Nov. 24, 1964 E. BITTNER ETAL 3,158,264

REVOLVING FLOORSTAND

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FIG. 2

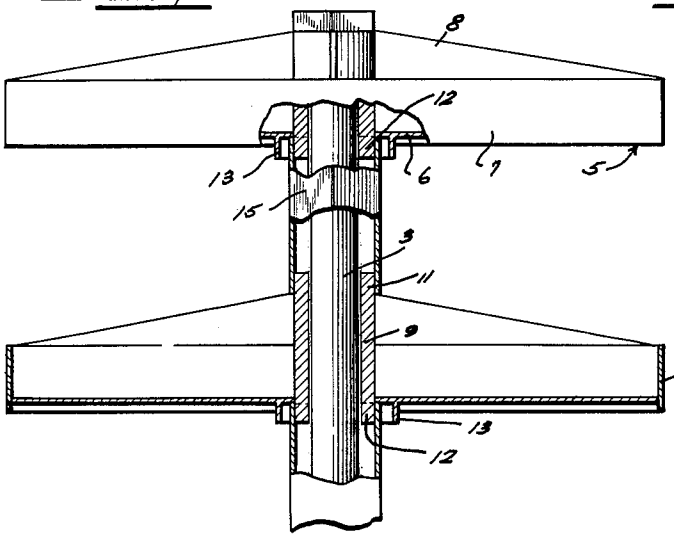


FIG. 1

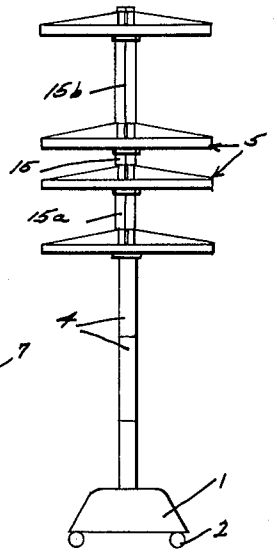


FIG. 3

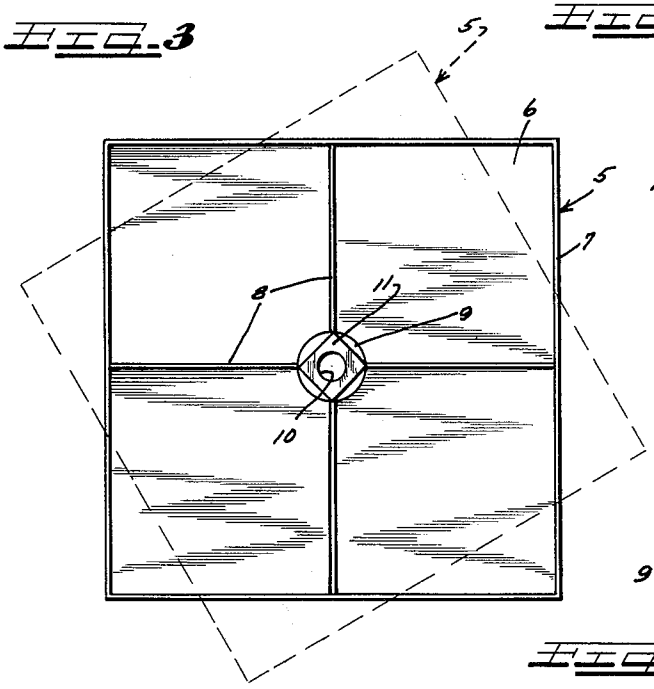
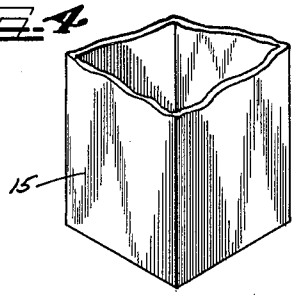


