A. PEPPIN.

PIPE RAISING DEVICE.

APPLICATION FILED MAR. 31, 1911.

1,003,787.

Patented Sept. 19, 1911.

2 SHEETS—SHEET 1.

FIG. 1.

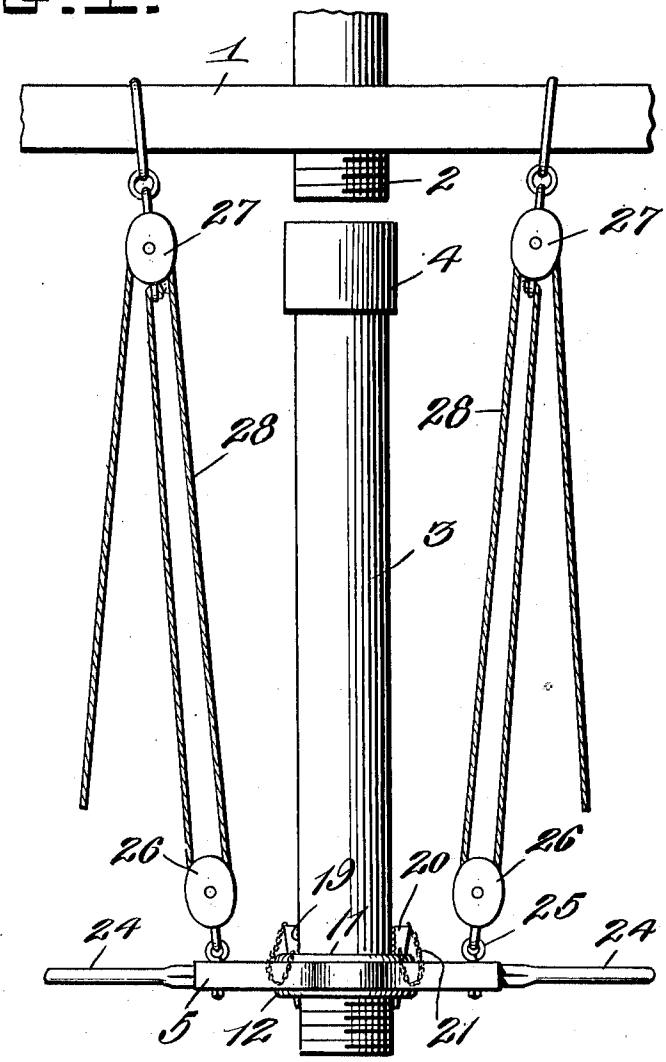
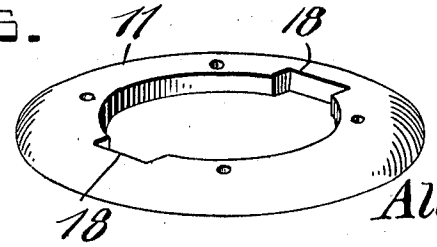


FIG. 5.



Inventor

Albert Peppin,

Witnesses

Chas. L. Griesbauer.

L. G. Ellis.

By Watson E. Coleman.

