Aug. 23, 1932. G. ZINGALI 1,873,731

ROD CLAMP

Filed Feb. 2, 1932

Fig. 1.

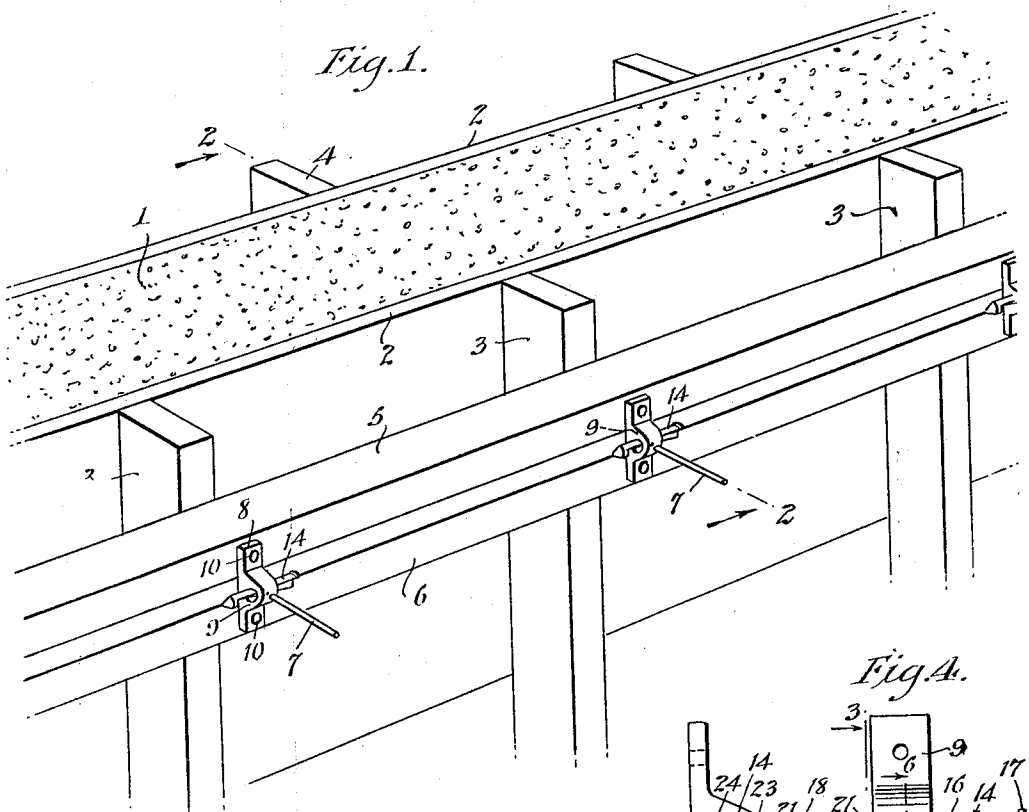


Fig. 4.

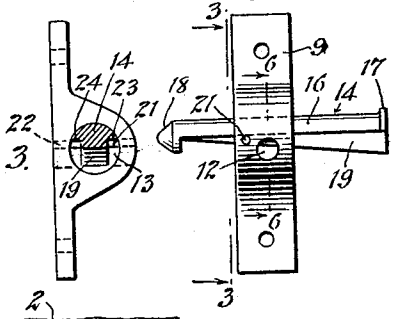


Fig. 3.

Fig. 6.

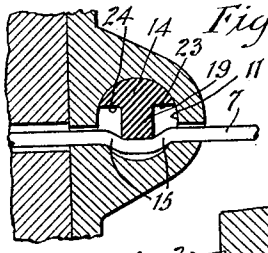


Fig. 2.

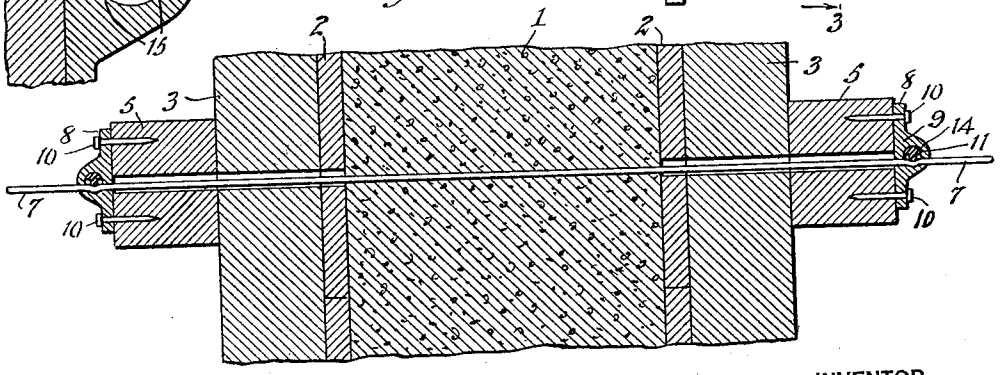
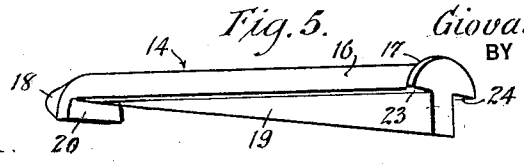


Fig. 5.



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UNITED STATES PATENT OFFICE

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ROD CLAMP

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This invention relates to rod clamps, and particularly, to clamps suitable for use for concrete forms, the object being to provide an improved structure wherein a rod may be clamped at one or more points and firmly held so that there can be no movement of the rod independent of the clamp.

