

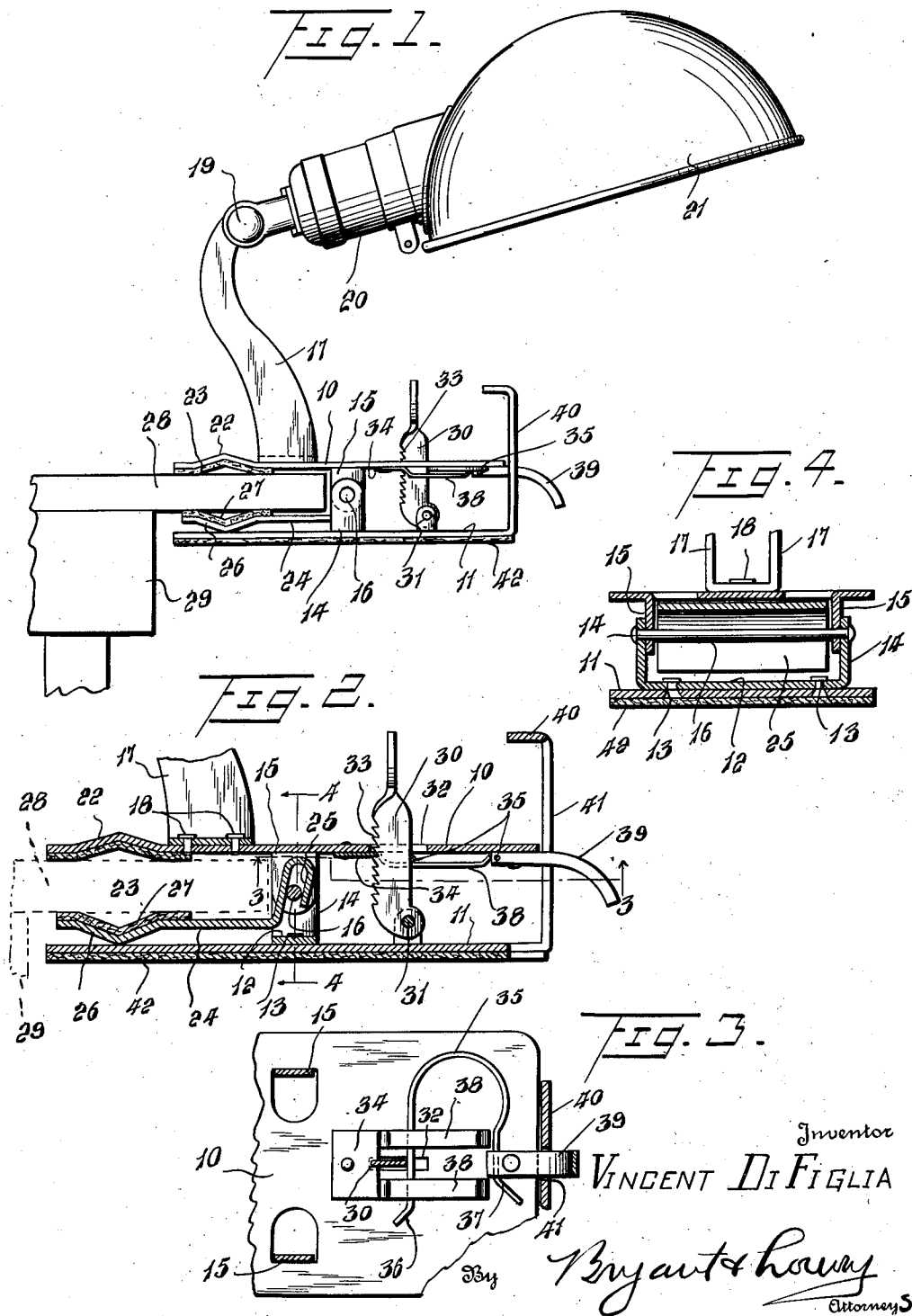
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V. DI FIGLIA

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CLAMP

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CLAMP

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10 Claims. (Cl. 24—250)

This invention relates to certain new and useful improvements in clamps.

The primary object of the invention is to provide a clamp designed for the support of an electric lamp and associated reflector and is of a type that permits portable placement upon a table, desk or other support as well as clamping engagement with an object, such as a table or desk edge for semipermanent placement against accidental movements.

A further object of the invention is to provide a clamp of the foregoing character with the clamping plate designed for engagement with surfaces possessing curves or angles and an improved form of latch connection between the clamping plate in the nature of pawl and ratchet devices for holding the clamping plate rigidly engaged with a support.

With the above and other objects in view that will become apparent as the nature of the invention is better understood, the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed.

