May 24, 1932. W. E. GUYOT 1,860,093

WRITING INSTRUMENT RECEIVING RECEPTACLE

Filed June 4, 1930

Fig. 1

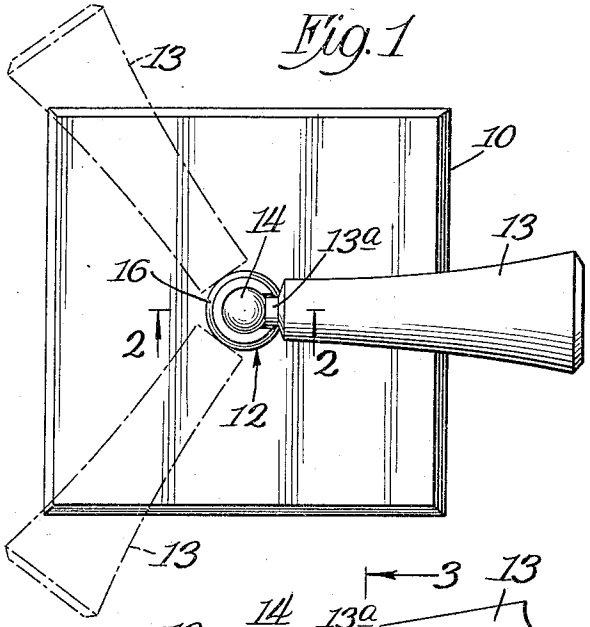


Fig. 2

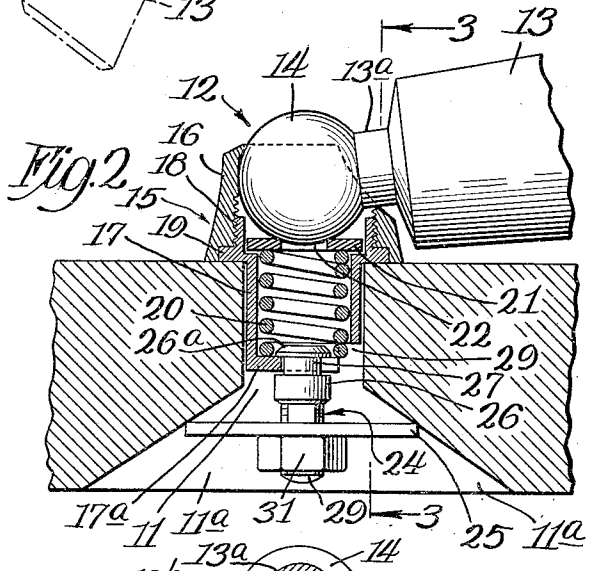


Fig. 3

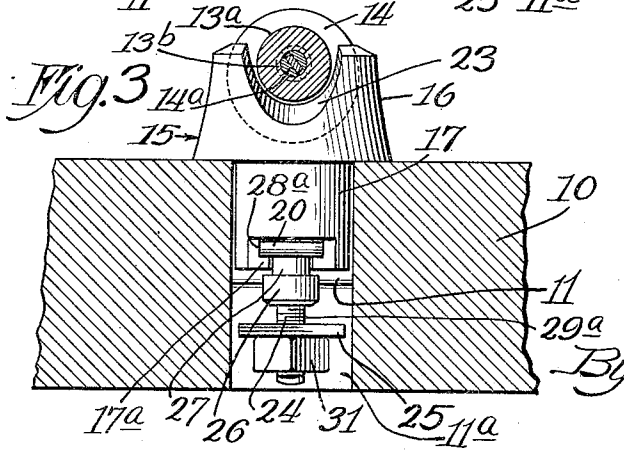
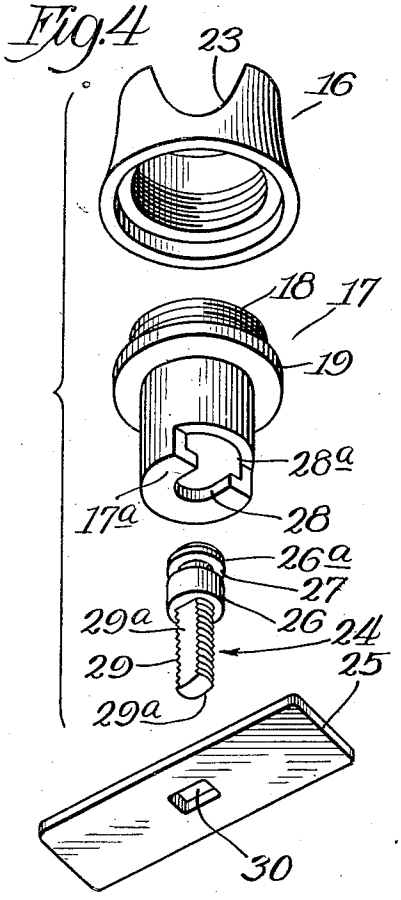


Fig. 4



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UNITED STATES PATENT OFFICE

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WRITING INSTRUMENT RECEIVING RECEPTACLE

Application filed June 4, 1930. Serial No. 459,176.

