

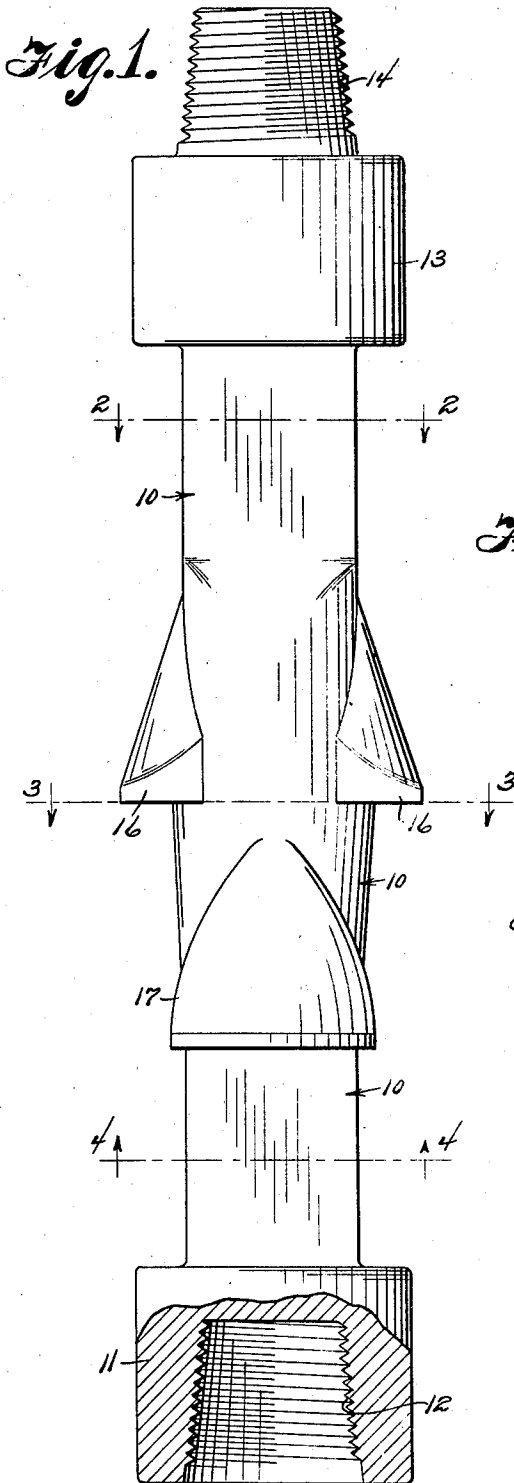
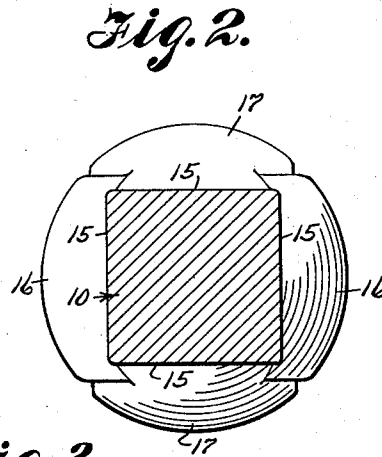
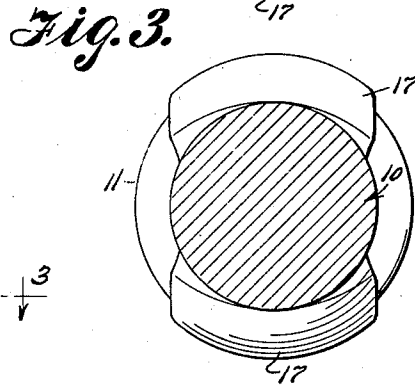
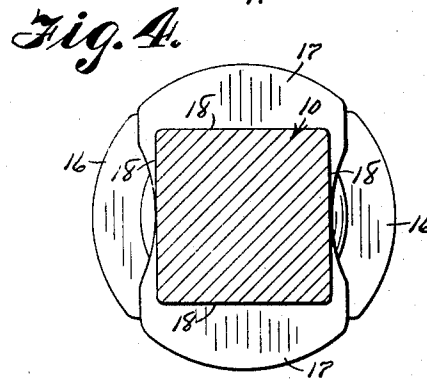
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STRAIGHT HOLE DRILL DEVICE

