Oct. 17, 1967 R. J. MYERS 3,347,511

ADJUSTABLE HEIGHT PEDESTAL

Filed Jan. 14, 1966 2 Sheets-Sheet 1

FIG. 1.

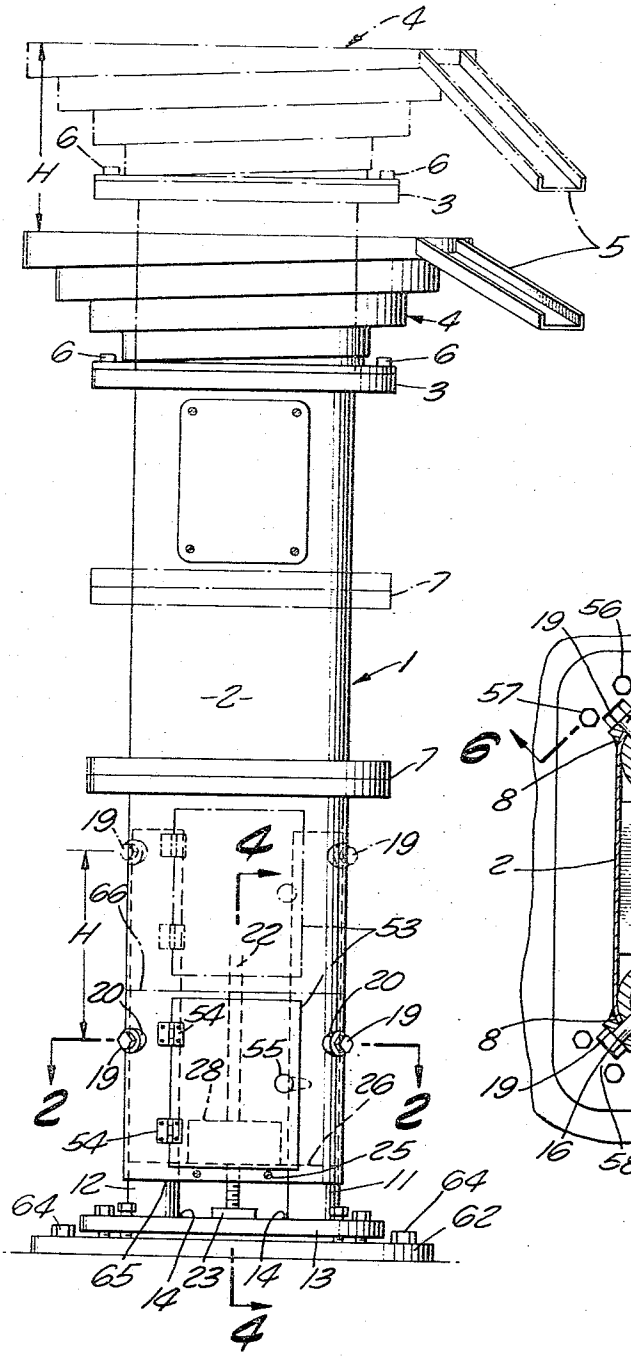
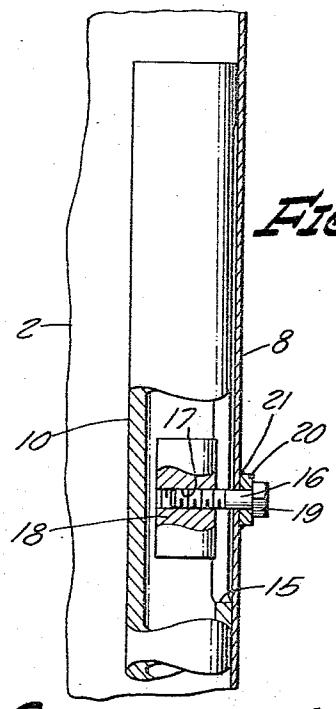


FIG. 3.