FIG. 4



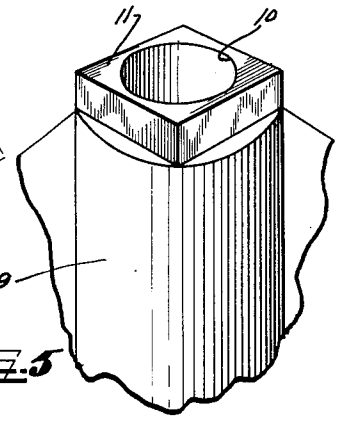


FIG. 5

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Fig. 6 Fig. 7 Fig. 8

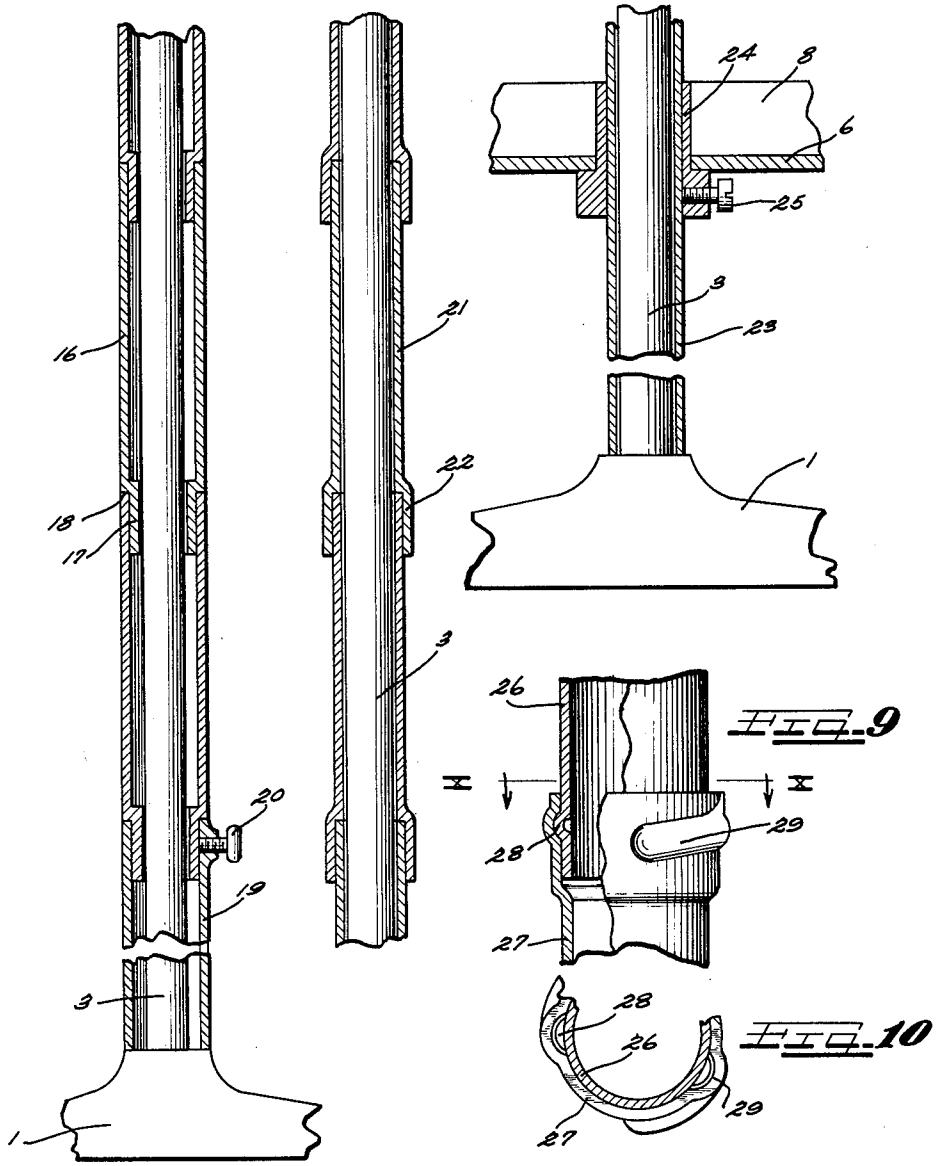

Fig. 9

Fig. 10

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FIG. 12

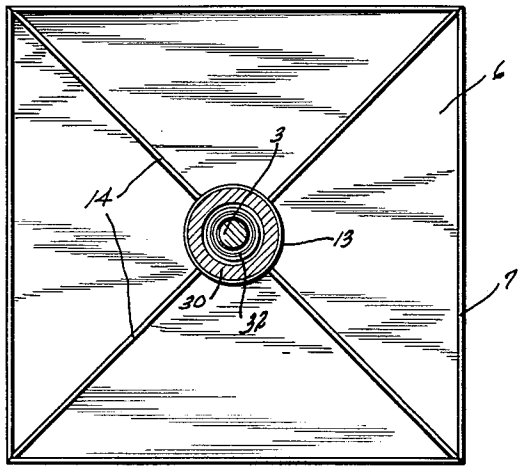


FIG. 13

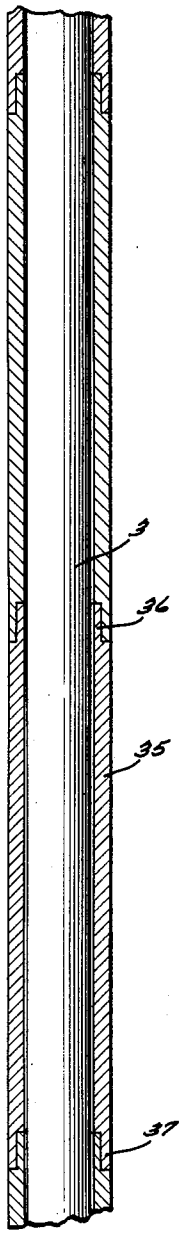
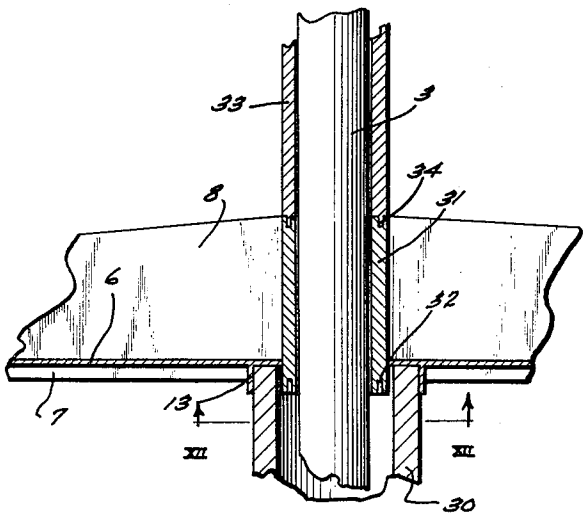


FIG. 11



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United States Patent Office 3,158,264 Patented Nov. 24, 1964

3,158,264
REVOLVING FLOORSTAND

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Claims priority, application Germany Dec. 7, 1960
3 Claims. (Cl. 211—131)

This invention relates to improvements in a revolving floorstand of the general type used in various stores and other places of business for the display, withdrawal and dispensing of various articles of merchandise on sale, the floorstand being particularly desirable for the display and sale of numerous kinds and sizes of smaller articles of merchandise, although the invention will have other uses and purposes as will be apparent to one skilled in the art.

Floorstands of the general character of the instant invention have usually comprised a base with an upstanding column thereon supporting one or more trays, partitioned or otherwise, in which the merchandise on sale is placed, and the trays may be rotated by either the clerk or the customer in order to obtain access to any particular article of merchandise therein displayed. As heretofore manufactured, such floorstands have proven objectionable in that they lacked a desirably pleasing appearance, and particularly in that the spacing between adjacent trays was fixed whereby, in some cases, the size of the merchandise to be displayed was limited by the spacing between adjacent trays, while in other instances much usable space was wasted because the merchandise on display was of considerably less size than the spacing would permit. Also, devices of this character heretofore known were frequently objectionable in that the means for retaining a plurality of trays in spaced relationship upon an upright column were visible and unsightly to the customer thereby inadvertently focusing a considerable amount of the customer's attention to an unsightly mechanical contrivance rather than on the attractiveness of the merchandise displayed in the trays.

With the foregoing in mind, it is an important object of the instant invention to provide a rotary floorstand that is extremely pleasing in appearance, capable of accommodating a plurality of trays, and in which the means for holding the trays in spaced relationship are substantially invisible to the casual customer even though the trays are made of transparent material.

Another object of this invention is the provision of a rotary floorstand carrying a plurality of trays in spaced relationship to each other, and in which the space between adjacent trays may be altered at will without requiring the use of any tools whatever, and without altering the general overall appearance of the entire structure.

