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1,663,194

A. G. DENMAN

WALL BRUSH

Filed Aug. 18, 1927

Fig. 1.

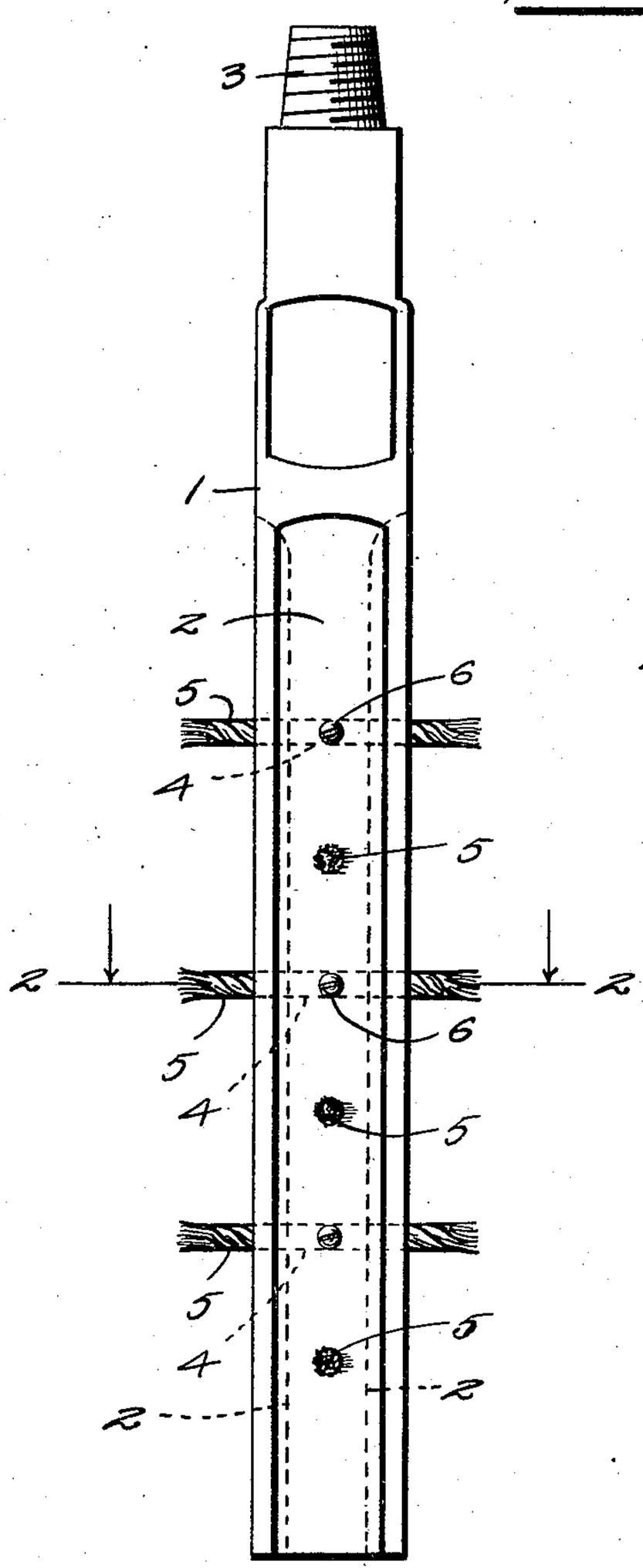
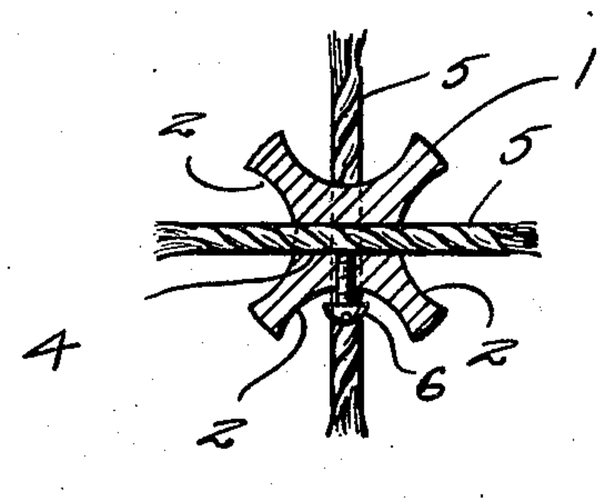


Fig. 2.



