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BRACE LOCKING DEVICE

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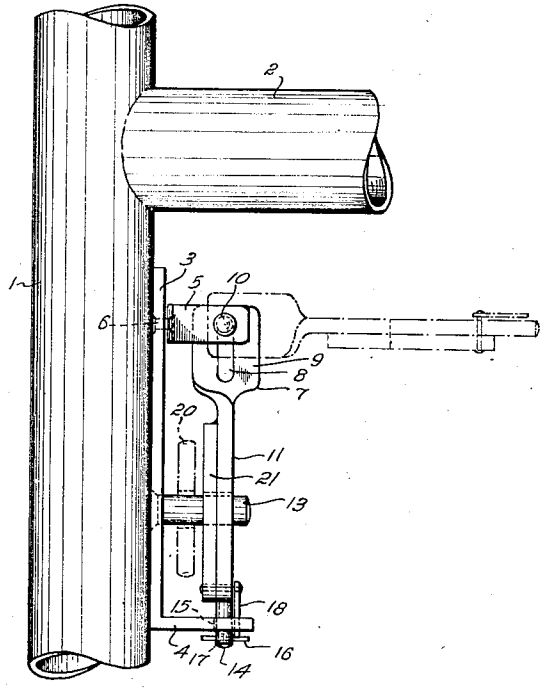


Fig. 1.

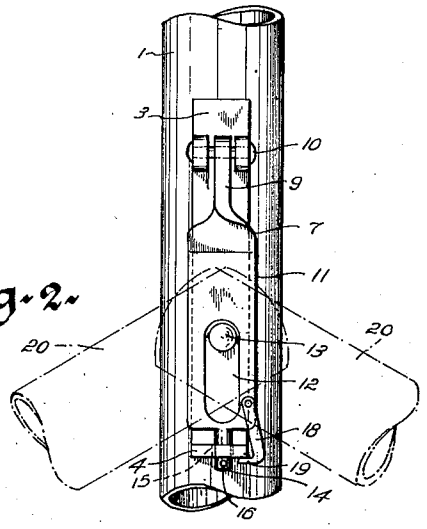


Fig. 2.

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BRACE LOCKING DEVICE

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This invention relates to locking devices for braces and like members.

In the erection of sectional scaffolding, it is usual to employ cross braces for reinforcing the main vertical and horizontal members of the scaffold. In order that the chief purpose of sectional scaffolding may be achieved, namely, speed and ease of erection and dismantling, it is advisable that means be provided for quickly locking the end of each brace to the main members. It has, however, been difficult to provide a locking device which may be manipulated with satisfactory speed and facility while possessing adequate strength.

It is an object of this invention to provide a locking device for braces and the like which is simple and inexpensive to manufacture, which may be actuated with convenience in a minimum amount of time, and which possesses satisfactory strength.

In accordance with the invention, there is provided a base plate attached to a main frame member, said base plate having, in generally perpendicular relation thereto, a flange at one end, a swivelly mounted fitting at the other end, and an intermediate pin, and a locking plate carried by said fitting in sliding pivotal relation thereto, said locking plate having a slot to receive said pin, and said flange having an opening to receive the free end of said locking plate.

The invention will be described with reference to the accompanying drawing, in which

Figure 1 is a side elevation of a locking device in accordance with the invention, and

Figure 2 is a front elevation of the locking device.

Referring to the drawing, **1** is a main vertical member and **2** a main horizontal member of conventional sectional scaffolding. The members **1** and **2** are usually of tubular metal construction.

The locking device of the present invention comprises a base plate **3** shown as fixed to the vertical member **1**. The base plate **3** has a perpendicular flange **4** at the lower end thereof, such flange being conveniently integral with the plate. A bracket or clevis **5** is rotatably mounted as by a pivot pin **6** adjacent the other or upper end of base plate **3** in opposed relation to the flange **4**. A locking plate **7** has a longitudinal slot **8** in one end portion **9** thereof, such end portion extending between the arms of clevis **5** and a clevis pin **10** carried by the arms extending through slot **8**.