My invention relates generally to desk sets embodying a writing instrument receiving-receptacle adapted to be mounted on a base, and it has to do particularly with novel means for swingably mounting the receiving-receptacle on the base.

One of the objects of my invention is to provide an improved mounting for desk sets which is of a character adapted to permit the receiving-receptacle to be swung angularly to a plurality of positions above the base and to a position approximately horizontal, in which latter position the receptacle is rotatable around the base.

Another object is to provide a mounting of the foregoing character including two members swingably connected together with one adapted to be attached to the base and the other to the receiving-receptacle, the base mounted member being secured in place by novel means permitting rotation of such member under tension.

A more specific object is to provide a receiving-receptacle mounting of the ball and socket type, the socket being of improved form mounted in the base for rotation under tension and being so formed as to house spring means for tensioning movement of the ball, which spring means also serves to secure certain of the mounting parts together against accidental displacement and detachment.

Other objects and advantages will become obvious as this description progresses and by reference to the drawings wherein,—

Fig. 1 is a top plan view of one form of desk set embodying my invention;

Fig. 2 is an enlarged vertical section taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a transverse sectional view taken substantially on line 3—3 of Fig. 2; and

Fig. 4 is a perspective view of the mounting parts, shown in separated relation.

Referring particularly to the form of desk set structure which I have chosen to illustrate my invention, I employ a base 10 formed of any suitable material, and which may take any desired shape or form. The base is provided with an opening 11 in which there is rotatably secured an interconnection means (generally indicated at 12) for supporting a receiving-receptacle 13 which, in this instance, is adapted to receive and support a fountain pen. The mounting, or interconnecting means, between the receptacle 13 and base 10, preferably, takes a form which permits of universal movement of the receptacle in an inclined condition above the top of the base to a plurality of positions around the base, in each of which positions the fountain pen may be readily grasped for use. The receptacle is also retained in position for readily receiving the fountain pen following its use. Further, this mounting is of a character adapted to permit the receptacle 13 to be moved or swung downwardly to a position close to the base; and in this position the receptacle is swingable rotatably about the base, which together with the above angular adjustment of the receptacle permits the positioning of the receptacle and its contained pen, or other writing instrument, at any desired and convenient position for ready use.

Specifically, with reference to the form shown in Figs. 1 to 4, inclusive, the mounting or interconnecting means 12 takes the form of a ball, or similar spherical, member 14, secured to the projected neck 13^a at the closed end of the receptacle; and a ball receiving-retaining unit 15 which is rotatably secured in the opening 11 of the base. To facilitate manufacture and assembly, and in order to readily adapt the mounting to various different bases and receptacles, the connection between the ball 14 and the receptacle is a detachable one, being effected, preferably, by a wedge-spread, yieldable-walled screw 14^a secured to the ball 14 and engaging a threaded opening 13^b in the receptacle neck 13^a.

The ball receiving-retaining unit 15 takes the form of an upper or ball receiving-retaining portion 16 and a detachable spring-retaining portion 17. The upper portion 16 of this unit may be referred to generally as the ball-socket. It is of somewhat greater diameter than the opening 11 in the base so as to seat upon the top of the base around such opening, and the upper part of its inner wall surface is so shaped as to rotatably

receive and embrace the ball 14 for universal movement of the receptacle and to prevent outward displacement of the ball therefrom.

The lower inner wall of the ball-receiving portion 16 is threaded to receive the threaded flanged head 18 of the depending cup-shaped spring-receiver portion 17. The flange 19 of this latter portion is adapted to seat in an enlarged bore in the base of the socket portion 16, as best shown in Fig. 2, and when the top and bottom portions 16, 17 are screwed tightly together, the bottom surface of the flange 19 assumes a position approximately flush with the bottom edge of the socket portion 16 so as to seat the socket portion 16 flat upon the top of the base.