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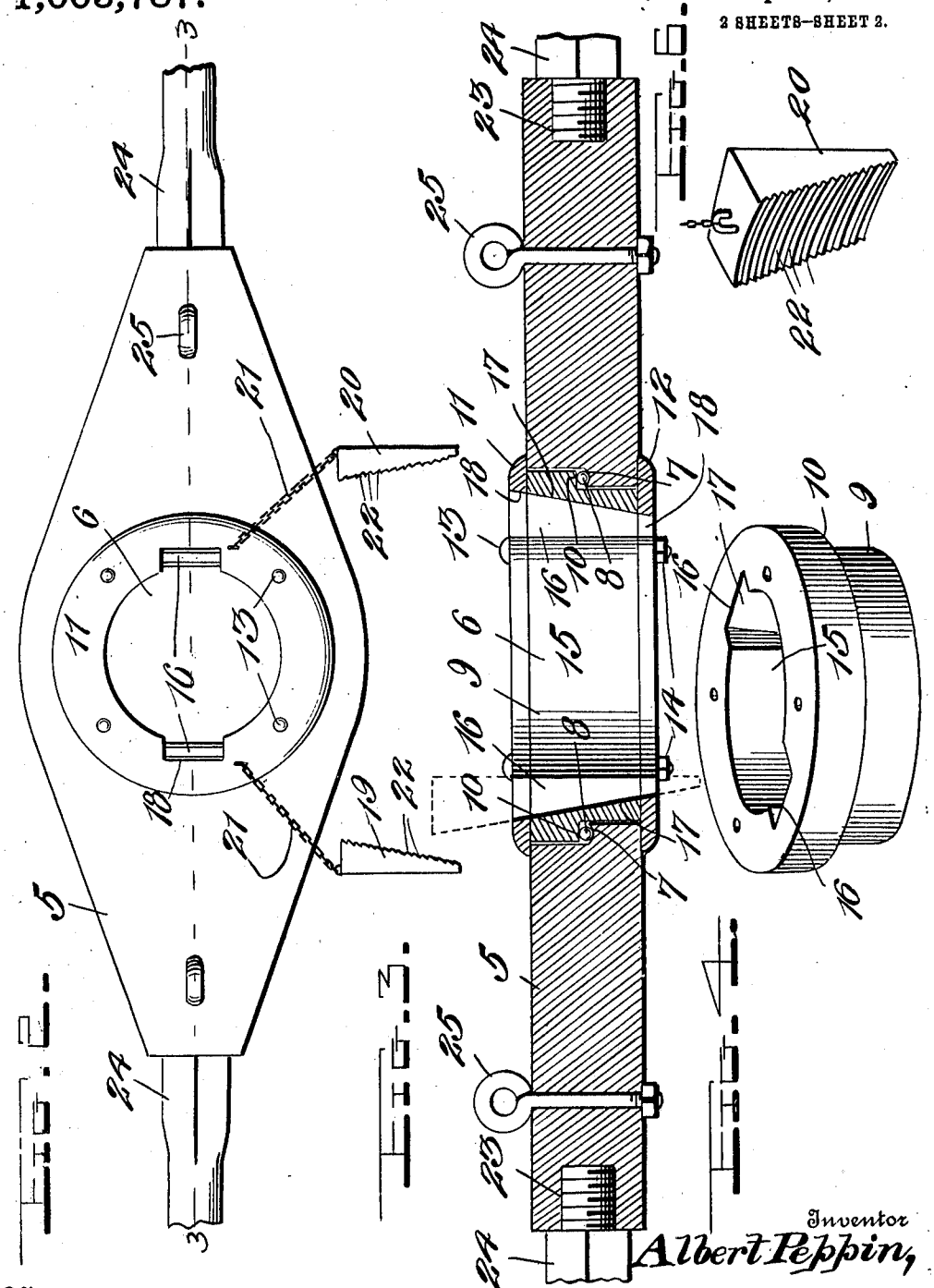

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Attorney

UNITED STATES PATENT OFFICE.

ALBERT PEPPIN, OF DIORITE, MICHIGAN.

PIPE-RAISING DEVICE.

1,003,787. Specification of Letters Patent. **Patented Sept. 19, 1911.**

Application filed March 31, 1911. Serial No. 618,114.

To all whom it may concern:

Be it known that I, ALBERT PEPPIN, a citizen of the United States, residing at Diorite, in the county of Marquette and State of Michigan, have invented certain new and useful Improvements in Pipe-Raising Devices, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in pipe raising devices and more particularly to a device for raising a pipe so that the same may be readily coupled to another pipe and my object is to provide a device of this character which will grip a pipe so that the same may be raised and coupled to another pipe while in raised position.

A further object of the invention resides in providing a portion of the device rotatable which directly grips the pipe, and a still further object is to provide a ball bearing rotatable portion.