It is also an object of this invention to provide a rotary floorstand embodying a column on which a plurality of spaced rotary trays are assembled, each tray having a bearing sleeve centrally disposed therein arranged at each end for telescopic association with a spacer sleeve, whereby no tools are needed in order to change the distance between adjacent trays, and whereby the entire structure gives a pleasing and finished appearance at all times.

Still a further feature of this invention is the provision of a rotary floorstand having a plurality of trays in spaced relationship carried by a column, the structure being such that the height of the lowermost tray from the floor may be easily and selectively varied at will.

Also a feature of this invention is the provision of a rotary floorstand which is extremely simple in construction, easily and readily assembled, easily and readily partially dismantled for selective adjustment of the spacing between trays, which is pleasing in appearance, and economical to manufacture.

While some of the more salient features, characteristics and advantages of the instant invention have been above pointed out, other will become apparent from the following disclosures, taken in conjunction with the accompanying drawings, in which:

FIGURE 1 is an elevational view of a revolving or rotary floorstand embodying principles of the instant invention;

FIGURE 2 is an enlarged fragmentary, part sectional, part elevational view of a portion of the structure of FIGURE 1;

FIGURE 3 is a top plan view of one of the trays seen in FIGURE 2 removed from the stand, and indicating in dotted lines the rotary character of the tray;

FIGURE 4 is a fragmentary perspective view of a spacer sleeve used between adjacent trays;

FIGURE 5 is an enlarged fragmentary perspective view of the central bearing sleeve of one of the trays;

FIGURE 6 is a fragmentary part-sectional part-elevational view showing spacer sleeves of a somewhat different construction;

FIGURE 7 is a view similar in character to FIGURE 6 illustrating spacer sleeves of a still different construction;

FIGURE 8 is a fragmentary part-sectional part-elevational view illustrating a different method of anchoring trays to the central column;

FIGURE 9 is a fragmentary elevational view with parts broken away and parts in section illustrating a further modification of spacer sleeves and their connection to each other;

FIGURE 10 is a fragmentary vertical sectional view taken substantially as indicated by the line X—X of FIGURE 9, looking in the direction of the arrows;

FIGURE 11 is a fragmentary vertical sectional view, with parts shown in elevation illustrating a tray of still different construction with associated spacer sleeves of a modified construction;

FIGURE 12 is a reduced bottom plan sectional view taken substantially as indicated by the line XII—XII of FIGURE 11; and

FIGURE 13 is a fragmentary view of a modified form of column construction.

As shown on the drawings:

In the first illustrated embodiment of the instant invention, seen in FIGURES 1 to 5 inclusive, three is shown a revolving floorstand comprising a base 1 preferably of metal or interiorly weighted to provide stability for the entire structure. This base may be mounted on wheels or casters as indicated at 2 if so desired to facilitate change of location of the stand. Upstanding from the base 1 is a supporting and stabilizing rod 3, preferably of metal around which is stacked a plurality of spacer sleeves 4 which selectively determine the height of the lowermost tray from the floor. Above the spacer sleeve 4 is a plurality of trays, generally indicated by numeral 5 disposed in varying degrees of spaced relationship, depending upon the size and character of the merchandise to be displayed in each tray. The spacing of the trays is maintained by means to be later described.

Each of the trays 5 may be of any desirable contour, circular, polygonal, or otherwise, as may be desired and the trays may be made of any suitable material such as enameled or painted metal, thermoplastic or thermosetting plastic transparent or opaque material, and of any desired color. Each tray may also be partitioned if desired in substantially any desired manner in order to effectively separate articles of like character but different sizes, or maintain different articles apart from each other.