It will be apparent that, by reason of the pin and slot connection (**10**, **8**), locking plate **7** has limited vertical movement with respect to the clevis and base plate and may also swing about the pin **10**. The locking plate also has swivel movement about the base plate by reason of the swivel pin connection **6**.

Locking plate **7** has a main portion **11** which is preferably bent at right angles to end portion **9**. Portion **11** also has a longitudinal slot **12** therein arranged to receive a pin **13** carried by and perpendicularly-extending from base plate **3** intermediate the ends thereof. Locking plate **7** also has a lower end projection **14** of restricted width arranged to extend through an opening **15** in flange **4**.

In the locking position of the device, as shown in full lines in the drawing, it will be apparent that the locking plate is in substantially parallel relation to base plate **3**, with pin **13** extending through slot **12** and projection **14** extending through opening **15**, and pins **10** and **13** engaging the respective upper end walls of slots **8** and **12**. Plate **7** is rigidly held in such locking position by reason of engagement of projection **14** with flange **4** of the base plate through opening **15**. Locking plate **7** is retained in such position by means of a pin **16** extending through a hole **17** in projection **14** below the flange **4**. A safety catch **18** may also be provided, such catch being pivotally carried by the locking plate **7** and having a hooked end **19** in engagement with the under surface of flange **4**.

In operation, the device is opened by removing pin **16**, releasing safety catch **18**, sliding locking plate **7** upwardly as permitted by its slots **8** and **12**, and swinging locking plate **7** outwardly as indicated in dotted lines in Figure 1. The apertured end of a brace **20** may then be positioned on pin **13** and the plate **7** replaced in locking position to lock the brace to the main scaffold member **1**.

Preferably, the locking plate **7** has a thickened section **21** on one side of its main portion **11**, such section being conveniently formed by welding or otherwise fixing a piece of plate thereto. Thus, the device is readily adaptable for locking the ends of either one or two braces in that, when one brace is to be locked, the locking plate is arranged as shown in Figure 1 with the section **21** engaging the brace to remove any excess play between it and the scaffold member **1**. If, however, it is desired to lock two braces to one scaffold member, the locking plate **7** (in released position) is turned on its swivel pin **6** to present its other side to the base plate **3**, in which position space is provided between the locking and base plates to receive the ends of two braces.

There has thus been provided a locking device for braces and the like which may be manipulated conveniently in a matter of seconds either to lock a brace to or release it from a main frame member. Moreover, the device is adaptable also in a rapid and easy manner, to lock either one or two braces to the frame member.

I claim:

1. A device for locking braces and the like to a frame member which comprises a base plate having, in substantially perpendicular relation thereto, a flange at one end, a bracket at the other end, and a pin intermediate said ends, and a locking plate having a sliding pivotal connection with said bracket, and a slot for reception of said pin, said flange having an opening therein to receive the end of said locking plate.

2. A device for locking a brace to a frame member which comprises a base plate arranged for attachment to said frame member and having, in substantially perpendicular relation thereto, a flange at one end, a clevis at the other end, and a pin intermediate said ends arranged to receive said brace, a locking plate having a sliding pivotal connection with said clevis, and a slot for reception of said pin, said flange having an opening therein to receive the end of said locking plate, and means for retaining said locking plate in said opening.

3. A device for locking braces to a sectional scaffolding member which comprises a base plate arranged for attachment to said member and having, in substantially perpendicular relation thereto, a flange at one end thereof, a clevis swivelly mounted adjacent the other end thereof, and a pin intermediate the ends thereof arranged to receive at least one brace, a locking plate having a slot in an end portion thereof, said clevis having a pin extending through said slot and securing said locking plate to

said base plate for slidable, swinging and rotatable movement with respect thereto, said flange having an opening therein to receive the end of said locking plate and restrain it from said swinging and rotatable movement, said locking plate also having an intermediate portion at right angles to said end portion and having a slot therein to receive said base plate pin, said intermediate portion of said locking plate having a brace engageable surface

on each side thereof, one of said brace engageable surfaces being inwardly offset from said end of said locking plate.

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