

No. 636,641.

Patented Nov. 7, 1899.

J. J. DAVIN.
TEMPER SCREW.

(Application filed July 12, 1899.)

(No Model.)

Fig. 1

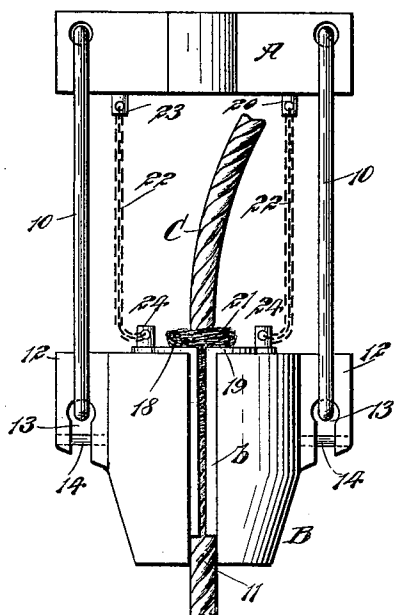


Fig. 2

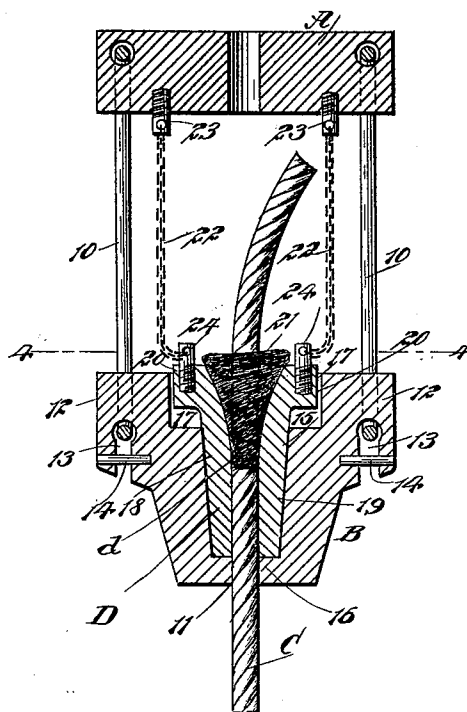


Fig. 4

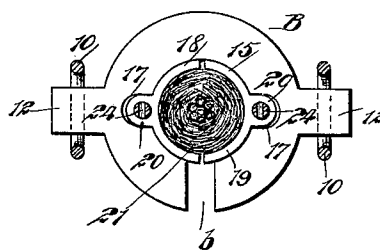
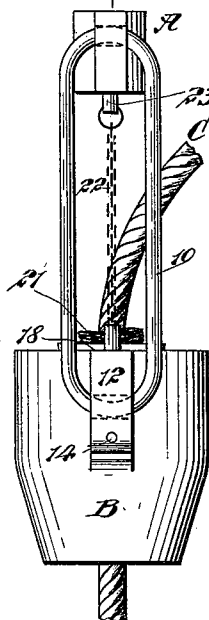


Fig. 3



WITNESSES 3

J. A. Propoy
J. A. H. H. H.

INVENTOR

James J. Davin
BY *James J. Davin*
ATTORNEYS

UNITED STATES PATENT OFFICE.

JAMES JOSEPH DAVIN, OF WASHINGTON, PENNSYLVANIA.

TEMPER-SCREW.

SPECIFICATION forming part of Letters Patent No. 636,641, dated November 7, 1899.

Application filed July 12, 1899. Serial No. 723,578. (No model.)

To all whom it may concern:

Be it known that I, JAMES JOSEPH DAVIN, of Washington, in the county of Washington and State of Pennsylvania, have invented
5 a new and useful Improvement in Temper-Screws, of which the following is a full, clear, and exact description.

The invention relates especially to the under parts of temper-screws.

10 The object of the invention is to avoid the necessity of the set-screw that is generally passed through the clamping-socket as the only means to hold the rope or cable while drilling oil or other wells.

15 A further object of the invention is to provide means for linking the swivel-bar directly to the C-socket or clamp-socket and connecting the rope-clamp independently to the swivel-bar.

20 Another object of the invention is to so fit the clamps in the socket that they will be secured against lateral movement and may be quickly placed in position in the socket or removed therefrom.

25 The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

30 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

35 Figure 1 is a front elevation of the improved device. Fig. 2 is a side elevation thereof. Fig. 3 is a longitudinal vertical section through the device, and Fig. 4 is a transverse section taken practically on the line 4 4 of Fig. 3.

40 The swivel-bar A is of the usual form or type, but is provided at each end with a downwardly-extending or pendent link 10. These links support a C-socket or clamp-socket B. The lower exterior portion of the said socket is preferably more or less tapered,
45 although it may be given other form, and is provided in its bottom at its center with an opening 11, through which the cable or rope C may freely pass. The socket is likewise provided with opposing lugs 12, the lugs being
50 located at the side portions of the socket, and each lug has a slot or recess 13 produced in its under face, which slots or recesses receive

the lower portions of the links 10, and the links are prevented from leaving the said recesses or slots 13 by passing pins 14 through
55 the mouth portions of said slots or recesses, as shown particularly in Figs. 1 and 3, although equivalent means may be used.