A still further object resides in providing removable wedges adapted to be used in connection with the rotatable member to grip the pipe therein.

A still further object is to provide a device of simple construction and one which is extremely effective in operation.

With these and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings forming a part of this application, Figure 1 is a side elevation showing my improved device applied to use. Fig. 2 is a top plan view of the device. Fig. 3 is a longitudinal section thereof as seen on line 3—3, Fig. 2. Fig. 4 is a detail perspective of the rotatable member. Fig. 5 is a similar view of one of the ring members. Fig. 6 is a detail perspective of one of the gripping wedges.

In carrying out my invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views and in which 1 indicates a rafter or timber of any desired type extending horizontally of the ground and mounted a considerable distance thereabove, through which extends vertically a pipe 2. This rafter or timber 1 may be in use in any connection, but particularly in mines, wherein an additional pipe 3 is adapted to be raised and coupled by means of the coupling 4 to the lower end of the pipe 2 which extends through said timber.

In order to provide for the raising of the pipe 3, I have provided my improved gripping or raising device, comprising an elongated frame or base member 5 increasing in width toward the center thereof and having extending therethrough an enlarged central opening 6, said opening being reduced adjacent the bottom face of said frame to form an annular shoulder 7 therein. The shoulder 7 is grooved to receive the bearing balls 8 and mounted within the enlarged opening 6, is a circular central block 9 also having an annular shoulder 10 thereon adapted to rest on the bearing balls 8 carried on the shoulder 7 and thus, said block 9 is capable of being readily rotated within said frame 5. In order to retain said block 9 within the frame 5, however, I provide the upper and lower ring members 11 and 12, respectively, the outer edges of which extend over the edges of the opening 6 in said frame, and which are secured to the block 9 by extending the bolts 13 therethrough and securing the same by means of the nuts 14. The block 9 is provided with a central opening 15 equal in diameter to the openings in the rings 11 and 12, and the wall of said opening 15 is provided at diametrically opposite points thereon with the recesses or grooves 16, the rear wall 17 of said recesses or grooves being inclined downwardly from the upper to the lower ends, the purpose of which will be hereinafter and more particularly described.

The inner peripheries or walls of the openings in said rings 11 and 12 are likewise provided with recesses or grooves 18 in registration with or at points coinciding with the grooves 16 in said block 9, and the rear walls of said recesses 18 of the rings are also inclined inwardly from their upper to their lower ends, coincident to the inclination of the rear walls of the grooves 16. In view of the fact that the rings 11 and 12 are mounted on opposite faces of the frame 5, it will be seen that the grooves 18 therein have the walls thereof inclining in opposite directions when considering the two ring members together, and adapted to be inserted within the alining grooves 16 and 18 of the block 9 and in the ring members,

are a pair of wedges 19 and 20 which are adapted to be retained to the ring 11 by means of the chains or the like 21. These wedges 19 and 20 have their effective faces concaved and provided with corrugations 22, whereby a circular object such as a pipe may be inserted through the openings in the block 9 and rings 11 and 12 and be securely gripped for raising purposes. I have also provided the ends of the frame member 5 with threaded sockets 23 adapted to receive the threaded ends of the handle members 24, whereby the device may be readily carried and applied to use, and in order to raise a pipe member after the same has been gripped by this device so that said pipe may be coupled to the lower end of an additional pipe over head, said frame member is provided adjacent its ends with the eye bolts 25 which are linked to the pulley blocks 26. Additional pulley blocks 27 are suspended from the rafter or timber 1 and extending over the pulleys in said blocks 26 and 27 are the cables 28, and it will be seen that when the ends of said cables are drawn, the frame 5 with its adjunctive parts carrying a pipe member, will be raised, whereby the pipe carried by said frame may be coupled to the pipe over head.