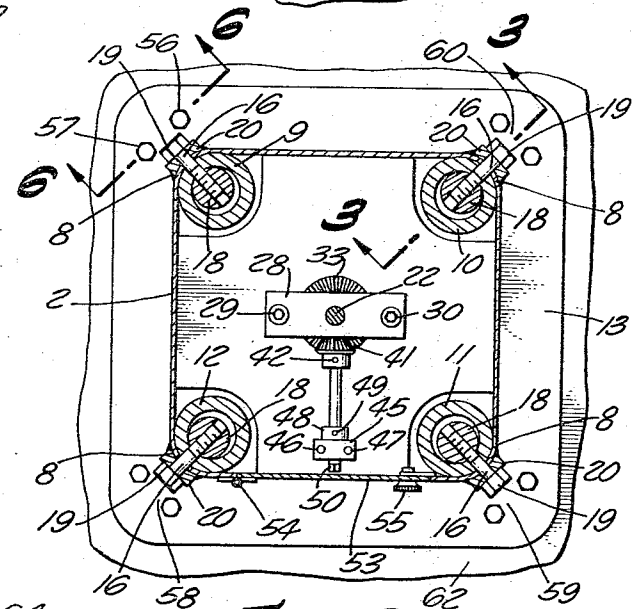


FIG. 2.

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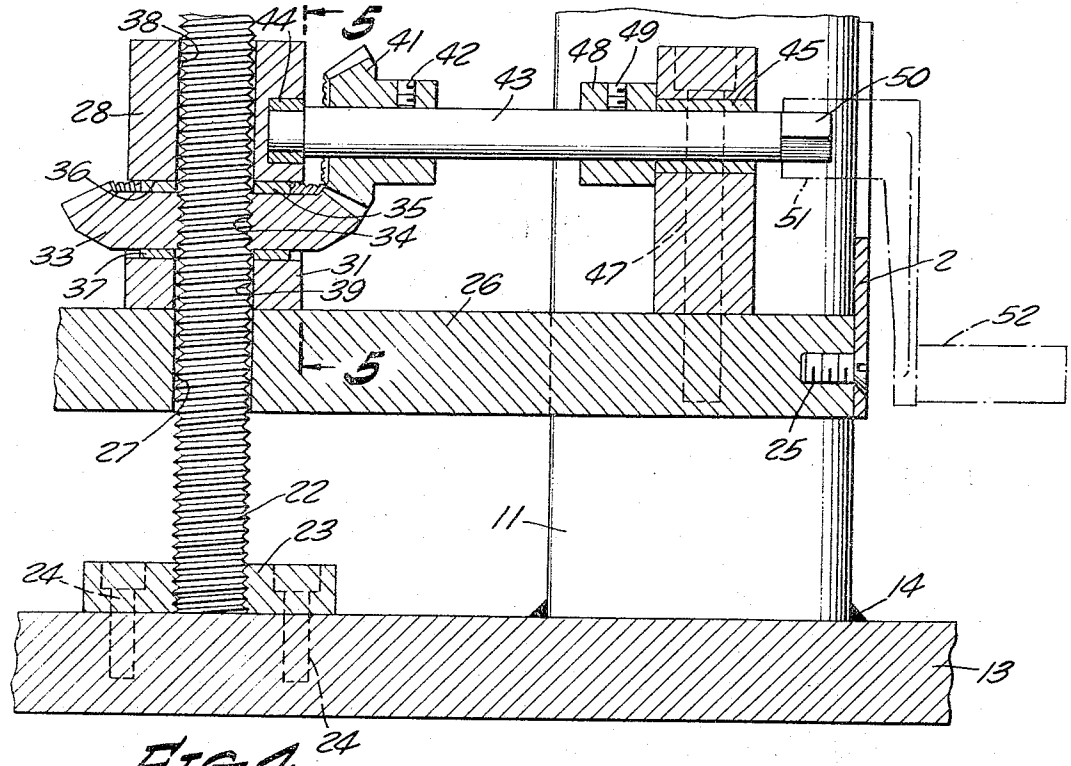


FIG. 4.

