W. J. HUNKIN.

CLAMP.

APPLICATION FILED DEC. 20, 1913.

1,153,552. Patented Sept. 14, 1915.

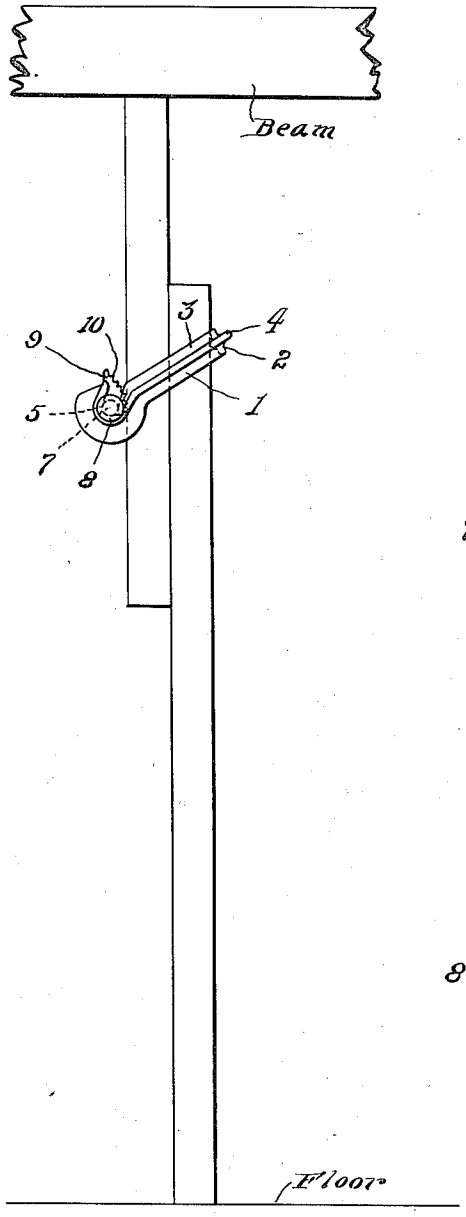


Fig. 1

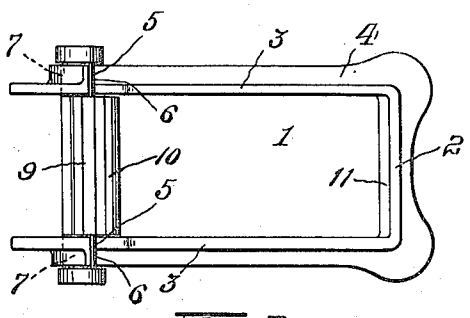


Fig. 2

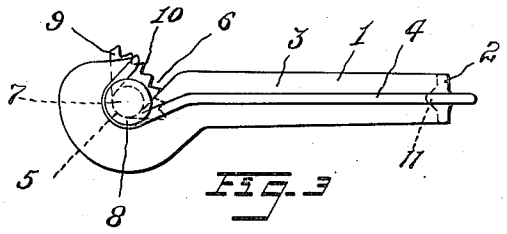


Fig. 3

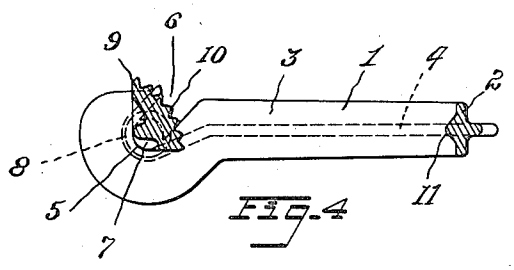


Fig. 4

Witnesses:
Herman Eberle
Nathan F. Fretter.

Inventor:
W. J. Hunkin,
By A. D. Merkel,
his Attorney

UNITED STATES PATENT OFFICE.

WILLIAM J. HUNKIN, OF CLEVELAND, OHIO, ASSIGNOR TO THE HUNKIN-CONKEY CONSTRUCTION COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

CLAMP.

1,153,552. Specification of Letters Patent. Patented Sept. 14, 1915.

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To all whom it may concern:

Be it known that I, WILLIAM J. HUNKIN, a citizen of the United States, resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Clamps, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to clamps and particularly to clamps adapted to secure to each other two pieces of timber or the like to form a support adjustable as to length.

