

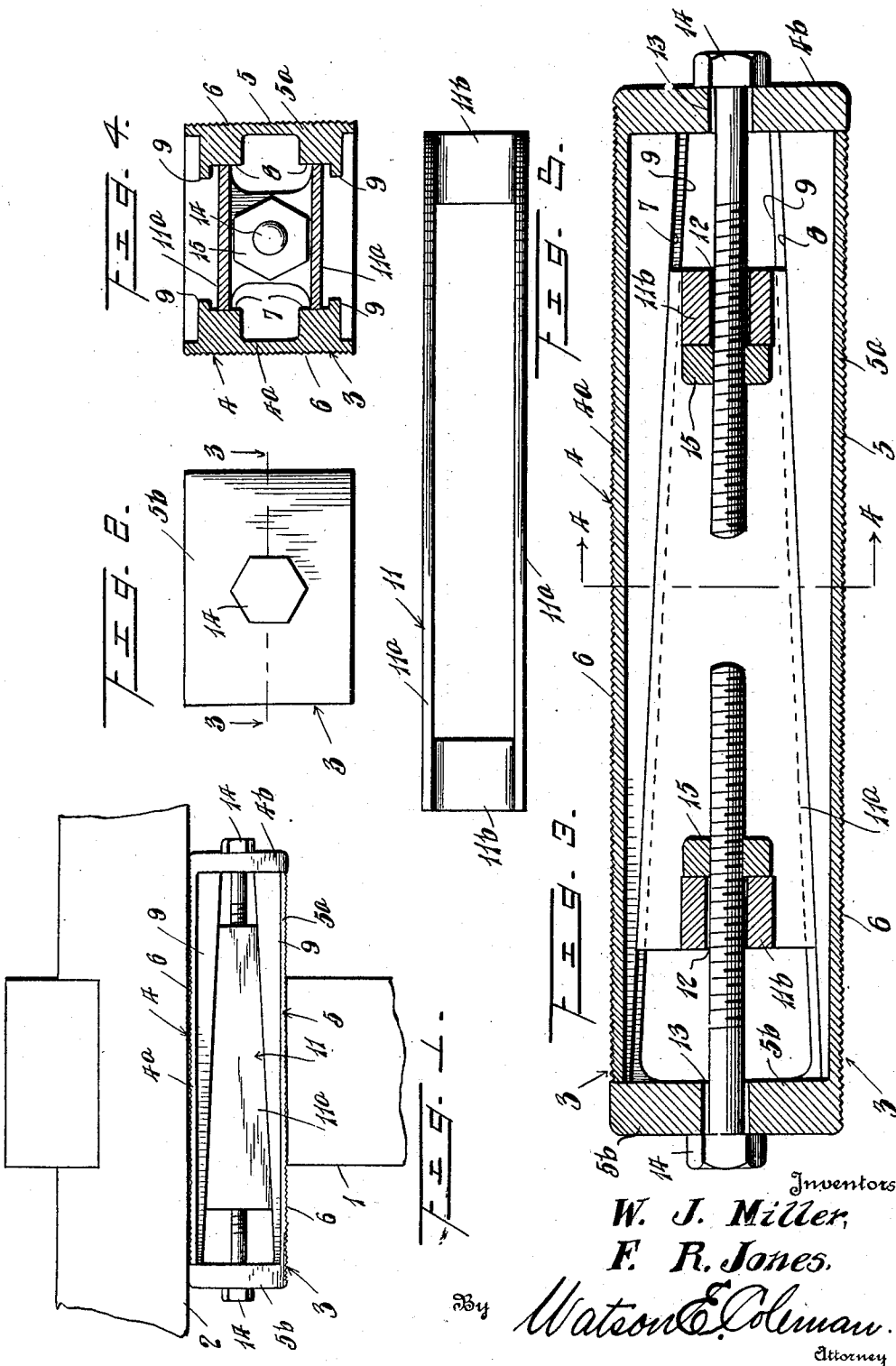
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WEDGE KEY BLOCK

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WEDGE KEY BLOCK

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This invention relates to a wedge key block, and has for one of its objects to provide a novel, simple and highly efficient device of this character which, while capable of general application, shall be especially adapted to be used for the purpose of keying the foundation timbers of oil field drilling engines.

The invention has for a further object to provide a wedge key block of the character stated which will not become accidentally displaced from the timbers and which will positively hold the timbers against accidental separation.

The invention has for a further object to provide a wedge key block of the character stated which shall be adapted to be readily applied to or removed from the timbers, which shall be adapted to be removed without damage to any part thereof, and which may be manufactured and sold at a comparatively low cost.

With the foregoing and other objects in view, the nature of which will appear as the description proceeds, the invention consists in the construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, wherein:—

Figure 1 is a plan view illustrating the application of the wedge key block;

Figure 2 is a view in end elevation of the wedge key block;

Figure 3 is a sectional view taken on a horizontal plane extending longitudinally and centrally through the wedge key block;

Figure 4 is a sectional view taken on the plane indicated by the line 4—4 of Figure 3; and

Figure 5 is a view in side elevation of the wedge of the wedge key block.

Referring in detail to the drawings, 1 and 2 designate fragmentary portions of two of the foundation timbers of an oil field drilling engine, and 3 the wedge key block by which the notched ends of the timbers are maintained in interlocking engagement.