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WALL BRUSH.

Application filed August 18, 1927. Serial No. 213,854.

This invention relates to a wall brush especially adapted to be used in oil, gas or water wells and which consists in the novel features hereinafter described and claimed.

An object of the invention is to provide a brush of the character stated which is especially adapted to be used for cleaning the wall surfaces of any drilled hole especially at producing sands and in "shot-holes".

With this object in view, the brush consists of a core or body which is fluted longitudinally and having at one or both ends the usual taper-threaded tool joint elements or suspending or coupling joints of other convenient and usual forms. Bores are drilled transversely through the body at spaced intervals and the ends of the bores are disposed along the medial lines of the flutes. Bristles consisting of pieces of wire cable are passed through the said bores and have their ends projecting beyond the major diameter of the core. Said bristles are held in position in said bores by means of set-screws.

In the accompanying drawing:—

Figure 1 is a side elevational view of the brush;

Figure 2 is a transverse sectional view thereof cut on the line 2—2 of Figure 1.

The brush comprises an elongated core member 1 formed at its sides with recesses preferably having the form of longitudinally disposed flutes or valleys 2. The body 1 is provided at its ends with the usual taper-threaded rod section connections or joints 3, or with suspending or coupling joints of other usual forms. The core 1 is provided with diametrically extending bores 4 having their ends opening at the deepest points of the surfaces of the flutes 2, so that the said bores 4 are disposed in spaced relation along the median longitudinal dimensions of the flutes. The adjacent bores 4 longitudinally of the core 1 are disposed at right angles to each other, so that the alternate bores are parallel with each other, while the intervening bores are parallel and at right angles to the alternate bores.

Cut lengths of wire cable 5 are passed through the bores 4 so that the end surfaces of the strands of the cable sections project beyond the ends of the major diameter of the core 1. Cable sections 5 are held in the bores 4 by means of set-screws 6.

The structure is composed completely of metal and consequently the strands of the wire cable sections which form the bristles possess sufficient rigidity to bear firmly against the sides of the wall of the hole when the brush is lowered into a well and used for the purpose of cleaning the surface. The semi-flexible nature of the bristles permits the projecting ends to fold back into the flutes 2 of the core 1 when the wire cable sections 5 are longer than the diameter of the drilled hole in which the wall brush is to be used for the purpose of cleaning the sides of "shot-holes". When the bristles become worn, the wire cable sections may be removed from the bores and replaced by other cable sections in proper condition to render the service for which they are intended.

Having described my invention, what I claim is;

1. A brush comprising a core having sides with longitudinally extending flutes and having bores passing transversely therethrough and opening at their ends in diametrically opposite flutes, and lengths of wire cable mounted in the bores and having their ends projecting beyond the major diameter of the core.

2. A brush comprising a core provided at its sides with longitudinally disposed flutes, said core having transversely disposed bores passing therethrough and having their ends opening in diametrically opposite flutes, lengths of wire cable inserted through the bores and having their ends projecting beyond the major diameter of the core, and securing devices in certain of the flutes and threaded in the core and bearing against the inserted pieces of wire cable.

3. A brush comprising a core provided at its side surfaces with longitudinally disposed flutes, said core having bores passing diametrically therethrough and opening at their ends along the medial longitudinal lines of the flutes, pieces of wire cable inserted through the bores and projecting beyond the major diameter of the core and means for detachably holding the inserted pieces of wire cable in the bores.

4. A brush comprising a core provided at its side surfaces with longitudinally disposed flutes bristles comprising pieces of semi-flexible wire cable clamped in bores in the core and projecting beyond the major diameter of the core, the flutes being of sufficient depth to receive the projecting ends of the wire cable bristles when the brush is inserted in or withdrawn from a hole or bore

of diameter less than the over-all length of the inserted bristles.

5. A brush comprising a core having recesses in its length and having bores passing transversely through the core and opening at their ends in said recesses, and lengths of wire cable mounted in said bores and having their ends projecting beyond the major diameter of the core, said recesses being of such length as to permit the ends of said lengths of cable to fold back into the recesses of the core.

In testimony whereof I hereunto affix my signature.

ARTHUR G. DENMAN.