The depending cup-shaped body of the spring-receiving portion 17 is of slightly reduced diameter to fit freely and rotatably in the base opening 11. This portion receives a coil spring 20 which is, preferably, of a diameter closely approaching the inside dimension of the cup-shaped portion, such spring seating upon the bottom 17ª of this cup-shaped portion. A washer 21 having, preferably, at its center an opening 22, is interposed between the upper end of the spring 20 and the ball 14, upon which the ball 14 is seated and moves. This washer may be formed of any suitable material, but preferably of fiber, or like material, to reduce to a minimum wear of the ball 14 and to aid in establishing the desired frictional resistance to the angular movements of the ball 14. The spring 20 is of such length that when the ball, spring and washer are assembled in the unit 15, as shown in Fig. 2, the spring 20 is compressed and under sufficient tension to hold the ball 14 in its desired socket-seated relation and to permit its movement, frictionally resisted, to any of its angular positions above the base. This spring also serves to retain the ball and its supporting receptacle in any of these positions with or without the pen contained within the receptacle. This arrangement provides for very ready assembly, disassembly and adjustment of the parts, thereby facilitating manufacture and maintenance.

The socket portion 16 of the unit 15 is provided at one side with a recess 23 which is of sufficient size to receive the receptacle neck 13ª permitting movement of the receptacle downwardly to a position approximately flat upon the base, as illustrated in Figs. 1, 2 and 3. It is highly desirable for the convenience of the user, and to best adapt the receptacle for use with various forms and sizes of bases, regardless whether one or more receptacles are mounted upon the base, to have the receptacle swingably adjustable to various positions around the base in this substantially flat condition; for example, as indicated in Fig. 1. To accomplish this feature, the ball-retaining-receiving unit 15 is rotatably mounted in the base opening 11. I accomplish this rotatable mounting by means of an anchor pin or bolt 24 rotatably engaging the spring-receiver 17 and non-rotatably engaging a transverse spring bar which is in stop-engagement with the base. Specifically, the anchor pin 24 is provided with an enlarged cylindrical head 26 circumferentially grooved at 27. The bottom of the cup-shaped receiver 17 is provided with an open-ended slot 28 extending from its outer edge, preferably, radially, to a point slightly beyond its center, and its side wall at the entrance to this slot is cut away as at 29 (Fig. 4) to readily receive the portion 26ª of the anchor pin head above the pin groove 27, whereby with the anchor pin head 26 assembled in the slot 28 (Fig. 2) the opposite walls of the bottom of the cup-shaped portion 17 are rotatably embraced by the pin head 26.

In addition to providing for ready assembly and disassembly of the anchor pin 24, it is also desirable to positively prevent accidental uncoupling of the same from the rotatable unit and consequent accidental detachment of the receptacle 13. To accomplish this positive lock, the pin head portion 26ª which is adapted to be disposed within the cup-shaped portion 17 is, preferably, of a diameter slightly less than the inside diameter of the coiled spring 20; and the lowermost coil of the spring 20 is adapted to seat down over and around this head portion positively preventing its lateral withdrawal without disassembly of the mounting unit or without applying sufficient force to the lower coils of the spring 20 to disengage the same from the pin head.

The anchor pin 24 is provided with a reduced threaded shank 29 having diametrically opposed flat sides 29ª so that this shank portion will readily enter the correspondingly shaped opening 30 in the spring bar 25 for non-rotatable engagement with the latter. In this particular form, the spring bar 25 is of a length somewhat greater than the width of the base opening 11 so that its ends project into diametrically opposed recesses 11ª extending laterally from the base opening 11. The walls of these recesses 11ª may be tapered as illustrated in Fig. 2, whereby the spring bar 25 is engaged with the base only at its ends to receive the benefit of the resiliency of the spring bar practically throughout its length. The shank 29 of the anchor pin is of sufficient length to extend somewhat beneath the spring bar 25 to receive a nut 31 which, when tightened with the parts in the position shown in Fig. 2, draws the socket portion 16 of the mounting unit down into its seated position upon the top of the base where it is yieldably held due to the resiliency of the spring bar 25. With the parts so secured, the receptacle may be folded to the position of Fig. 2 and readily rotated, by

virtue of the rotatable connection between the anchor pin and the spring-receiver portion 17, such rotation being so tensioned, by action of the spring bar 25, that rotational movement of the mounting unit 15 and the receptacle 13 is frictionally resisted and the receptacle and mounting unit are held in any swingable rotative position to which they may be moved.

The advantages offered by my invention are obvious from the foregoing. The mounting parts are quite simple in construction and may be cheaply manufactured and repaired. These parts may be readily assembled and disassembled, while, at the same time, being positively held in assembly condition. Free rotatability of the mounting unit is provided for without interfering with angular and other adjustments of the receiving-receptacle.

