T. SIDERITS & G. MURL.

BEAM SPLICING CLAMP.

APPLICATION FILED FEB. 17, 1913.

1,084,236.

Patented Jan. 13, 1914.

Fig. 1.

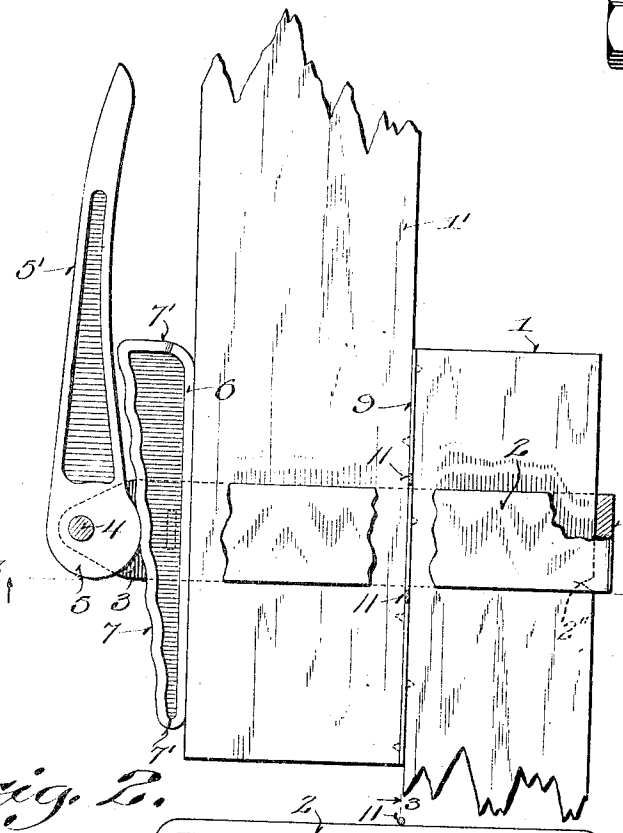


Fig. 2.

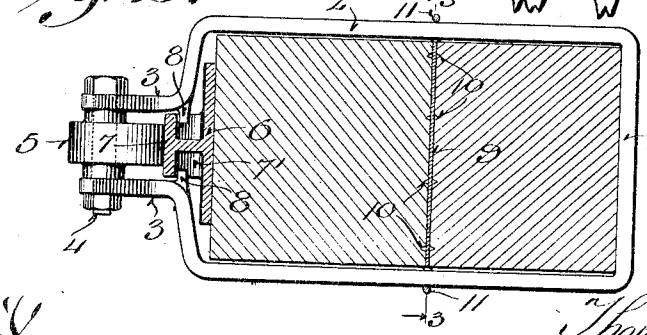


Fig. 3.

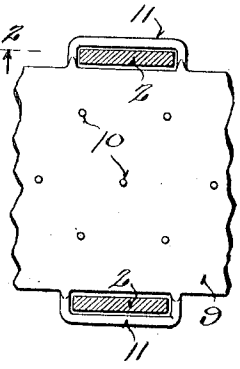
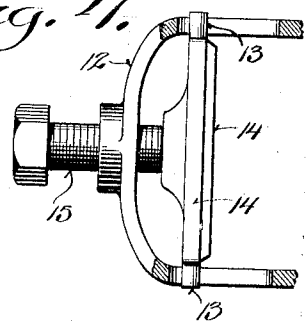


Fig. 4.



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UNITED STATES PATENT OFFICE.

THOMAS SIDERITS AND GABRIEL MURL, OF MILWAUKEE, WISCONSIN.

BEAM-SPLICING CLAMP.

1,084,236. Specification of Letters Patent. Patented Jan. 13, 1914.

Application filed February 17, 1913. Serial No. 749,014.

To all whom it may concern:

Be it known that we, THOMAS SIDERITS and GABRIEL MURL, both citizens of the United States, and residents of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Beam-Splicing Clamps; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention refers to beam-splicing clamps, its object being to provide a simple, economical and effective device of this character.

Specific objects of our invention are to provide a broad friction shoe for the purpose of presenting a large area to one of the members to be clamped, whereby slippage is avoided and at the same time tendency to mar said member is prevented.

Another object of our invention is to provide a wide scope of adjustment with reference to the clamp, the means for accomplishing this result being the arrangement whereby one face of the shoe is wedge-shaped or inclined, said wedge-shaped face being adapted to co-act with a locking eccentric and is adjustable with relation to said eccentric.

Still another object of our invention is to provide a shiftable toothed rub-plate that is interposed between the clamped members whereby they are held against end-play or slippage incidental to vibration.

With the above and other minor objects in view the invention consists in certain peculiarities of construction and combination of parts as set forth hereinafter with reference to the accompanying drawings and subsequently claimed.