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STRAIGHT HOLE DRILL DEVICE

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1 Claim. (Cl. 255—28)

This invention relates to the straight hole drill device and has for an object to provide a device of this character having a solid metal shank and cutting projections on four sides thereof for guiding the device during its vertical reciprocatory movement so that not only will crooked oil well holes be straightened but holes being drilled will be drilled straight so that later straightening with consequent expense and labor is avoided.

A further object is to provide a device of this character which will be formed of a single integral solid piece, which will be inexpensive to manufacture, which will be strong and durable, which will serve to lengthen short drill bits and thus increase the life of the bits, and which will not easily get out of order.

With the above and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter fully described and claimed, it being understood that various modifications may be resorted to within the scope of the appended claim without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawing forming part of this specification,

Figure 1 is a side elevation of a straight hole drill device constructed in accordance with the invention.

Figure 2 is a cross sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a cross sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a cross sectional view taken on the line 4—4 of Figure 1.

Referring now to the drawing in which like characters of reference designate similar parts in the various views, 10 designates a solid metal shank having at the lower end a uniformly enlarged head 11 provided with a threaded axial bore 12 to receive a drill bit, not shown. The upper end of the shank is provided with a collar 13 and above the collar is provided with an axial externally threaded pin 14 of large diameter adapted to screw into the conventional drill stem, not shown.

Below the collar 13 the stem 10 is squared to provide wrench faces 15, as best shown in Figure 2, to permit application of a wrench to the shank for applying and removing it from a drill bit and drill stem.

Below the squared portion of the shank a pair of lugs 16 project from diametrically opposite points of the shank and these lugs are substantially triangular in vertical section with their apices feathering into the shank, and their bases

extending in a radial direction to occupy, taken together, the entire width of the hole to be drilled.

Above the lower head 11 of the shank a pair of lugs 17 project from diametrically opposite points of the shank and these lugs are arranged directly below and at an angular advance of 90° from the lugs 16 above described, as best shown in Figure 3. The lugs 17 are substantially triangular in vertical section and their apices feather into the shank while the bases extend radially the full width of the hole to be drilled.

In Figure 4 it will be seen that the shank 10 is squared to provide wrench faces 18 to which a wrench may be applied for attaching and removing the device from a bit and drill stem.

For all practical purposes it has been found that where the lugs are eight inches long and about five and one-half inches wide at the bases, a drilling hole of ten inches in circumference will be drilled straight when the drilling is being initially done or by virtue of the position and shape of the shoulders crooked holes will be straightened, these shoulders forming guides and cutters which cut into the material of the hole at points at right angles to each other and guide the drill in a true rectilinear direction to straighten crooked holes as well as to initially drill straight holes.

From the above description it is thought that the construction and operation of the invention will be fully understood without further explanation.

What is claimed is:

A straight hole drill device comprising a solid metal shank, a uniformly enlarged head on the lower end of the shank adapted to receive a drill bit, a collar on the upper end of the shank, the upper end of the shank terminating above the collar in a threaded pin adapted to screw into a drill stem, a pair of lugs projecting from diametrically opposite points of the shank, said lugs being substantially triangular in vertical sections with their apices feathering into the shank and their bases extending in a radial direction to occupy in the aggregate the entire width of the hole to be drilled, and a second pair of lugs projecting from diametrically opposite points of the shank arranged disposed below and at an angular advance of 90° from the first named lugs, the second named lugs being substantially triangular in vertical sections and their apices feathering into the shank while their bases in the aggregate extend in a radial direction to occupy the full width of the hole to be drilled.

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