While I have shown only two forms of my invention, it will be understood that other changes in details and arrangement of parts may be made without departing from the spirit and scope of my invention as defined by the claims which follow. For example, the shape of the base opening may vary. Recesses similar to recesses 11ª except having flat top walls may be employed, or the spring bar 25 may be mounted in an enlarged bore or socket of any desired shape communicating directly with the main part of the base opening 11, and the top wall of such bore or socket which is engaged by the ends of the spring bar 25 may be horizontal or tapered, or any other suitable shape.

I claim:

1. In a desk set for writing instruments, a base having an opening, a writing instrument receiving receptacle, and means for mounting said receptacle on said base for angular and rotatable movements relative to said base which includes a ball mounted on said receptacle, and a socket structure mounted on said base comprising a ball receiving-retaining portion, a cup-shaped spring-receiving portion extending into the opening in said base, a spring in said spring-receiving portion acting on said ball, an anchor member secured to said spring-receiving portion and to said base, said spring tending normally to prevent detachment of said anchor member from said spring-receiving portion.

2. In a desk set for writing instruments, a base having an opening, a writing instrument receiving receptacle, and means for mounting said receptacle on said base for angular and rotatable movements relative to said base which includes a ball mounted on said receptacle, and a socket structure mounted on said base comprising a ball receiving-retaining portion resting on top of said base, a cup-shaped spring-receiving portion extending into the opening in said base, a spring in said spring-receiving portion acting on said ball, an anchor member rotatably connected to said spring-receiving portion and to said base, said spring tending normally to prevent detachment of said anchor member from said spring-receiving portion without interfering with relative rotation between said spring-receiving portion and said anchor member.

3. In a desk set for writing instruments, a base having an opening, a writing instrument receiving receptacle, and means for mounting said receptacle on said base for angular and rotatable movements relative to said base which includes a ball mounted on said receptacle, and a socket structure mounted on said base comprising a ball receiving-retaining portion resting on top of said base, a cup-shaped spring-receiving portion extending into the opening in said base, said spring-receiving portion having an open-ended slot in its bottom, a coil spring seated upon the bottom of said spring-receiving portion and acting on said ball, an anchor member rotatably connected to said spring-receiving portion and to said base, said spring being associated with said anchor member in such a way as normally to prevent detachment of said anchor member from said spring-receiving portion without interfering with relative rotation between said spring-receiving portion and said anchor member.

4. In a desk set for writing instruments; a base having an opening; a receptacle for receiving the writing instrument; and means for mounting said receptacle on said base for angular and swingable rotary movements above said base which includes a spherical member on said receptacle, a spherical seat portion in which said spherical member is received and retained for angular movements, a cup-shaped spring-receiving portion detachably connected to said spherical seat portion and rotatably disposed in said base opening, a coil spring in said spring-receiving portion acting on said spherical member to tension the annular movements of said spherical member, the bottom of said spring-receiving portion having a slot therein, an anchor member having a headed part rotatably received and retained in said slot, and spring means securing said anchor member to said base.

5. In a desk set for writing instruments; a base having an opening; a receptacle for receiving the writing instrument; and means for mounting said receptacle on said base for angular and swingable rotary movements above said base which includes a spherical member on said receptacle, a spherical seat portion in which said spherical member is received and retained for angular movements, a cup-shaped spring-receiving portion detachably connected to said spherical seat portion and rotatably disposed in said base opening, a coil spring in said spring-receiv-

ing portion acting on said spherical member to tension the angular movements of said spherical member, the bottom of said spring-receiving portion having a slot therein, an anchor member having a headed part rotatably received and retained in said slot, and spring means securing said anchor member to said base, the lowermost coil of said spring surrounding the headed portion of said anchor member preventing lateral displacement and detachment of said anchor member from said spring-receiving portion without interfering with their relative rotation.

6. In a desk set for writing instruments, a base having an opening; a receptacle for receiving and holding the writing instrument; and means for mounting said receptacle adjustably upon said base comprising a ball on said receptacle, a socket mounted upon said base and in which said ball is received and retained for angular movements of said receptacle, said socket having a recess in its side wall adapted to receive the ball-connected part of said receptacle permitting the receptacle to be swung downwardly to a position nearly flat upon said base, a cup-shaped member detachably connected to said socket and rotatably mounted in said base opening, a coil spring supported in said member and acting on said ball to hold it tensionally seated in said socket, said member having a slot in its bottom, an anchor member having a headed part rotatably engaging said slot, a yieldable connection between said anchor member and said base, said coil spring being seated in said cup-shaped member over the headed part of said anchor member preventing detachment of the latter from said slot.