Another object of the invention is to provide a clamp for use in clamping rods extending through concrete forms so as to hold the rods against longitudinal movement and molds against spreading, the clamps being so formed as to not only pinch the rods near their respective ends but bend the same somewhat so as to present shoulders against which strain is brought when the rod is under tension.

Another object, more specifically, is to provide a clamp utilizing an apertured bracket and an aperture which accommodates a rod to be clamped and a sliding wedge permanently carried by the bracket but slidably mounted therein so as to engage a rod extending through the aperture in the bracket and bend the same somewhat when the parts are in clamping position.

In the accompanying drawing—

Figure 1 is a perspective view showing part of a concrete form and wall being cast therein, together with several clamps embodying the invention, shown in operative position.

Figure 2 is a sectional view through Figure 1 approximately on line 2—2.

Figure 3 is a sectional view through Figure 4 approximately on line 3—3.

Figure 4 is an elevation of a complete clamp disclosing an embodiment of the invention.

Figure 5 is an enlarged detail perspective view of the clamping wedge shown in Figure 4.

Figure 6 is a sectional view through Figure 4 on line 6—6, the same being on an enlarged scale.

Referring to the accompanying drawing by numerals, 1 indicates the concrete wall being cast, and 2 the mold. The mold 2 may be of any desired kind, but, preferably, is the suitable bracing bars 3 and 4 held in proper position by longitudinal beams 5 and 6. It will be understood that a pair of beams 5 and 6 are arranged on each side of the mold and are connected together by suitable wires or rods 7, which rods are held in position and against longitudinal movement by their respective clamps 8. It is to be understood, of course, that after the concrete 1 has set, and it is desired to remove the mold or form, the respective clamps are actuated for releasing the rods 7, which rods are cut off and left in the wall and the mold is moved to a new place so as to be used again, new rods being used at the new place. The clamps 8 may be mounted at any desired point and may be removed at any desired time. Each of these clamps is provided with a bracket 9 having apertures for the nails 10 and an enlarged portion 11 provided with a rod receiving aperture or passageway 12 and a wedge passageway 13. The aperture 12 is offset slightly from the center of the aperture 13 so that when the wedge 14 is moved to clamping position, it will bend the rod 7, as illustrated particularly in Figure 6. In this way offset portions or shoulders 15 are provided which may act as abutments to take up the strain exerted on the rod 7. In this way the rod is not held by friction as is usually the case with clamps, but by an offset or an abutment, there being some friction between the wedge 14 and the wire which will hold the offset 15 in the desired position. The wedge 14 is provided with a body 16 which is arc-shaped so as to fit into the aperture 13, said body merging into an enlarged flange 17 at one end and a tapering end portion 18 at the opposite end. The body 16 also merges into a wedge-shaped web 19 which engages the rod 7, as illustrated in Figure 6. The end structure 18 is pro-

vided with a shoulder 20 which is adapted to be engaged by the respective pins 21 and 22 to prevent the wedge 14 from moving out of the bracket 9 when moving in one direction. A flange 17 prevents the wedge 14 from moving out of the bracket 9 when being shifted in the opposite direction. In addition to this function of maintaining the wedge 14 in assembled relation with the bracket, pins 21 and 22 act against the web 19 and against the undersurfaces 23 and 24 for preventing rotation of the wedge 14 in the bracket 9, thus holding the web 19 always in position for correctly engaging the rod 7.

I claim:

1. A rod clamp including a bracket having a straight tubular large aperture for receiving a clamping wedge and a smaller aperture merging into the large aperture for receiving a rod to be clamped, said smaller aperture extending at right angles to the larger aperture and being offset from the center of larger aperture so as to be spaced therefrom and from the periphery of the large aperture, and means for retaining said wedge in assembled relation with the bracket, said wedge having a straight portion for engaging the surface of said larger aperture and an inclined portion for pressing and distorting that portion of the rod extending through the rod receiving aperture.

2. A rod clamp including a bracket having a comparatively large wedge receiving aperture, a rod receiving aperture arranged at right angles to the wedge receiving aperture and merging therein, said rod receiving aperture being offset from the center of the wedge receiving aperture, and a wedge slidingly mounted in the wedge receiving aperture formed with a depending beveled portion adapted to engage a rod extending through the rod receiving aperture for deforming the same so as to present shoulders within the wedge receiving aperture there being a shoulder on each side of said depending portion and a pair of pins extending into said large wedge receiving aperture to a point to engage said shoulder for preventing independent rotation of said wedge.

3. A rod clamp including a bracket, a wedge and means for holding the wedge in assembled relation with the bracket, said bracket having a wedge aperture and a rod receiving aperture, said wedge when in functioning position pressing against the rod extending through the rod clamp, said wedge having a pair of parallel shoulders, said means for holding the wedge in assembled relation with the bracket including means engaging said shoulders for preventing independent rotation of the wedge without interfering with its sliding motion.

4. A rod clamp including a bracket, a wedge and a pair of pins carried by the bracket and coacting with the wedge, said wedge having a pair of parallel surfaces engaging said pins whereby the pins will prevent rotation of the wedge without interfering with its sliding motion, said bracket having an aperture for receiving said wedge and a rod receiving aperture extending at an angle to the first mentioned aperture, said wedge having a depending web formed with an inclined surface positioned to engage and deform a rod extending through the rod receiving aperture so as to form a shoulder within the first mentioned aperture.

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