In the drawing:—

Figure 1 is a side elevational view of the clamp device having an electric lamp and reflector associated therewith and illustrated in clamping engagement with the edge of a table top or desk;

Figure 2 is a vertical longitudinal sectional view showing a pivoted rack arm on one clamping plate engaged with a rack lug on the other clamping plate for holding the clamping plate in engagement with a support that is illustrated by dotted lines;

Figure 3 is a detail sectional view taken on line 3—3 of Figure 2, showing the tensioning spring for the rack lever; and

Figure 4 is a cross-sectional view taken on line 4—4 of Figure 2, showing the loose pivotal mounting for the auxiliary clamp carried by one of the clamping plates. While the clamp is disclosed herein as having an electric lamp and reflector associated therewith, it is to be understood that the clamp may support other articles, the clamp comprising a pair of clamp plates 10 and 11, preferably rectangular in plan view, the pivotal connection between the clamp plates 10 and 11 being disposed intermediate the ends thereof and including a U-shaped strap having the base 12 thereof anchored as at 13 to the clamping plate 11 and with the side legs 14 thereof having overlapping engagement with lugs 15 struck out from the clamp plate 10 with a pivot pin 16 extending through the legs and lugs 14 and 15 respectively

for the pivotal connection of the clamp plates 10 and 11.

A pair of bracket arms 17 of any preferred design are anchored at their lower ends as at 18 to the upper face of the clamping plate 10, the bracket arms 17 rising above the clamping plate and pivotally supporting at their upper ends as at 19, a lamp socket 20 for the support of an electric lamp and with which a reflector 21 is associated.

The support engaging end of the clamping plate 10 has an upwardly directed V-shaped depression 22 therein that extends transversely of the clamping plate with a felt or pad lining 23 for the depressed and adjacent portion of the clamping plate.

An auxiliary clamp device in the form of a plate 24 is interposed between the clamping plates 10 and 11 and has an angularly directed return-bent portion 25 at one end that loosely straddles the pivot pin 16 connecting the two clamping plates 10 and 11 for cooperation with the V-shaped clamp portion 22 of the clamp plate 10. The clamp device 24 has a V-shaped depression 26 and is lined by a felt or pad 27, the apex of the V-shaped depression 26 being engaged with the adjacent face of the clamping plate 11. As shown in Figures 1 and 2, the clamp device is engaged with the projecting edge 28 of a desk, table or other support 29, the pads 23 and 27 protecting the surface finishes of the supporting object against damage by use of the clamp device. The loose pivotal connection between the auxiliary clamp device 24 and the pivot pin 16 between the clamping plates 10 and 11 permits the clamp device to be engaged with supports of different thicknesses, while the V-shaped depressions in the clamping members permit clamping engagement with supports of different designs or configurations.

The devices for holding the support engaging ends of the clamping members in engagement with the object include a rack lever 30 pivotally mounted as at 31 upon the lug upstanding from the clamping plate 11, the rack lever 30 extending through a slotted opening 32 in the clamping plate 10. The rack lever 30 is located at the side of the pivot pin 16 opposite the support engaging ends of the clamping plates and is in the form of a blade having rack teeth 33 on the edge thereof facing the pivot pin 16. A rack plate 34 is secured to the under side of the clamping plate 10 and adjacent the slotted opening 32 to be engaged by the rack teeth 33 on the rack lever 30 and said rack lever is normally tensioned

in a direction toward the rack plate. The tensioning means for the rack lever 30 comprises a spring wire loop 35 having one end 36 engaged with the plain edge of the rack lever 30 while the other end 37 of the spring wire 35 is anchored as at 37, the spring wire 35 being positioned adjacent the under side of the clamping plate 10 with the free end 36 thereof guided in its movement by the arm 38 carried by the rack plate 34 as clearly shown in Figures 2 and 3. A finger piece 39 projects from the end of the clamping plate 10 and to which the wire spring 37 is anchored. An upstanding wall 40 is carried by the inner end of the clamping plate 11 and is slotted as at 41 for the passage of the finger piece 39 carried by the clamping plate 10. The lower face of the clamping plate 11 carries a felt or pad 42 so that the clamp device may be portably mounted on a support without injury to the surface thereof.

To place the clamp device in engagement with a support as illustrated in Figures 1 and 2, the clamping ends thereof are separated by moving the rack lever 30 on its pivot pin 31 against the tension of the wire spring 35 and the clamping members 22 and 26 respectively placed at opposite sides of a support. The finger piece 39 carried by the clamping plate 10 is then elevated while downward pressure may be exerted on the upper end of the end wall 40, this movement causing the rack plate 34 to ratchet over the teeth 33 of the rack lever 30 until the clamp devices tightly grip the support as illustrated. To release the clamp from the support, it is only necessary to move the rack lever 30 on its pivot pin 31 whereupon the clamping plates 10 and 11 are free to move on their pivot pin connection 16. The loose pivot mounting for the auxiliary rack plate 24 permits proper cooperation between the clamping elements for engaging supports of different forms or designs as well as thicknesses.