7. In a desk set, a base having an opening, a receptacle for receiving a writing instrument, a ball on said receptacle, a socket on said base in which said ball is received and retained, and means for rotatably securing said socket upon said base which includes a cup-shaped member secured to said socket and rotatably disposed in said base opening, a spring in said cup-shaped member pressing said ball against its socket seat, said cup-shaped member having an open ended slot in its bottom, an anchor member rotatably engaging said slot, a spring member non-rotatably engaged by said anchor member and itself non-rotatably engaging said base, said spring in said cup-shaped member co-operating with said anchor member to prevent detachment of the latter through the open end of said slot.

8. In a desk set, a base having an opening, a receptacle for receiving a writing instrument, a ball on said receptacle, a socket on said base in which said ball is received and retained, and means for rotatably securing said socket upon said base which includes a cup-shaped member detachably secured to said socket and rotatably disposed in said base opening, a coil spring seated on the bottom of said cup-shaped member pressing said ball against its socket seat, said cup-shaped member having an open ended slot in its bottom, an anchor member having a head rotatably engaging said slot with a part of its head disposed within said cup-shaped member, a spring member non-rotatably engaged by said anchor member and itself non-rotatably engaging said base, the lowermost coil of said spring in said cup-shaped member surrounding said anchor member head to prevent detachment of the latter through the open end of said slot.

9. In a desk set, a base having an opening, a receiving-receptacle, a ball mounted on one end of said receptacle, a ball-receiving socket mounted upon said base surrounding said opening, a spring-cup attached to said socket and rotatably disposed in said base opening, a spring in said cup acting on said ball, an anchor member rotatably engaged with the bottom of said cup, and a spring between said member and said base yieldably pressing said socket down upon and in frictional engagement with said base.

10. In a desk set, a base having an opening, a receiving-receptacle, a ball mounted on one end of said receptacle, a ball-receiving socket mounted upon said base surrounding said opening, said socket having a recess in its side wall to receive the ball-attached end of said receptacle to permit the latter to be folded approximately flat upon said base, a spring-receiving-retaining member attached to said socket and rotatably disposed in said base opening, a spring in said member acting on said ball, an anchor member rotatably engaged with the bottom of said member, and a spring between said anchor member and said base yieldably pressing said socket down upon and in frictional engagement with said base for rotation of said socket upon said base to swingably rotate said receptacle around said base in the approximately flat condition of said receptacle.

11. In a desk set, a base having an opening, a receiving-receptacle, a ball mounted on one end of said receptacle, a ball-receiving socket mounted upon said base surrounding said opening, said socket having a recess in its side wall to receive the ball-attached end of said receptacle to permit the latter to be folded approximately flat upon said base, a spring-receiving-retaining member attached to said socket and rotatably disposed in said base opening, a spring in said member acting on said ball, an anchor member rotatably engaged with the bottom of said member, and a spring between said anchor member and said base yieldably pressing said socket down upon and in frictional engagement with said base for rotation of said socket upon said base to swingably rotate said receptacle

around said base in the approximately flat condition of said receptacle, said first-mentioned spring coacting with said anchor member to prevent detachment of the latter from said spring-receiving-retaining member without interfering with relative rotation of the attached parts.

12. In a desk set, a base having an opening, a receiving-receptacle, a ball mounted on one end of said receptacle, a ball-receiving socket mounted upon said base surrounding said opening, a spring-cup attached to said socket and rotatably disposed in said base opening, said member having a slot in its bottom, a coil spring seated on the bottom of said member and acting on said ball to seat it tensionally in its socket, an anchor pin having a grooved head mounted axially in said base opening with the groove of its head engaging said slot in said member to rotatably connect said member and said pin, said coil spring being seated over the head of said pin to prevent detachment of the latter from said member, and a spring member between said pin and said base.

13. In a desk set, a base having an opening, a receiving-receptacle, a ball mounted on one end of said receptacle, a ball-receiving socket mounted upon said base surrounding said opening, a spring-cup attached to said socket and rotatably disposed in said base opening, said member having a slot in its bottom, a spring in said member acting on said ball, an anchor pin having one end rotatably engaged in said slot, a flat spring having its ends engaging the wall of said base opening, the other end of said anchor pin non-rotatably secured to said spring.

14. In a desk set, a base having an opening, a receiving-receptacle, means interconnecting said base and receptacle consisting of a member secured to said receptacle, a second member mounted upon said base and to which said first member is swingably connected, a third member mounted in said base opening, spring means associated with said first and third members frictionally resisting movement of said receptacle and for holding it in adjusted position, and an anchor member yieldably engaging said base and locked to said third member by said spring means.

Signed at Albuquerque this 2d day of Oct., 1931.

WALTER E. GUYOT.