With reference now to FIGURES 2 and 3 a square tray has been selected for illustrative purposes. Each tray 5 comprises a bottom 6, a surrounding side wall 7

which preferably extends slightly beneath the bottom as seen best in FIGURE 2, and in the illustrated instance the tray is divided into four compartments by cross-partitions 8 and, it is found, that spilling or dropping from the tray or the interchange of articles from one compartment to the other unintentionally, is lessened materially by having the partitions higher in the central portion than adjacent the side wall 7. In the center of each tray is a bearing sleeve 9 having an aperture 10 therein through which the upright rod 3 may extend. Such a bearing 9 is provided with a structure at each end thereof above and beneath the tray for engagement with a spacer sleeve which maintains the trays separated one from another. In this instance, the end of the bearing sleeve is provided with a reduced portion 11 of polygonal shape to provide a connecting head 11 at the top of the bearing and a like connecting head 12 at the bottom of the bearing. Around the bottom connecting head 12, each tray is preferably provided with a guiding and reinforcing ring 13, as seen in FIGURE 2, and should the tray be molded from a plastic material, it is also preferably provided with reinforcing ribs 14 on the underside thereof as seen in FIGURE 12.

Between adjacent trays, a tubular spacer sleeve 15 is utilized, and at least at the end portions thereof this sleeve is shaped complementally to the connecting heads 11 and 12 on a tray, so that the sleeve may telescopically engage these bearing heads to maintain the trays spaced apart according to the length of the sleeve. As seen in FIGURE 4, in this instance the spacer sleeve 15 is of square cross-section in conformity with the adjacent connecting head 11 of the bearing 9 as seen in FIGURE 5. In order to acquire the desired spacing between adjacent shelves, a spacer 15 may be telescoped over the connecting head 11 of a lower shelf, and also telescoped over the connecting head 12 of the next upper shelf. By selecting a spacer sleeve of the desired length the correct spacing between the shelves is obtained and such spacing may readily be varied by substituting a spaced sleeve of different length. As illustrated in FIGURE 1, between the two center trays is a short spacer sleeve 15 while between the lowermost tray and the one next above is a medium length spacer sleeve 15*a*, and between the top tray and the one next below is a long spacer sleeve 15*b*. Such spacer sleeves are merely slipped over the supporting rod 3 until connection is made with a shelf already around that rod, and thereafter alternate spacer sleeves and trays may be built up in stacked relationship to acquire any desired spacing between adjacent trays.

If so desired the spacer sleeves 4 around the supporting rod 3 below the lowermost tray may be of similar construction and each provided with a connecting head of the same type on the tray bearings. In any event, the uppermost spacer sleeve 4 at the top thereof is shaped complementally to the lower connecting head 12 on the lower tray so that that lower tray is given adequate support.

In FIGURE 6 we have shown a variant form of spacer sleeve which may be utilized around the supporting rod 3 in lieu of the spacer sleeves 4 or may be used between adjacent shelves if so desired. In this instance, a spacer sleeve 16, which is round, is provided with a lower reduced end portion 17 for telescopic engagement inside an adjacent sleeve, the reduced end portion forming a shoulder 18 against which the adjacent sleeve abuts. This arrangement provides a uniformly round structure and the slight annular crack at the shoulder 18 is substantially invisible to the casual observer. A fine adjustment may also be provided by setting a lower cylindrical sleeve 19 on the base 1 around the supporting rod 3 and providing that sleeve with a set screw 20. The lower end portion 17 of the sleeve 16 may telescope inside the lower sleeve 19, and be adjusted therein as to height by the set screw 20 in the event such a fine adjustment is deemed desirable.

Another form of spacer sleeve is seen in FIGURE 7, wherein a sleeve 21 is provided with an enlarged end portion 22 to telescope over the end of an adjacent and similar sleeve. This structure is virtually the opposite to that shown in FIGURE 6, but in some instances it may be desirable to have a periodic visual variation in thickness in the composite supporting column for the trays.

In FIGURE 8 there is shown a further modification of the instant invention, which is desirable for use in connection with relatively small trays and relatively light merchandise. In this instance a continuous single round pipe 23 is disposed over the upstanding supporting rod 3 and is rotatable around that supporting rod. Each tray is provided with a central smooth cylindrical bearing 24, and a set screw 25 extending through the portion of that bearing projecting beneath the tray is used to anchor the tray at any desired location along the pipe 23.

If so desired, the spacer sleeves beneath the lowermost tray may be formed for a bayonet slot type of connection with each other, as illustrated in FIGURES 9 and 10. In these figures there is shown a sleeve 26 and a sleeve 27, the sleeve 26 being formed with an outstanding bead 28 thereon while the sleeve 27 is provided with a complementally formed hollow bead 29 thereon to receive the bead 28 on the other sleeve, the sleeves being locked together by inserting the sleeve 26 in the upper end sleeve 27 and giving it a partial rotation.