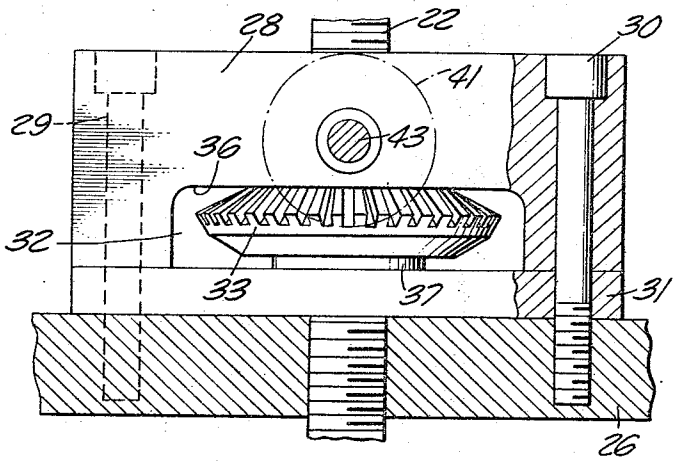
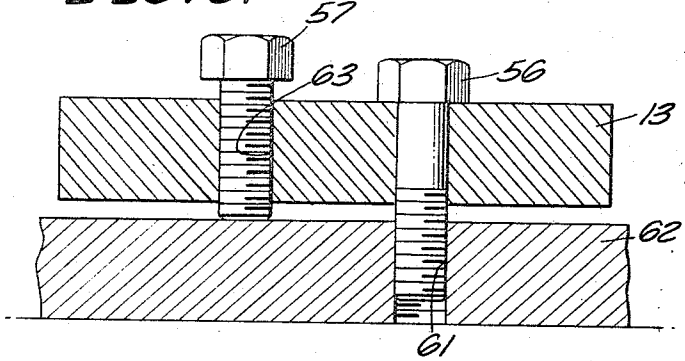


FIG. 5.

FIG. 6.



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ADJUSTABLE HEIGHT PEDESTAL

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ABSTRACT OF THE DISCLOSURE

The invention relates to an adjustable height pedestal for supporting a vibratory feeder, rotary table, or other apparatus, a hand crank being provided to operate a bevel gear to adjust the pedestal to a desired height. The pedestal is in the form of a vertically adjustable casing, which is rectangular in shape and adjustable up and down with respect to four posts arranged at the corners of the casing, means being provided for clamping the casing to the posts at a desired height.

The invention relates to an adjustable height pedestal, and more particularly, to a pedestal which is adapted to support a vibratory feeder having a selective track, a rotary table, or other apparatus. In the case of a vibratory feeder, it is necessary to adjust the height of the feeder supported by the pedestal so that it can be brought into proper space relation with regard to the apparatus which receives the items at the output of the feeder. Heretofore, it has been necessary to provide fixed pedestals of different heights in order to make the necessary height adjustment. According to the present invention, means are provided for adjusting the height of the pedestal so that the apparatus, such as a feeder, or rotary table supported by it, will be brought to the proper height. The adjusting means comprises a vertically movable casing having a base plate and a saddle fixed to the base plate, the saddle and base plate each having an aperture larger than a fixed screw arising from a base, a bevel gear which acts as a nut for the screw as a bearing support between in saddle and the base plate, the saddle resting on the bevel gear, and as the saddle is fixed to the base plate, the base plate being fixed to the casing, the weight of the casing and its attachments is thereby borne by the top of the bevel gear. It is also a feature of the invention to provide a pedestal of the type described which is very sturdy and will properly support apparatus which is both heavy and subject to some vibratory or rotary movement.

Means are also provided for adjusting the level of the pedestal.

For further details of the invention reference may be made to the drawings wherein FIG. 1 is a view in elevation of an adjustable pedestal according to the present invention, the full line showing a lower position of adjustment and the broken lines showing an upper position of adjustment through the distance indicated by H.