The socket is provided with a tapering central chamber 15. This chamber tapers in a
60 downwardly direction, but does not extend through the bottom of the socket, sufficient material being left to form a shell 16, in which shell the said opening 11 is made. At each side of the upper portion of the said chamber
65 15 a recess 17 is produced, as shown in Figs. 3 and 4. The socket B is provided with the usual side slot *b*, which admits the rope or cable C to the chamber 15 and into the said opening 11. The chamber 15 in the socket B
70 is adapted to receive a rope-clamp D. This rope-clamp is made in two sections 18 and 19, of like construction, adapted to fit snugly together at their longitudinal edges, and the exterior of the combined clamps is made to
75 taper correspondingly to the taper of the chamber 15, into which the clamp is to be received, and when the clamp is in proper position in the chamber the bottom of the clamp rests upon the inner face of the bottom shell
80 16 of the said socket B, as is illustrated in Fig. 3. Each section of the rope-clamp D is provided at its outer side with a clip or ear 20, and said clips or ears 20 are adapted to fit into the upper recesses 17, made in the wall of the
85 chamber 15 of the socket B. These clips or ears prevent the rope-clamp from having lateral movement and keep the said clamp centered.

Each section of the rope-clamp is provided
90 with a longitudinal recess or bore in its inner face, and these two recesses or bores are arranged to coincide when the clamp is in position in the socket. At that time the opening thus formed extends from top to bottom
95 of the rope-clamp, and the opening thus made is provided with a funnel-shaped or tapering upper portion, the taper being continued to a point *d*, for example, where the rope is to be clenched. From this point *d* downward
100 the opening in the clamp is parallel with the sides of the rope, as shown in Fig. 3. This lower portion of the opening in the clamp is preferably of the same diameter as the diame-

ter of the opening 11 in the bottom of the socket.

Before the rope is introduced into the clamp it is provided with a conical wrapping 21, of
 5 hemp or other material, which conical wrapping is adapted to fit into the conical upper portion of the central opening of the clamp. Chains 22 are utilized to attach the members or sections of the rope-clamp to the swivel-
 10 bar, and these chains 22 are usually attached to the bar through the medium of plugs 23, and other plugs 24 are usually employed for securing the chains to the members of the clamp, as is shown particularly in Figs. 1
 15 and 3.

Thus it will be seen that the improvement presents a swivel-bar and C or clamp socket linked directly and that the members of the rope-clamp are connected directly with the
 20 swivel-bar, from which they hang suspended until ready for adjustment. After the rope C has been wrapped and introduced into the C or clamp socket B the suspended members of the clamp D are introduced into the socket
 25 from the top, fitting around the rope, and the weight of the tools taken up by reason of the upward movement of the walking-beam tightens the members of the clamps instantly, and the device is ready to proceed to drilling.
 30 The speedy release of the rope from the clutch of the clamp members is attained by simply transferring the weight of the tools from the temper-screw to the bull-wheel shaft, or, as it is commonly expressed, "throwing on the bull-
 35 rope," as a means to cause the shaft to revolve and take up the slack rope. When this is done, and it may be accomplished in a few minutes, the weight of the tools is transferred from the device and the members of the clamp
 40 D let go their clutch on the rope C. This is done so quickly that in the event of fire from gas, which frequently happens, the invention will be much appreciated, as the tools can be withdrawn from the well before the derrick
 45 is consumed, or, as is sometimes to be preferred, the tools and rope may be let go into the hole, and either operation can be successfully performed from the side of the derrick where the bull-rope is situated.

50 This construction and operation of the

temper-screw dispenses with the necessity of wrestling with a set-screw while gas is burning around it, and it is almost impossible to unscrew the said screw in case of fire.

By my improvement the clutch upon the
 55 rope is not only quickly accomplished, but the operation may be controlled from a point free from danger, and tools can be taken out of the hole or let in, as suits the purpose or combinations of events at the well. For in-
 60 stance, if the well is not very deep, the tools can be pulled out from the well and the cable run off from the shaft away into a field, and if the well is deep the cable can be run into the well. Thus in either event the cable is
 65 preserved.

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

1. A clamping device for ropes and cables, 70 comprising a socket-piece having a central tapering socket, terminated by a ledge having a central cable-receiving hole, said socket-piece having a longitudinal slot extending from one side to its center and adapted to
 75 pass the rope, clamping-blocks formed as a split cone having a central rope-receiving recess and being adapted to enter the tapering socket in the socket-piece, the socket-piece and blocks having interlocking recesses and
 80 lugs at their upper ends preventing relative rotation, substantially as described.

2. A clamping device for ropes and cables, comprising a socket-piece having a central tapering socket terminated by a ledge having
 85 a central cable-receiving hole, said socket-piece having a longitudinal slot extending from one side to its center and adapted to pass the rope, clamping-blocks formed as a split cone having a central rope-receiving re-
 90 cess flaring or coned at its upper end and being adapted to enter the tapering socket in the socket-piece, the socket-piece and blocks having interlocking recesses and lugs at their upper ends preventing relative rotation, sub-
 95 stantially as described.

JAMES JOSEPH DAVIN.

Witnesses:

JOHN W. DONNAN,
 MINNIE A. LEONARD.