A structure giving an extremely pleasing appearance of overall solidity of the revolving floorstand is shown in FIGURES 11 and 12. In this instance a spacer sleeve 30 may be utilized beneath the lowermost tray, which can be larger in diameter than the spacer sleeves utilized between the trays. The spacer sleeve 30 may be any form of round spacer sleeve previously described but provided with an upper end of the same diameter as the body portion, which end telescopes inside the circular bottom flange 13 on the tray, thus effectively supporting the lower tray and consequently those thereabove. The tray, in this instance, is provided with a central bearing 31 having an annular groove 32 in each end thereof. Each of the spacer sleeves between trays is in the form of a cylindrical tube 33 and at each end of that tube an annular tongue 34 of reduced diameter projects from the tube end, this tongue telescoping into the respective slot 32 in the tray bearing. As in the previous cases, of course, the spacer sleeves 33 may vary in size so that by choosing a spacer sleeve of the correct length, the desired space between trays may be obtained. It will be noted, however, that with the construction of FIGURES 11 and 12 the actual connection between a spacer sleeve 33 and the tray bearing is virtually invisible to the casual observer, and practically invisible to a skilled observer. The entire structure, therefore, including the composite supporting column made up of the supporting rod 3 and the spacer sleeves, and the trays as well, appears as though it may be one integral piece.

In FIGURE 13 we have shown a still different form of spacer sleeve construction, and the spacer sleeve shown in this figure may be used either between trays or below the lowermost tray as may be desired. In this instance a spacer sleeve is a cylindrical tube 35 having a portion 36 at one end thereof which is of the same internal diameter as the body of the sleeve but of reduced external diameter, and at the opposite end a portion 37 of the same external diameter but increased internal diameter. Another spacer sleeve having a complemental end arrangement is readily placed into telescopic association with the first sleeve as clearly illustrated in FIGURE 13. Here again we have a structure wherein the joints between spacer sleeves are substantially invisible to the casual observer.

With all of the spacer sleeves herein described, it will be understood that where they are used for joining with trays, the connecting head portion of the tray bearing will be shaped complementally to the spacer sleeve for telescopic association therewith. It is therefore apparent

that we have provided a revolving floorstand in which the structure is extremely pleasing in appearance and will not detract the attention of a customer away from the merchandise on display to the stand itself. The trays on the stand are readily revolvable, and may be spaced any desired distance from each other. The entire structure may be easily and readily dismantled and equally as easily assembled, may be economically manufactured, and is highly durable.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

We claim as our invention:

1. In a revolving floorstand, a base, a supporting rod upstanding from said base, a plurality of trays each having a central bearing for disposition around said rod, means disposed around said rod to support the lower tray a distance above said base, a spacer sleeve between adjacent trays above said lower tray, a telescopic connecting configuration formed on each end of each tray bearing, and each spacer sleeve having telescopic end configurations complemental to those of said tray bearings and in telescopic engagement therewith.

2. In a revolving floorstand, a base, a supporting rod upstanding from said base, a plurality of spacer sleeves loosely disposed around said rod and arranged in intimate telescopic connection with each other at adjacent ends, a

tray having a central bearing around said rod, and said bearing being shaped complementally to said telescopic connection and in intimate telescopic engagement with the upper of said spacer sleeves whereby the height of said tray may be selectively determined by the number of spacer sleeves used.

3. A revolving floor stand including,

a base,

a supporting rod upstanding from said base,

a vertical spacer sleeve about said rod,

a tray having a central elongated tubular bearing about said rod and telescopically engaged with said sleeve,

and means on the sleeve and on the bearing coacting in retaining the tray at an elevation above said base.

References Cited in the file of this patent

UNITED STATES PATENTS

279,086	Emery	June 5, 1883
1,570,651	Topping	Jan. 26, 1926
1,814,740	Rapp	July 14, 1931
2,035,874	Gage	Mar. 31, 1936
2,157,400	Cooper	May 9, 1939
2,470,749	Randall	May 24, 1949
2,573,275	Richey	Oct. 30, 1951
2,950,015	Pataky	Aug. 23, 1960