The wedge key block comprises members or castings 4 and 5 of angular or L formation in plan. The sides 4a and 5a of the castings 4 and 5 are arranged in parallel relation, and

they are provided at their outer surfaces with pyramidal projections or lugs 6. The end 4b of the casting 4 extends therefrom in the direction of and contacts with the free terminal of the side 5a, and the end 5b of the side 5a extends therefrom in the direction of and contacts with the free terminal of the side 4a. The sides 4a and 5a are provided at their inner surfaces with ribs 7 and 8, respectively, which extend longitudinally thereof and have inclined inner or opposing surfaces merging in the direction of the sides of the plates.

Each of the sides is provided with two of the ribs, and the ribs of each side are arranged at opposite sides of the longitudinal center thereof. The sides 4a and 5a are provided with guide flanges 9, which extend inwardly from the remote longitudinal edges of the ribs 7 and 8.

A wedge 11 is arranged between and in contact with the ribs 7 and the side 4 and the ribs 8 of the side 5a, and it is maintained in contact with the ribs by the flanges 9. The wedge 11 is of hollow formation and comprises parallel plates 11a and end blocks 11b. The side edges of the plates 11a converge in the direction of one end of the wedge 11, and are arranged to contact with the ribs 7 and 8. The blocks 11b are arranged between the plates 11a and are provided with openings 12 which are arranged in alignment with each other and with openings 13 in the ends 4b and 5b.

The wedge 11, which consists of a single casting, is shorter than the sides 4a and 5a, and it is adapted to be adjusted longitudinally with respect thereto through the medium of bolts 14 and nuts 15, which also serve to maintain the members 4 and 5 and the wedge 11 in assembled relation. The bolts 14 pass through the openings 13 in the ends 4b and through the openings 12 in the blocks 11b and have their heads arranged outwardly of said ends. The nuts 15 are mounted upon the bolts 14 and contact with the inner or opposing sides of the blocks 11b.

The members 4 and 5 constitute an expandible and contractible block. To effect the expansion of the block, it is only necessary to move the wedge 11 in one direction longi-

itudinally of the block, and to permit the block to be contracted it is only necessary to move the wedge in the opposite direction longitudinally of the block. The wedge 11 may be readily moved or adjusted to effect the expansion of the block or to permit it to be contracted through the medium of wrenches applied to the heads of the bolts 14. The wedge 11 is, during the adjustment thereof, held against transverse displacement from the ribs 7 and 8 by the guide flanges 9.

The device is applied between the timbers 1 and 2 with the block in contracted condition, as shown in Figure 1. After the device is applied, the block is expanded through the medium of the wedge 11, with the result that the notched ends of the timbers 1 and 2 are moved into and firmly held in interlocking engagement. During the expansion of the block, the projections 6 of the sides 4a and 5a of the block are embedded in the timbers 1 and 2, with the result that the timbers and the device are held against any accidental relative movement. The openings 13 are larger diametrically than the bolts 14 to permit the expansion and contraction of the block.

As each block member 4 and 5 and the wedge 11 consists of a casting, as the ribs of each block member 4a and 5a are relatively spaced, and as the wedge 11 is of hollow formation, the device may be easily and cheaply manufactured. As all parts of the device are made from metal, and as the guide flanges 9 prevent buckling of the wedge 11, the device may be applied and removed without damage to any part thereof.

While we have described the principle of the invention together with the structure which we now consider the preferred embodiment thereof, it is to be understood that the structure shown is merely illustrative and that such changes may be made, when desired, as fall within the scope of the invention as claimed.

We claim:—

1. A wedge key block comprising angular members having their sides arranged in parallel relation and provided at the inner surfaces thereof with converging ribs, the ends of the members being provided with openings and the end of one member contacting with the adjacent terminal of the side of the other member, a hollow wedge arranged between and in sliding contact with the ribs and provided at its ends with openings, bolts passing through the openings in the ends of the members and wedge, and nuts mounted upon the bolts and contacting with the inner sides of the ends of the wedge.

2. A wedge key block comprising angular members having their sides arranged in parallel relation and provided at their inner surfaces with converging ribs, each side being provided with a pair of the ribs and the

ribs of each side being relatively spaced, the ends of the members being provided with openings and the end of one member contacting with the adjacent terminal of the side of the other member, a wedge arranged between and in sliding contact with the ribs, guide flanges extending inwardly from the ribs and arranged at opposite sides of the wedge, and wedge adjusting members passing through the openings in the ends of said first members.

3. A wedge key block comprising angular members having their sides arranged in parallel relation and provided at the inner surfaces thereof with converging ribs, the ends of the members being provided with openings and the end of one member contacting with the adjacent terminal of the side of the other member, a hollow wedge embodying parallel plates and terminal blocks arranged between the plates and provided with openings, the plates having their longitudinal edges converging in the direction of one end of the wedge and slidably contacting with the ribs, bolts passing through the openings in said ends and blocks and having heads adapted to contact with the inner surfaces of the ends, and nuts mounted upon the bolts and contacting with the inner sides of said blocks.

4. A wedge key block, comprising angular members having their sides arranged in parallel relation and provided with converging inner surfaces, the end of one member extending in the direction of the side of the other member, a wedge arranged between and contacting with said converging surfaces, and wedge adjusting members engaged with the wedge and with the ends of said first members, said wedge adjusting members maintaining said first members and the wedge in assembled relation.

In testimony whereof we hereunto affix our signatures.

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