The object of said invention is to provide a clamp of the above-described character which will be economical of manufacture, efficient in its operation and which may be readily attached and detached.

One specific object is to provide a clamp which may be advantageously used to form adjustable shoring used in the erection of concrete structures and which may be adjusted as to length so that it may be used in structures of varying dimensions.

The annexed drawing and the following description set forth in detail certain means embodying my invention, the disclosed means, however, constituting but one of various mechanical forms in which the principle of the invention may be applied.

In said annexed drawing: Figure 1 represents a side elevation of a piece of shoring constructed of two pieces of square timber secured to each other by means of my improved clamp. Fig. 2 represents a plan, upon an enlarged scale, of said clamp, and Fig. 3 a side elevation thereof. Fig. 4 represents a longitudinal section of said clamp.

The illustrated embodiment of my invention comprises a malleable iron casting consisting of a cross-piece 2 and two parallel legs 3, 3, projecting therefrom to form a U-shaped main member 1, Fig. 2, the distance from each other at which said legs are spaced being such as may be required to permit the timber of the desired cross-sectional dimensions to be placed therebetween. The said cross-piece and legs are formed with a strengthening rib 4, and the outer or free ends of the legs are enlarged as shown, to permit of the formation therein of the two bearings 5, 5, and the slots 6, 6, communicating therewith. In these bearings are respectively seated two trunnions 7, 7, and the width of slots 6, 6, is such that these trunnions may freely pass therethrough. The outer end of each trunnion is preferably formed with a flange 8. Between the two trunnions is a member 9 formed with a serrated cam-surface 10. By oscillating the cam-member it will be seen that the distance between the cross-piece 2 and the cam-surface may be varied. The inner side of said cross-piece is formed with a longitudinal rib 11 of triangular cross-section, as shown in Fig. 4.

In applying the above-described clamps, the cam-member is removed from the main-member by lifting the trunnions out of their bearings through the slots. The main-member is then caused to embrace the contiguous portions of the two timbers to be secured, and at an angle, as shown in Fig. 1, the cross-piece 2 being placed so as to cause the rib 11 to engage the surface of that piece of timber to which it is contiguous. The cam-member is then replaced in its bearings and the cam, with the aid of a hammer, partially rotated on its axis so as to cause the serrations 10 and rib 11 to bite into the contiguous surfaces of the timbers. The direction of the inclination which is imparted to the clamp is such that any movement of the two timbers upon each other and due to the force exerted by the supported load, will move or tend to move the clamp into a position more angular with reference to a plane perpendicular to the direction of such force, and hence cause the clamp to still more tightly bind. When it is desired to loosen the clamp for removal it is only necessary to strike same with a hammer so as to impart less of such previously described angularity, as will be readily understood.

By means of the above-described device, two pieces of timber may be secured to each other with great facility and firmness so that they may be used for shoring and resist a compressing force of great degree without displacing the two timbers with reference to each other.

By making both timbers of a length less than the minimum distance between the points of support and load which would ordinarily be encountered, it will be seen that a range of adjustability may be obtained which will permit of the use of the

timbers when secured to each other, under practically all ordinary conditions in a given kind of building construction.

Having fully described my invention, what I claim and desire to secure by Letters Patent is:—

In a clamp of the class described, the combination with a U-shaped bracket, the free ends of the arms thereof being enlarged and provided with bearings, said enlarged portions of the arms also being provided with upwardly and rearwardly inclined slots communicating with the bearings and terminating in the upper edges of the arms, and a transversely extending biting tooth formed on and extending the full length of the inner face of the face of said bracket; of a cam member consisting of a body portion of substantially triangular design in cross section and of a length to fit between the arms of the U-shaped bracket, one face thereof being serrated for its full length, trunnions projecting laterally from the ends of said cam member to operate loosely in the aforesaid bearings and removable from the bracket through said slots and head portions formed on the ends of the trunnions to guide the latter in the slots of the bracket arms and prevent lateral movement of the cam in the bearings.

Signed by me, this 11th day of December, 1913.

W. J. HUNKIN.

Attested by—
D. W. JONES,
C. E. MILLER.