June 3, 1969 J. E. TRIMMER 3,447,771

REINFORCEMENT FOR CONCRETE WALL FORM CONNECTORS

Filed Aug. 14, 1967

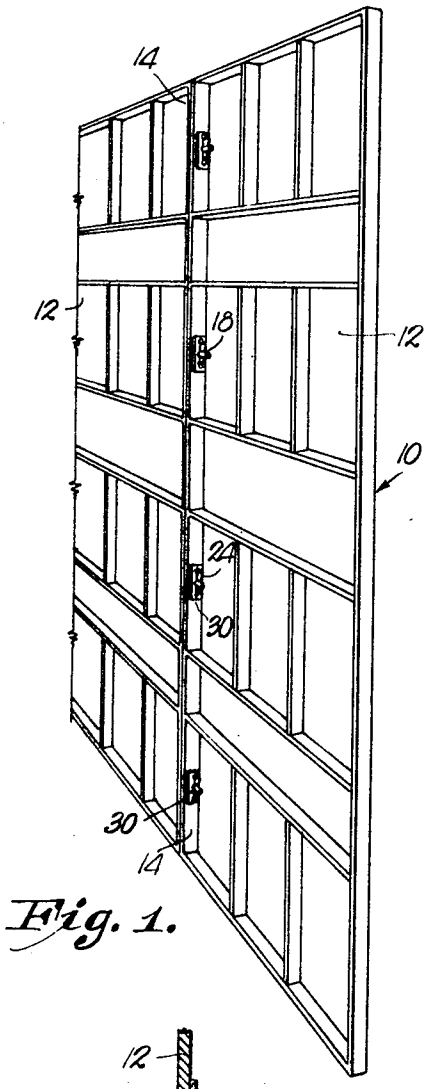


Fig. 1.

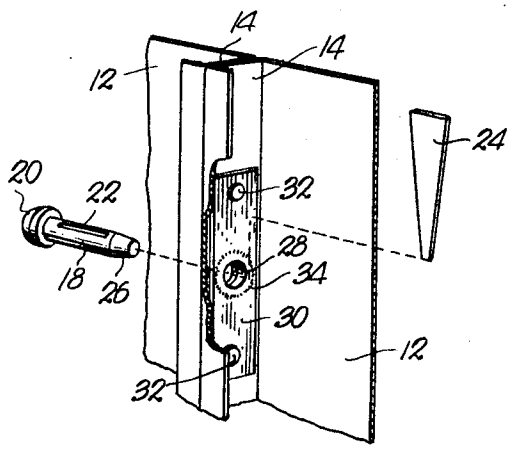


Fig. 2.

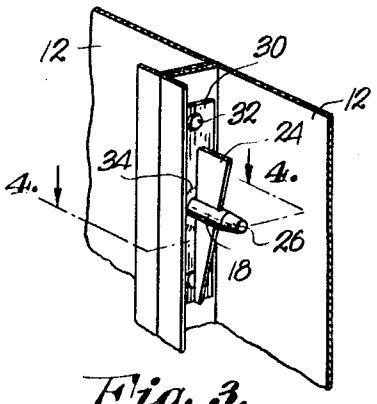


Fig. 3.

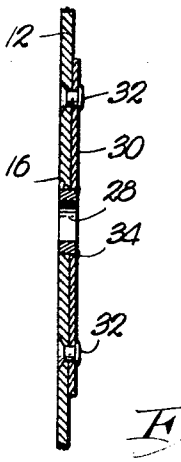


Fig. 5.

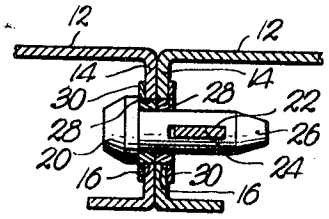


Fig. 4.