In the drawings Figure 1 represents a side elevation of a clamping device embodying the features of our invention, the same being shown in the position it assumes when clamping a pair of beams; Fig. 2, a sectional view of the same, the section being indicated by line 2—2 of Fig. 1; Fig. 3, another detailed sectional view, the section being indicated by line 3—3 of Fig. 2, the section showing the structural features of the rub-plate and its connection to the clamping strap, and Fig. 4, a fragmentary detailed plan sectional view of a modified form of clamping shoe.

Referring by characters to the drawing, 1, 1′, represent the lapped ends of beams about which is fitted a strap 2 which is bent in rectangular form to correspond to the contour of the beams. The ends 3, 3, of the strap are brought together and alined for the reception of a retaining bolt 4, which bolt passes through apertures in said strap ends. Mounted upon the bolt is an eccentric 5 provided with an actuating handle 5′ whereby the eccentric is rocked to effect a release and lock of the timbers. Interposed between the face of the eccentric and the adjacent face of the beam 1′ is an adjustable shoe 6, the flat face of the same being adapted to engage the corresponding flat face of the beam. This shoe is preferably formed with ribbed edges as shown, and the outer ribbed edge 7 is inclined from top to bottom to form a wedge, the surface of which is adapted to be engaged by the eccentric and for the purpose of more rigid locking engagement said inclined surface is preferably waved as shown, whereby the face of the eccentric may be nested within any one of the waves depending upon the vertical adjustment of the shoe. The vertical inner and outer ribs of the shoe are connected by cross-ribs in the form of loops 7′, which loops are adapted to engage lugs 8 that project inwardly from the adjacent faces of the strap ends, whereby the shoe is permanently suspended in connection with the strap when the clamping device is not in use, the lugs 8, as shown, being so positioned as to not interfere with play of the wedge-shaped clamping shoe in either a vertical or horizontal direction. The rear stretch 2′ of the strap 2 which engages a face of the beam 1 is preferably formed with a tapered biting flange 2″, which flange is adapted to enter the face of the beam when the clamp is tightened to thus prevent endwise slippage of the device.

Interposed between the clamped beams 1 and 1′ is a metallic rub-plate 9, which rub-plate is provided with two series of spurs 10 that extend from its opposite faces, which spurs are adapted to enter the adjacent faces of the beams incidental to the clamping of the same, the said rub-plate serving to more effectually lock the beams together and prevent endwise slippage incidental to vibration or strain. This rub-plate is provided with laterally extending loops 11 that engage the side stretches of the strap 2, whereby said rub-plate is suspended to the

clamping device, this connection serving to permit movement of said plate upon the strap in either direction, whereby movement of the same will accommodate various thicknesses of the timbers to be spliced with relation to the outer clamped edges thereof.

As shown in Fig. 4, we provide a strap 12, the side stretches of which are slotted for the reception of end studs 13 of a clamping shoe 14, which shoe, as shown, may be provided with a transverse biting rib 14′ that is similar to the rib 2″ described in connection with one of the stretches of the strap 2. This rub-plate is adjusted against the adjacent face of one of the clamped members by a spindle 15 which is in threaded union with a corresponding threaded apertured hub of the strap 14. The said spindle and clamping shoe in some instances may be substituted for the eccentric and wedge-shaped clamping shoe shown in Figs. 1 and 2 of the drawings.

From the foregoing description it is apparent that when it is desired to splice a column that the ends of two beam sections may be readily slipped into the strap and adjusted vertically to obtain the desired height, the rub-plate 9 being interposed therebetween. After the vertical adjustment has been effected the wedge-shaped clamping shoe will automatically drop to an engaging position with the adjacent face of the beam to thus take up the space intervening between said beam face and the eccentric. Thereafter the eccentric is turned up into the position shown, whereby the wedge is securely forced against the beam, causing the strap to effect a draw, to thus securely clamp the members together, the eccentric in which position being locked by its handle 5′ that is swung to a position slightly beyond the axis upon which the eccentric is revolved.

From the foregoing it is apparent that the above described clamping device may be utilized for scaffold-building or the like, it being particularly designed for use in connection with building concrete mold structures wherein it is desirable to use the timbers over and over again and under ordinary conditions such timbers must be cut to the desired lengths. In our apparatus this is obviated and after using the timbers they can readily be knocked down without damage thereto and again utilized as stated.

We claim:

In a beam clamp having a looped strap, a retaining bolt for securing the strap ends, and a locking eccentric mounted upon the retaining bolt; the combination of a wedge-shaped shoe having a fluted rib-face and a flat rib-face connected at their ends, the fluted face of the shoe being engageable with the eccentric and the flat face adapted to abut one of the members to be clamped, and lugs projecting from the strap ends extending between the shoe ribs whereby the shoe is permanently retained but is capable of transverse and lateral movement incidental to action of the eccentric or manual adjustment.

In testimony that we claim the foregoing we have hereunto set our hands at Milwaukee in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

THOMAS SIDERITS.
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Witnesses:
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