FIG. 2 is an enlarged sectional view on line 2—2 of FIG. 1.

FIG. 3 is a sectional view on line 3—3 of FIG. 2.

FIG. 4 is a sectional view on line 4—4 of FIG. 1.

FIG. 5 is a sectional view on line 5—5 of FIG. 4.

FIG. 6 is a sectional view on line 6—6 of FIG. 2.

All sectional views are taken in the direction of the respective arrows.

Referring in detail to the drawings, the adjustable pedestal 1 is in the form a casing 2 having at the top thereof a platform 3 on which is adapted to be supported a suitable apparatus such as a vibratory feeder indicated at 4. The feeder 4 has a track or chute 5 which discharges the items which are sorted and aligned by the feeder, as well known.

The feeder is fastened to the platform 3 by the bolts 6. The casing 2 is of metal and may be made in sections as indicated at 7. The casing 2, as shown in FIG. 2, may be somewhat square in cross section, with rounded corners, as indicated at 8. The casing is supported by hollow upright posts, as indicated at 9, 10, 11 and 12, arranged inside of the casing and arising from and welded to a base plate 13, as indicated at 14. Casing 2 slidably fits on posts 9–12.

As shown in FIG. 3, each post like 10, shown in this figure, has an upright slot 15 through which passes the shank of a bolt 16 which has a thread connection indicated at 17 with an elongated nut 18 which is a section of a rod and having a cylindrical surface so as to fit the inside of the pipe. The bolt 16 has a head 19, the bolt being mounted in a bearing 20 welded, as indicated at 21, to the outside of the casing 2. By tightening each one of the bolts like 16, the respective nuts like 18 act to clamp the interior of the posts like 10 and rigidly hold the casing to the post. As this action takes place at each one of the four bolts, like 16, the casing 2 is rigidly clamped to the posts in its adjusted position.

In order to adjust the height of the casing 2, the four bolts like bolt 16 are loosened, and the following apparatus is provided and operated. Arising from the base plate 13 is a fixed screw 22, see FIGS. 1, 2 and 4, particularly.

As shown in FIG. 2, the screw 22 is arranged at the center of the casing 2. Screw 22 at its lower end is fixed in a suitable nut 23 which is secured to the base plate 13 by means of screws, indicated at 24.

The lower end of casing 2 has fixed therein, by means of screws like 25, a base plate 26 having a hole 27 through which the screw 22 is freely passing. Base 26, as shown in FIG. 5, carries a saddle 28 secured to the base 26 by screws 29 and 30. The saddle 28 has a lower plate 31 also held in position by the screws 29 and 30. The saddle 28 has an opening 32 in which is mounted a bevel gear 33 which is coaxial with the fixed screw 22, having threads 34 which mate with the threads of screw 22. The weight of casing 2 and its attachments is borne by bevel gear 33. A brass washer 35 is arranged between the top of the gear 33 and the lower surface 36 of the saddle 28. A similar washer 37 is arranged between the bottom of gear 33 and the upper surface of the plate 31. The saddle 28 has an axial hole 38 and the plate 31 has a hole 39 and the plate 26 has a hole 27, all of which are aligned and larger than the screw 22 so that the plate 26 and associated elements carried by it freely pass up and down with respect to the screw 22.

As shown particularly in FIG. 4, a cooperating gear 41 is provided on a horizontal axis, meshing with and operating the gear 33. The gear 41 is fastened by a set screw 42 to a horizontal shaft 43 which has a bearing 44 at its inner end in the saddle 28 and a bearing 45 which arises from the base plate 26 being fastened thereto by screws 46, 47, as indicated in FIGS. 2 and 4. The shaft 43 is held in longitudinal position by a stop collar 48 having a set screw 49. The outer end of shaft 43 has non-circular, or square, portion 50 to removably receive a similar socket 51 in a removable handle 52.

