This invention relates to a mounting clamp for ceiling lighting fixtures.

One object of this invention is to provide a mounting clamp for holding lighting fixtures on horizontal I-beams or inverted T-beams used to support ceilings. Another object is to provide a clamp for mounting lighting fixtures to I-beams or inverted T-beams which, before securing the clamp, is slidable on the flanges of the beam to facilitate positioning of the fixture. Another object is to provide a clamp which is easily actuated, temporarily, to an I-beam or inverted T-beam, and which becomes securely fastened when the fixture is attached to the attachment stud of the clamp.

These and other objects are attained by my invention which will be understood from the following description in which reference is made to the accompanying drawings, in which:

Fig. 1 is a plan view of the upper face of a preferred form of my clamp, shown as clamped to an inverted T-beam;

Fig. 2 is an underside view of the same;

Fig. 3 is a side elevation of the clamp as shown in Figs. 1 and 2, as positioned to hold a fixture;

Fig. 4 is a cross-sectional view taken on the line 4—4 of Fig. 3;

Fig. 5 is a cross-sectional view taken similarly to Fig. 4 in which the clamp jaws are in full open position ready to engage the flange of the beam;

Fig. 6 is a cross-sectional view taken similarly to Figs. 4 and 5 in which the clamp jaws are in temporary clamping position supported in the flanges of the beam;

Fig. 7 is a perspective view of one clamp jaw;

Fig. 8 is a plan view of the clamp base; and

Fig. 9 is a clamp base of another form of my invention having a plurality of parallel slots for selective use with beam flanges of different widths.

Referring to the drawings showing a preferred form of my invention, my clamping device consists of a base member 11 consisting of a flat metal disc having a threaded stud 12 extending on the lower face from its center and having a pair of parallel slots 13 disposed on either side of the stud 12. A pair of clamp members 14 consisting of metal stampings of stiff sheet metal bent to a generally S-shape in which a clamping arm 15 and a jaw member 16 are disposed in parallel relation being joined by a connecting piece 17 to form the S-shape member. The jaw member 16 is of width and thickness to fit somewhat loosely in one of the slots 13, the width of the clamping arm being preferably greater than the length of the slot 13, the shoulder 15 serving as a stop to hold the jaw member in place. The connecting neck 17 between the clamping arm 15 and the jaw member 16 is provided with a detent button 18 which is arranged to engage the outer edge 26 of the slot 13 when the clamp is in partly opened condition, as shown in Fig. 6. The clamping arm 15 is provided with a boss 19 extending from its face 20 adjacent the base member 11 when the clamp is in closed clamping position, this boss spacing the arm from the base member to give some resiliency to better hold the nut 23 on the stud 12.

My clamping device is particularly adapted to be used for the hanging or mounting of lighting fixtures to the structural beams of ceilings or sub-ceilings. These beams are generally I-beams or inverted T-beams having flanges 22 which are gripped by the jaws 16 of the clamp, the jaws being held apart by the flanges and so spaced in the parallel slots that even when partly open as shown in Fig. 6, the clamping members 14 do not release because of the detent buttons 18 engaging the outer edges of the parallel slots.

The clamp is tightened and fixedly attached to the flanges 22 of the beams 21 by means of a wing nut 23 which engages the stud 12, there being disposed between them a flat plate portion 24 of a light fixture. The flat plate 24 of the fixture presses against the surfaces 15 of the clamping arms 14 which in turn press the jaw members 16 securely on the flanges 22 and hold the fixture in fixed position on the beam. When the wing nut is loosened position, the jaws are released slightly so that the whole assembly may be moved longitudinally along the beam to put the fixture where desired; or the clamp itself may be positioned while in the partly opened condition indicated in Fig. 6 so that the stud may be adjusted to fit two or more openings in the fixture housing represented by the flat plate 24.

The flanges 22 of the ceiling beams may vary in width, and in order to use my clamp on any standard width flange, I may provide a base member 11a having a series of parallel slots 13a disposed at different distances from the center so that the clamp may be used on narrower or wider flanges, the other portions of the clamp being the same as above described.

The advantages of my invention will be apparent from the above description. When the clamp is fully opened as shown in Fig. 5, it may be held in one hand and adjusted around the flanges and temporarily attached by spreading the clamping arms, as indicated in Fig. 6. In this latter position the clamp is self-supporting without the wing nut, and the clamp may be moved along the flanges to any desired location before or while attaching the fixture or flat plate 24 for the permanent attachment by means of the wing nut. This arrangement permits a workman to mount heavy fixtures such as fluorescent light units with a minimum of difficulty in attaching the flat plate 24 to the studs 12, and also to adjust the positioning of pairs of clamps relative to the opening for the supporting studs, when pairs of clamps are used.

While I have described my clamping device as applied to ceiling beams, it will be clear that this structure may be also applied to vertical structural members having engageable flanges.

I claim:

1. A mounting clamp adapted to engage the flanges of ceiling beams for mounting ceiling light fixtures and the like, comprising a base plate having a centrally positioned depending mounting stud and a pair of transverse slots disposed on opposite sides of said stud; and a pair of S-shaped flat clamp members, each having a jaw member extending through said slots in opposed relation opposite said stud, the ends of said jaw members being free and spaced apart, a clamping arm, and a neck connecting said jaw member and said clamping arm, with the clamping arm disposed on the stud side of said base plate, said neck being provided with a detent button extending from its outer face and positioned to engage the outer edge of the slot in said base when said jaw members are in partly closed position; said jaw members being spaced apart by
the flange of a structural beam to which said clamp is attached.

2. The mounting clamp as defined in claim 1 in which the base plate is provided with a plurality of spaced apart transverse slots to receive said jaw members for attachment to flanges of structural members of different widths.

3. The mounting clamp as defined in claim 1 in which each clamping arm is provided with a spacing boss on the face of said arm contiguous to said base plate, said boss spacing said arm away from said base plate when the clamp is in closed position.

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