set forth in the following specification, which describes the invention by way of example and with reference to the accompanying drawing.

In the drawing and in the accompanying specification, only one embodiment of the invention is illustrated and described by way of example. But it is to be understood that the example shown and described has been selected in order to illustrate the principle of the invention and the best mode of applying the principle.

The specification and drawing do not attempt to give a survey of possible modifications of the invention, and a modification of the example described and shown is therefore not necessarily a departure from the principle of the invention.

In the drawing:

Fig. 1 is a vertical sectional view through the mounting device provided by the invention, and

Fig. 2 is a top plan view of the mounting device shown in Fig. 1.

In the construction shown in the drawing a cast housing 3 having a bottom and side and end walls forming a rectangular receptacle is sunk and concreted in an excavation 1 in the floor 2. The outer surfaces of the housing have a slight slant and are provided with dovetailed recesses 4 so as to insure rigid anchoring in the concrete. Elongated recesses are provided in the bottom of the housing along the end walls. Bar-shaped resilient cushions 5 and 6 of hard rubber are mounted in corresponding recesses 3' in the bottom of the housing 3 and bridge-shaped machine foot plate or support 7 rests thereon on either side. This support 7 is so threadedly secured by means of screws 8 and 8' to the base of housing 3 as to cause the screws to be under initial tension when the support 7 is not loaded. On either side of the screws 8, 8' the support 7 is provided with inclined surfaces 9 and 9' upon which rests a wedge 11 provided with a slot hole 10. The wedge 11 can be moved to and fro upon the inclined surfaces 9, 9' by means of an adjusting screw 12 supported in the housing 3. On erection of the machine, the machine base 13 is placed upon the wedge 11 and secured on the support 7 by a holddown bolt 14 extending through the slot hole 10. On placing the machine base 13 upon the wedge 11, the screws 8, 8' will be unstressed.

The particular features and advantages of the invention will be obvious from the foregoing. It will be seen, and this is a major feature of advantage, that leveling of the machine can be easily accomplished by adjustment of the wedge 11 which with its associated parts constitutes an effective leveling device. Furthermore, the level position of the machine is permanently maintained by the means shown, notwithstanding the flexibility of the rubber cushions 5, 6 provided for preventing undue vibrations which may impair the accuracy of the machine.

In addition, concreting of several erecting devices of the kind described is cheaper and more convenient than making a foundation. The machine can very easily be leveled and readily be dismounted.

In erecting machines which are especially top-heavy, foundation bolts 15 of any suitable length can be screwed in the base of the housing 3, the already existing threaded holes being used for this purpose.

What I claim is:

1. A mounting device for a machine having a base, comprising a housing adapted to be anchored in a floor structure and having a bottom and side and end walls to provide a rectangular receptacle, the bottom of said housing having an elongated recess therein extending along each end wall thereof, resilient cushions arranged in said recesses, a foot plate resting upon and supported solely by said cushions and abutting one said end wall, the top of said foot plate along the sides thereof having inclined surfaces lying in a single inclined plane, a wedge slidably resting upon said inclined surfaces and having a level top surface adapted to receive the base of a machine, threaded means for longitudinally adjusting the position of said wedge upon said inclined surfaces to adjust the level of the top of said wedge, and a holddown bolt extending through an opening in said wedge between said inclined surfaces and threaded into said foot plate to secure the machine base to said foot plate with said wedge sandwiched therebetween.

2. A mounting device in accordance with claim 1 wherein the threaded means for adjusting the position of the wedge comprises a bolt extending through the end wall of the housing against which the foot plate abuts and threaded into said wedge.

3. A mounting device in accordance with claim 1 wherein the foot plate is substantially coextensive with the bottom of the housing whereby the side and end walls thereof prevent lateral movement of said foot plate.

4. A mounting device in accordance with claim 1 and including bolts passing through the foot plate and threaded into the bottom of the housing and adapted to

initially stress the resilient cushions in compression prior to loading of the machine upon said device.

5. A mounting device in accordance with claim 1 wherein the foot plate is bridge-shaped with downwardly-extending end flanges bearing upon the resilient cushions, said flanges forming upper wall closures for the recesses containing said cushions.

6. A mounting device in accordance with claim 1 wherein the resilient cushions correspond in size with the recesses in which they are arranged and the foot plate is bridge-shaped with downwardly extending end flanges bearing respectively upon the resilient cushions and forming upper wall closures for said recesses, and including bolts passing through the foot plate and threaded into the bottom of the housing to initially stress said cushions in compression prior to loading of the machine upon said device.

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