From the above detailed description of the invention, it is believed that the construction and use thereof will at once be apparent and while there is herein shown and described the preferred embodiment of the invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

I claim:—

1. Means for connecting an adjustable lamp bracket to a support comprising a pair of pivotally connected upper and lower clamping plates, a finger piece carried by one end of the upper plate, a wall rising from the corresponding end of the lower plate and having a slot therein through which the finger piece extends and ratchet means carried by one plate and operatively engaging the other plate for retaining the plates in adjusted clamping position.

2. Means for connecting an adjustable lamp bracket to a support comprising a pair of pivotally connected upper and lower clamping plates, a finger piece carried by one end of the upper plate, a wall rising from the corresponding end of the lower plate and having a slot therein through which the finger piece extends and ratchet means carried by one plate and operatively engaging the other plate for retaining the plates in adjusted clamping position, including a ratchet lever pivoted to the lower clamping plate and a cooperating rack plate carried by the upper clamping plate.

3. Means for connecting an adjustable lamp bracket to a support comprising a pair of piv-

otally connected upper and lower clamping plates, a finger piece carried by one end of the upper plate, a wall rising from the corresponding end of the lower plate and having a slot therein through which the finger piece extends, ratchet means carried by one plate and operatively engaging the other plate for retaining the plates in adjusted clamping position, including a ratchet lever pivoted to the lower clamping plate and a cooperating rack plate carried by the upper clamping plate, and a spring carried by the upper clamping plate engaged with the ratchet lever for normally moving the same towards the rack plate.

4. Means for connecting an adjustable lamp bracket to a support comprising a pair of pivotally connected upper and lower clamping plates, a finger piece carried by one end of the upper plate, a wall rising from the corresponding end of the lower plate and having a slot therein through which the finger piece extends and ratchet means carried by one plate and operatively engaging the other plate for retaining the plates in adjusted clamping position, including a ratchet lever pivoted to the lower clamping plate and a cooperating rack plate carried by the upper clamping plate, the upper rack plate having a slotted opening therein through which the ratchet lever projects whereby access may be had to the upper end of the ratchet lever for disengaging the same from the rack plate.

5. Means for connecting an adjustable lamp bracket to a support comprising a pair of pivotally connected upper and lower clamping plates, a finger piece carried by one end of the upper plate, a wall rising from the corresponding end of the lower plate and having a slot therein through which the finger piece extends, ratchet means carried by one plate and operatively engaging the other plate for retaining the plates in adjusted clamping position, including a ratchet lever pivoted to the lower clamping plate and a cooperating rack plate carried by the upper clamping plate, a spring carried by the upper clamping plate engaged with the ratchet lever for normally moving the same towards the rack plate, the upper rack plate having a slotted opening therein through which the ratchet lever projects whereby access may be had to the upper end of the ratchet lever for disengaging the same from the rack plate.

6. Means for connecting an adjustable lamp bracket to a support comprising a pair of pivotally connected clamp plates having control means at corresponding ends with the other ends constituting a clamp for engagement with a support, an auxiliary clamp device interposed between the clamping ends and loosely mounted on the pivotal connection between the plates, the control means including a ratchet lever on one clamping plate and a cooperating rack plate on the other clamping plate.

7. Means for connecting an adjustable lamp bracket to a support comprising a pair of pivotally connected clamp plates having control means at corresponding ends with the other ends constituting a clamp for engagement with a support, an auxiliary clamp device interposed between the clamping ends and loosely mounted on the pivotal connection between the plates, the control means including a ratchet lever on one clamping plate, a cooperative rack plate on the other clamping plate, and hand grip devices on the clamping plates for moving the clamping ends into engagement with a support.

8. Means for connecting an adjustable lamp bracket to a support comprising a pair of pivotally connected clamp plates having control means at corresponding ends with the other ends constituting a clamp for engagement with a support, an auxiliary clamp device interposed between the clamping ends and loosely mounted on the pivotal connection between the plates, the control means including a ratchet lever on one clamping plate, a cooperating rack plate on the other clamping plate, hand grip devices on the clamping plate for moving the clamping ends into engagement with a support, including a slotted end wall angularly projecting from one clamping plate and a finger piece on the clamping plate projecting through the wall slot.

9. Means for connecting an adjustable lamp bracket to a support comprising a pair of pivotally connected clamping plates having clamping ends, a right-angularly directed slotted wall carried by the other end of one plate and extending across

the adjacent end of the other plate, a finger piece carried by the last named plate and extending through the wall slot and cooperating with the free end of the wall for operation of the clamping ends and a rack and catch connection between the clamping plates.

10. Means for connecting an adjustable lamp bracket to a support comprising a pair of pivotally connected clamping plates having clamping ends, a right-angularly directed slotted wall carried by the other end of one plate and extending across the adjacent end of the other plate, a finger piece carried by the last named plate and extending through the wall slot and cooperating with the free end of the wall for operation of the clamping ends, a rack and catch connection between the clamping plates, the rack being pivotally mounted on one plate and a spring on the other plate engaged with the rack for normally moving the same towards the catch.

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