J. HERCHE.

DESTRUCTION TIMBER SQUARE.

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Fig. 1.

Fig. 2.

Fig. 3.

Witnesses:

F. E. Wiedner

Launce

Inventor:

James Herche

E. W. Strong, etc.
To all whom it may concern:

Be it known that I, James Herche, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Detortion Timber-Squares, of which the following is a specification.

My invention relates to a device which is technically known as a "detortioning timber-square."

My invention comprises combinations of parts and details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a front view of the rectangular leveling device. Fig. 2 is an edge view. Fig. 3 is a diagrammatic view showing its application. Fig. 4 is a sectional view on the line 4-4 of Fig. 1.

Most, if not all, timber, and especially in large sizes, becomes twisted after sawing, so that between one end and the other of the timber the sides thereof vary considerably, and as it is necessary when framing such timbers to build structures to have the mortises, tenons, gains, and cross-marking all formed with relation to certain planes it is necessary that the timber be first "detortioned," as it is termed—that is, the parts where mortises, tenons, &c., are to be made must all be in the same plane with each other.

It is the object of my apparatus to provide for such corrections in the timber as will enable the operator to correctly effect the desired results.

As shown in the drawings, A is a head, which may be cast in metal or otherwise formed accurately square, having a central opening within which may be fixed a level 2 in any suitable manner, so that said level is parallel with two of the sides of the square.

This square has formed upon one side suitable guides or channels adapted to receive blades, such as 3 and 4. The blade 3 is here shown as extending through the block and the blades 4 vertically and exactly at right angles with the blade 3. The guides through which the blades are slidable and in which they may be fixed are so disposed that the edges of the blades will exactly intersect at a point which is central between the sides of the square, and these intersecting edges of the blades are all marked off in scales of inches or other dimensions. The blades may be locked in place in any suitable manner. I have here shown the blades as having longitudinal channels, as at 5, made in the backs, and hook-bolts 6 are so formed that the hooks at the inner ends of the bolts will engage these grooves, the bolts and the engaged edges of the grooves being preferably inclined, so as to firmly interlock. The outer ends of the bolts projecting through openings in the corners of the block, as shown, may be secured by nuts 7, screwing upon their ends and drawing the bolts tightly against the blades, thus holding them securely in their position. The blade 3 is here shown as extending to any desired length horizontally through the block, and the blades 4 are two in number, one above and one below the blade 3, with their inner ends abutting against it. The operation of this portion of the device will then be as follows: The timber being laid upon suitable supports, the block A is fixed at one end by a scratch-awl and held in the meeting angles of the blades, as at a, and it is then leveled. The horizontal blade may be set so that the zero-point of its subdivisions coincides with the central point, and the vertical blades, in the same manner abutting against the horizontal blade, are so subdivided that the measurements upon them increase equally outward from the zero-point. The block being then leveled by turning until the level shows it to be correct is held in place upon the square end of the timber. The block being of smaller dimensions than the timber to be marked, it is only necessary to mark the outline of the block upon the end of the timber, and if the timber has been twisted its end will not lie with the sides accurately vertical and horizontal, but the square thus marked out will be correct in these respects. Both ends of the timber having thus been marked, I then make longitudinal lines connecting the points at which the true vertical and horizontal lines through the center of the square will intersect the exterior of the timbers. It will be seen by the diagram Fig. 3 that the end of the timber being twisted the vertical and horizontal lines will intersect the surfaces of the timber at points which are at one side of the absolute center between its sides. Thus, these intersecting lines at one end will be at one side of the center, and at the opposite side they will be at the opposite side of the center. In this manner I establish what are termed the "detortion lines," and upon which lines all cuts are made in the timber which are required to be
at right angles with each other and square with other parts to which they are to be united. This portion of the apparatus may be used as a level by attaching feet or standards, as 20, to the horizontal blade 3 at a sufficient distance apart, and the level in the block being absolutely parallel with the edge of the blade it will be seen that the required leveling may be accurately done.

If it is desired to use the apparatus as a plumb-bob, the blades 4 may be removed from their vertical guides, and the blade 3 may be transferred into said guides. This blade being of sufficient length, when its edge is laid against the edge of the device which it is desired to make vertical the level will indicate when such verticality has been established.

By shifting the standards or feet 20 to any desired position with relation to the parts to be leveled the device may be used to level shafting by placing it between pulleys, hangers, or boxes, or the feet may in some cases stand upon either side of boxes, couplings, or other protuberances upon the shaft.

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

1. An apparatus for detortioning timber, said apparatus comprising a frame having parallel sides and guides one arranged at right angles with the other, blades movably secured in said guides, and a level fixed parallel to one of the sides of the frame and adapted to level said frame.

2. An apparatus for detortioning timber, said apparatus comprising a square block, a level fixed parallel to one of its sides, guides in the block at right angles with each other, and graduated blades slidable in said guides with their edges intersecting at the center of the square.

3. An apparatus for detortioning timber, said apparatus comprising a square block, a level fixed in the block parallel to one of its sides, guides in the block at right angles with each other, graduated blades slidable in said guides, with their edges intersecting at the center of the square, and means for locking the blades said means including bolts having hook-shaped ends to engage grooves in the blades.

4. An apparatus for detortioning timber, said apparatus comprising a square block having openings in its corners, a level fixed in the block parallel to one of its sides, guides in the block at right angles with each other, graduated blades slidable in said guides with their edges intersecting at the center of the square, said blades having channels in their backs, and bolts having hooks engaging said channels said bolts having their outer ends projecting into the openings in the corners of the block, and nuts by which the bolts are locked.

5. An apparatus for correcting the twist of timber, said apparatus comprising a square block, a level carried by the block and by which the block may be leveled about its center of support independent of the twist of the timber, slidable graduated blades intersecting each other through said center point, and means by which said blades may be fixed whereby lines may be inscribed from said center to the outside of the timber ends, and at right angles with each other.

6. In an apparatus for correcting the twist of timber, a rectangular block having guides, and blades and means for adjusting locking them in the guides, said blades serving as guides for marking intersecting lines upon the timber ends, and a level carried by the block whereby said lines may be made respectively vertical and horizontal.

7. An apparatus comprising a rectangular block with intersecting guides parallel with its sides, blades and means for adjusting holding them in said guides, a level fixed parallel with two of the sides of the block, and standards adjustable upon the horizontal blade.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES HERCHE.

Witnesses:
HENRY P. TRICOU,
S. H. Nourse.