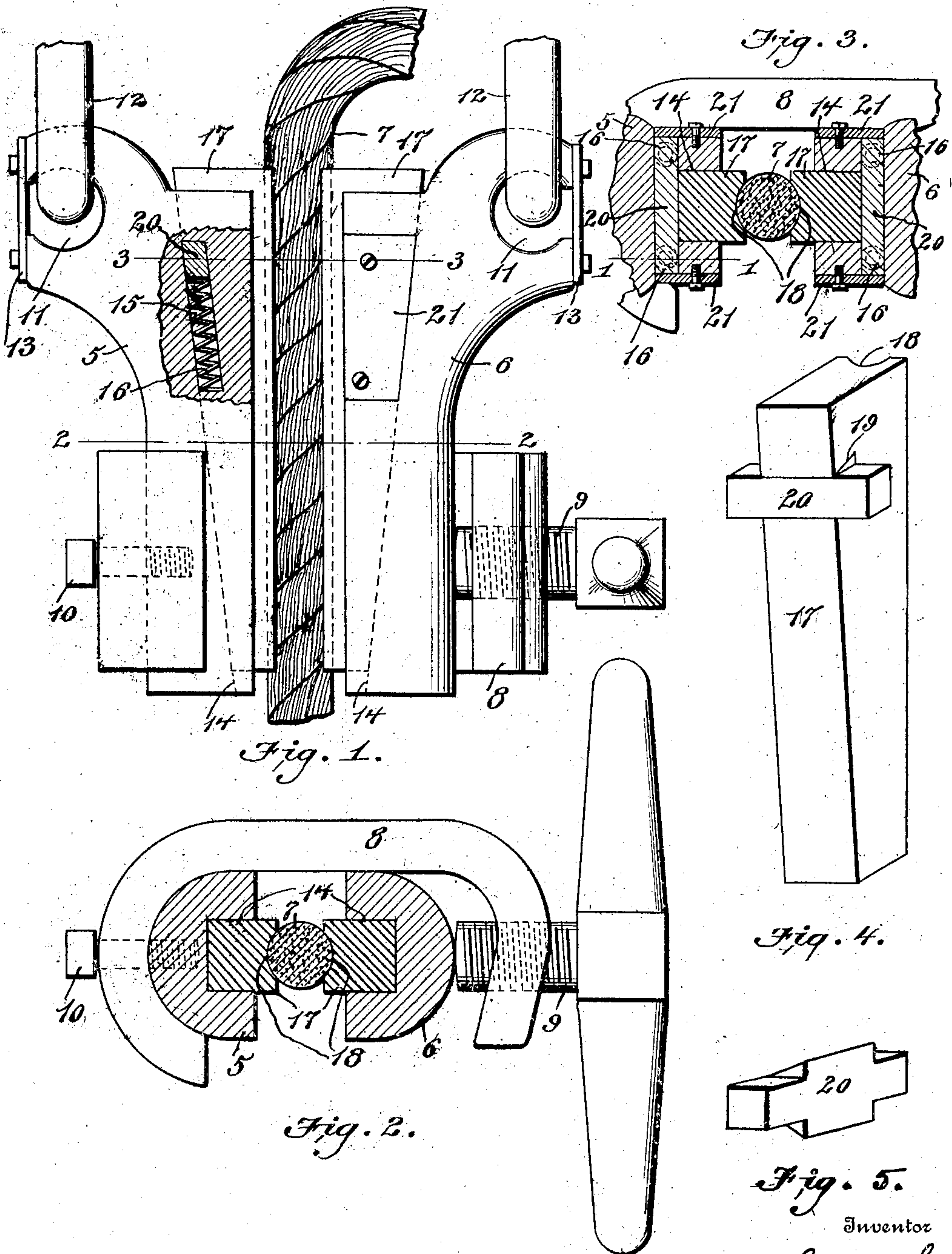


No. 839,965.

PATENTED JAN. 1, 1907.

M. F. SMITH.
ROPE CLAMP.

APPLICATION FILED MAR. 30, 1906.