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REINFORCEMENT FOR CONCRETE WALL FORM CONNECTORS

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U.S. Cl. 249—192 1 Claim

ABSTRACT OF THE DISCLOSURE

A connector for concrete wall forms of the kind which joins the flanges of the panels through use of a pin and wedge unit, the aligned holes of the flanges being fitted with a reinforcement liner made of hard metal capable of withstanding abuse so as to protect the forms themselves, the liner being held in place by a plate that is welded to the liner and riveted to the form.

The success and acceptance of the conventional pin and wedge type of connector for concrete wall forms is evidenced by its widespread use, but there exists a difficult problem that has not heretofore been solved relating to damage to the form with resultant replacement costs. To the end that the forms may be rapidly disassembled, it is the current practice to remove the connector by hammer blows to the wedge and to the pin with resultant damage to the form at the pin-receiving hole of the flanges.

It is the most important object of the present invention, therefore, to provide a protection for the forms through use of a hard metal liner within the holes capable of withstanding the abuse to which the form is subjected during use, especially during removal of the connectors. Another important object of the instant invention is to solve the aforementioned problem through use of the hard metal liner by the provision of an inexpensive plate which serves to hold the liner in place through an interconnection between the plate and the liner as well as the plate and the corresponding flange of the panel.

In the drawing:

FIGURE 1 is a perspective view illustrating a portion of a concrete wall form illustrating the reinforcing connector made pursuant to my present invention;

FIG. 2 is a fragmentary perspective view of the wall form partially exploded and broken away to reveal details of construction of the connector;

FIG. 3 is a view similar to FIG. 2 illustrating the connector in place;

FIG. 4 is an enlarged, fragmentary, cross-sectional view taken along line 4—4 of FIG. 3; and

FIG. 5 is a vertical cross-sectional view through one of the flanges as well as through the reinforcing liner and its mounting plate.

Wall form **10** includes a plurality of side-by-side panels **12** provided with laterally extending flanges **14** having aligned openings **16** which normally receive connecting pins **18**. Pins **18** have heads **20** on one end thereof together with slots **22** for receiving locking wedges **24**.

Disassembly of the panels **12** is normally accomplished by hammer blows to the beveled end **26** of the pin **18** which loosens the wedge **24** and as a result of such hammering action, the holes **16** become damaged, oftentimes to the point where the entire panel **12** must be replaced.

In accordance with the instant invention, therefore, I provide a tubular liner **28** for each hole **16** respectively made from any suitable hard metal such as steel capable of withstanding the aforementioned abuse and having a bore therethrough of sufficient diameter to receive the pin **18**, as best illustrated in FIG. 4.

The liner **28** of my improvement is held in place within the corresponding opening **16** by a plate **30** held flatly against the corresponding flange **14** by a pair of rivets **32**. It is to be noted that the plates **30** are perforated to receive the liners **28**, the latter being rigidly secured to the plate **30** by a weld **34** surrounding the liner **28**.

With this construction the plates **30** may be stamped from any suitable inexpensive sheet material, and the entire protector **28–30** for the openings **16** may be quickly and inexpensively manufactured without need for machine or other costly operation. Such protector is characterized by long wear and by the ease in which it may be replaced without appreciable cost from time to time as may become necessary, thereby adding considerable life to the panel **12**.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a concrete wall form including a plurality of panels provided with flanges having aligned openings, a connector comprising:

a hard metal, tubular reinforcing liner in each opening respectively;

a pin passing through the liners,

said pin having a head on one end thereof and a slot adjacent its opposite end;

a wedge in the slot for clamping the flanges between the head and the wedge;

structure attaching the liners to the flanges,

said structure including an elongated, rectangular plate mounted on each liner respectively and secured to the corresponding flange,

each plate having a hole receiving its liner, there being a weld around the hole attaching the liner to the plate; and

rivets securing the plates to the flanges,

each of said liners having a length equal to the thickness of a corresponding flange,

said liners being in abutting relationship.

References Cited

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