In operation, it will be seen that this device is for use in connecting pipes which extend vertically, wherein the lower end of one pipe extends through a rafter or timber a considerable height above the ground. When it is desired to couple an additional pipe to the lower end of the pipe over head, the frame member is slipped over the lower end of the additional pipe so that the wedges within the central block securely grip the same. By drawing upon the ends of the cables 28, as described, the additional pipe carried by the frame member will be raised so that the upper end thereof will be in position to be coupled with the lower end of the pipe above. The end of the cables may then be secured in any desired manner so as to retain the frame and pipe in such a position, and as the coupling will have been secured to the upper end of this additional pipe previous to the raising thereof, it will be seen that said additional pipe may be rotated within the frame to screw the coupling thereof onto the lower end of the other pipe. When the pipes have been properly coupled, the wedges may be removed from their effective positions so that the frame and its parts may be readily removed from the pipe to which it is secured.

Such a device as I have invented, it will be seen, is particularly adapted for use in mines wherein it is often desired to couple pipes extending vertically, as shown in the drawings and described in the specification, and it will be seen that by having the central portion within the frame which is rotatable therein, the pipe is capable of being rotated so as to be readily coupled to an additional pipe above. In view of the rotating, gripping portion of the invention, it will be appreciated that a simple screw coupling is the most effective when using a device such as this, so that by merely rotating the pipe carried by the frame member when the same has been properly positioned, it may be readily coupled to the other with no difficulty whatsoever.

It will further be seen that by providing the bearing members between the central block and the frame in which it rotates, said block may be rotated with little or no friction, and it will still further be seen that the device is of such simple construction as to be very inexpensively manufactured and one which is extremely effective in operation.

What I claim is:—

1. A frame member having a central opening therein, a rotating member mounted within said opening, and gripping members for said rotating member.

2. A device of the character described, comprising a frame member having an enlarged central opening therein, a block rotatably mounted within said opening, said block being also provided with a central opening, and gripping members adapted to be applied to said block.

3. In a device of the character described, the combination with a base member having an enlarged central opening therethrough, a hollow block rotatably mounted in the opening in said frame provided with grooves, and gripping members adapted to be inserted within said grooves.

4. A device of the character described, comprising a base member having an enlarged central opening therethrough, a block rotatably mounted in said opening and also provided with a central opening, the wall of said last referred to opening being provided with grooves at diametrically opposite points therein, and wedges adapted to be inserted within said grooves.

5. A device of the character described, comprising a base member having an enlarged central opening therethrough, a circular block mounted in said opening and also provided with a circular central opening therethrough, the wall of said last referred to opening being provided with grooves at diametrically opposite points therein, means to retain said block within said opening to allow rotation thereof, and wedges adapted for insertion within said grooves.

6. A device of the character described, comprising a base member having an enlarged opening therethrough, said opening being provided with an annular shoulder, bearing members mounted on said shoulder, a block inserted within said opening and

mounted on said bearing members, said block being provided with a circular central opening, the wall of which is provided with recesses at diametrically opposite points therein, means to retain said block within the opening in said frame to allow rotation of the same therein, and wedges adapted for insertion within the grooves of said block.

7. A device of the character described, comprising a base member having an enlarged central opening therethrough, the wall of said opening having an annular shoulder thereon, bearing members mounted on said shoulder, a block fitting within said opening having a shoulder thereon mounted on said bearing members, said block having a circular opening therethrough, the wall of which is provided with grooves at diametrically opposite points therein, ring members secured to the opposite faces of said block and having the outer edges thereof extending over the edges of the opening in said frame to rotatably retain said block therein, the inner periphery of said rings being provided with grooves in alinement with the grooves of said block, and wedges adapted for insertion within said alining grooves.

8. A device of the character described, comprising a frame, rotatable means on said frame to grip and retain a pipe thereto, and means to raise and lower said frame.

In testimony whereof I hereunto affix my signature in the presence of two witneses.

ALBERT PEPPIN.

Witnesses:
JOS. POIRIERE,
LOUISE LARPARCH.