Witnesses

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UNITED STATES PATENT OFFICE.

MATTHEW FRED SMITH, OF SIGEL, PENNSYLVANIA.

ROPE-CLAMP.

No. 839,965.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed March 30, 1906. Serial No. 308,912.

To all whom it may concern:

Be it known that I, MATTHEW FRED SMITH, a citizen of the United States, residing at Sigel, in the county of Jefferson and State of Pennsylvania, have invented new and useful Improvements in Rope-Clamps, of which the following is a specification.

This invention is a clamp for attaching a temper-screw to a wire rope for drilling oil, gas, or water wells or for other purposes, and more particularly a clamp characterized by a pair of sliding wedges which automatically grip the rope tighter as the pull thereon increases.

The object of the invention is to provide a clamp which can be easily attached, adjusted, or removed and which will not kink or injure the rope.

In the accompanying drawings, Figure 1 is an elevation of the invention, partly in section on the line 1 1 of Fig. 3. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section on the line 3 3 of Fig. 1. Fig. 4 is a perspective view of one of the wedges hereinafter referred to. Fig. 5 is a perspective view of the key hereinafter referred to.

Referring specifically to the drawings, 5 and 6 respectively indicate two blocks which are held in place on opposite sides of the rope 7 by a clamp 8 of the usual C form, through which is threaded a hand-screw 9, which bears on the block 6, whereby both blocks are pressed together toward the rope. The clamp is also fastened to the block 5 by a cap-bolt 10 or other suitable means. The upper ends of the blocks are formed with eyes 11 to receive the links 12, whereby the clamp is connected to the swivel-head of the temper-screw. The eyes are made open and fitted with a removable covering-plate 13, so that the links can be readily inserted or removed.

On the inner faces of the blocks 5 and 6 are cut channels or grooves 14, which are deep at the top and tapering to a less depth at the bottom. Near the top of the blocks slots 15 are cut from the bottom of the grooves outwardly to each side of the blocks, the direction of the slots being the same as the tapering bottom faces of the grooves 14. In these slots are placed compression-springs 16, for a purpose to be hereinafter described.

Into the grooves 14 are fitted tapering wedges 17, the inner faces of which are made concave, as at 18, so as to fit the rope and

bear evenly thereon. Across the outer or inclined faces of the wedges, near their upper ends, is cut a notch 19, having dovetailed or undercut side walls. A key 20 is fitted in this notch loosely enough so that it can be readily slipped in and out. This key projects from the sides of the wedge for a short distance, and the corners of the dovetail are cut off from the projecting ends, so that its section becomes approximately rectangular. When the wedges are in position in the grooves 14, the projecting ends of the key 20 extend into the slot 15 and bear on the spring 16. As these are compression-springs, they serve to force the wedges upwardly. In the sides of the blocks 5 and 6, directly over the slots 15, are recesses to receive plates 21 to cover said slots. The plates fit in the recesses and extend flush with the outer surface of the blocks.

The operation of the clamp is as follows: The blocks, with their attachment, including the clamp 8, are placed against the rope, and the hand-screw 9 is tightened until the faces 18 of the wedges bear on the rope. When a downward strain is put upon the rope by the weight of the drilling-tools or otherwise, the wedges will be drawn downwardly and inwardly to grip the rope, and the greater the strain on the rope the tighter will the wedges grip it. When the strain is released, the springs 16 push the wedges upwardly and free them from the rope.

I claim—

1. A clamp comprising a pair of oppositely-disposed blocks having longitudinal grooves in their inner faces, and transverse slots extending from said grooves, springs in the slots, and sliding wedges in the grooves, said wedges having projections extending into the slots and bearing on the springs.

2. A clamp comprising a pair of oppositely-disposed blocks having longitudinal grooves on their inner faces, and transverse slots extending from said grooves, springs in the slots, sliding wedges in the grooves, and transverse keys carried by the wedges and extending from opposite sides thereof into the slots, and bearing on the springs.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MATTHEW FRED SMITH.

Witnesses:

JAMES M. BUZARD,
JOHN E. HEPLER.