As shown in FIGS. 1 and 2, the shaft 43 terminates inside of the casing 2 and its outer square end 50 is accessible by opening a suitable door having suitable hinges as indicated at 54, and a lock knob, or handle 55.

As shown in FIG. 2, the radius of curvature of each corner of casing 2 is the same as its post 9–12. Each corner wraps around its post through an angle of about 90°, providing large areas in mutual contact.

As shown in FIGS. 1 and 6, the level of the pedestal 1 may be adjusted by operating the screws like 56 and 57 which are arranged at each of the four corners of

the plate **13**, the other positions being indicated at **58**, **59** and **60**, where such screws are located. As shown in FIG. 6, the screws like **56** have threaded engagement indicated at **61** with a lower base plate **62**, the screws like **57** having threaded engagement indicated at **63** with the base **13** to lock the base **13** in its upper position against the head of the screws like **56**. As shown in FIG. 1, the bottom base plate **62** may be bolted in position by screws or bolts like **64**.

In FIG. 1, the casing **2** is indicated as being adjustable through height H, which for example, may be of the order of 15 inches, more or less. The bottom of the casing **2**, in its lower position, is shown by the full line indicated at **65**, and the bottom of the casing **2** in its upper position is being shown by the broken line **66**. The feeder **4** in FIG. 1 is shown as having corresponding upper and lower positions.

It is apparent, therefore, that the track or chute **5** of feeder **4**, or other suitable apparatus, may be accurately adjusted to a suitable height, within a range permissible by the screw **22**, and that when such height adjustment is obtained, by operating the clamp bolts **16**, the casing **2** is very rigidly clamped in position to the four upright posts **9–12**. The pedestal is thus capable of supporting a heavy weight and of resisting movement of the pedestal due to vibratory, or other motion, of the apparatus supported on the top of it.

I claim:

1. An adjustable height pedestal comprising a hollow casing having an upper end acting as a support, a base, a fixed screw arising from said base, said casing having therein a bevel gear acting as a nut for said screw a base plate for said casing and a saddle fixed to said base plate for rotatably supporting said bevel gear in said casing, said saddle and said base plate each having an aperture through which said screw freely passes, means for securing said saddle to said base plate with said bevel gear therebetween and with said saddle resting on the top of said bevel gear, the weight of said casing being borne by said bevel gear, means for operating said bevel gear to raise or lower said casing, means on said base slidably fitting in said casing for supporting said casing for vertical movement and means carried by said casing for securing said casing to said supporting means in adjusted position.

2. An adjustable height pedestal according to claim **1**, said screw being located on said base axially of said casing.

3. An adjustable height pedestal according to claim **1**, said means for operating said bevel gear comprising a cooperating gear on a horizontal shaft having a bearing support in said casing, said shaft terminating within said casing, said casing having an access door for said shaft, and a removable handle for operating said shaft.

4. An adjustable height pedestal according to claim **1**, said supporting means on said base comprising a plurality of spaced upright posts, said securing means comprising a bolt carried by said casing for each post.

5. An adjustable height pedestal comprising a hollow casing having an upper end acting as a support, a base, a fixed screw arising from said base, said casing having therein a bevel gear acting as a nut for said screw, means for rotatably supporting said bevel gear in said casing, means for operating said bevel gear to raise or lower said casing, means on said base slidably fitting in said casing for supporting said casing for vertical movement and means carried by said casing for securing said casing to said supporting means in adjusted position, said supporting means on said base comprising a plurality of upright hollow cylindrical posts, said casing having rounded corners each having a curvature substantially the same as that of said post, each corner having one of said posts and each corner partially wrapping around the surface of its said post, each of said post having a vertical slot, each corner having a bolt extending through the associated said slot and each bolt having an inner end within its post and carrying a nut, whereby said bolts may be operated to secure said casing to said posts in adjusted position.

6. An adjustable height pedestal according to claim **5**, said casing being substantially square in cross section.

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