June 22, 1926. 1,589,594

W. E. HALE

DRAG SCRAPER BLOCK

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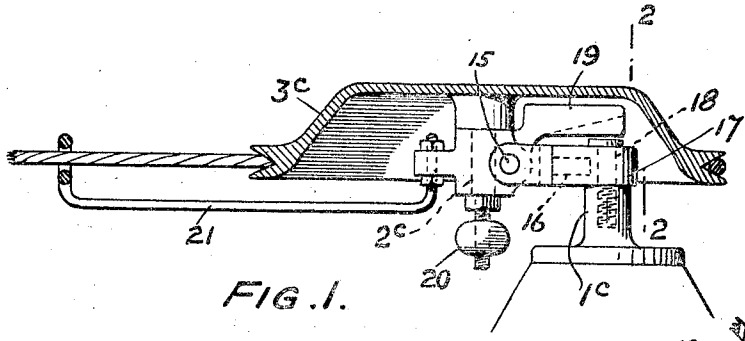


FIG. 1.

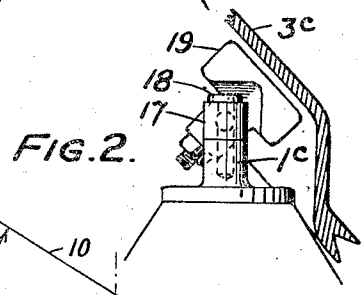


FIG. 2.

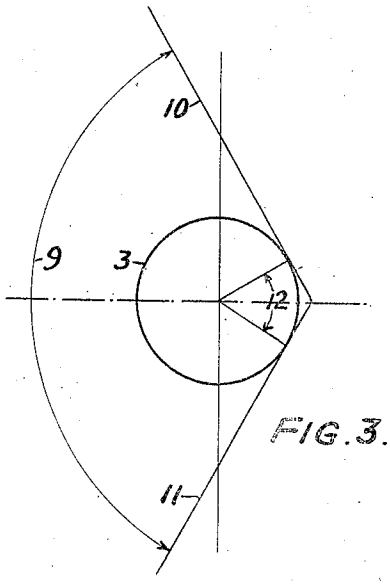


FIG. 3.

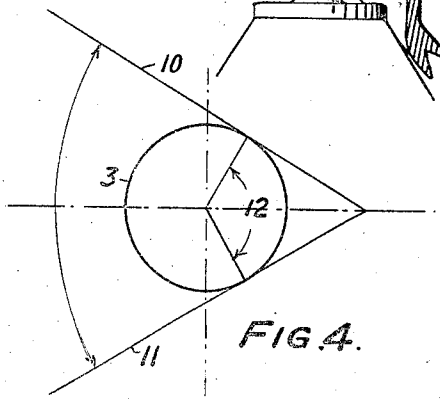


FIG. 4.

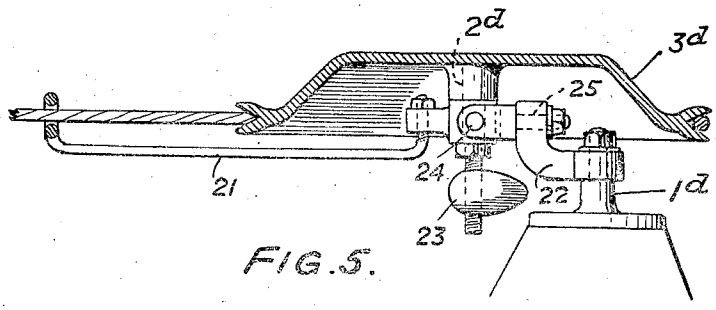


FIG. 5.

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DRAG SCRAPER BLOCK

Filed Jan. 17, 1924 2 Sheets-Sheet 2

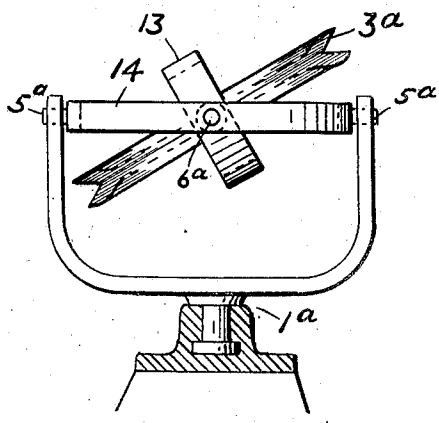


FIG. 6.

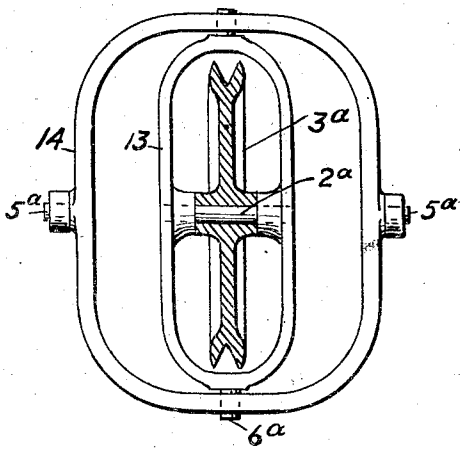


FIG. 7.

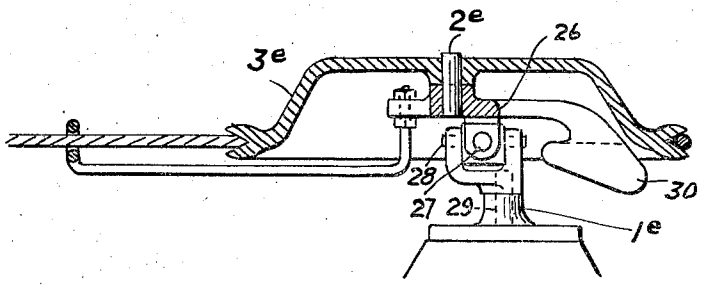


FIG. 8.

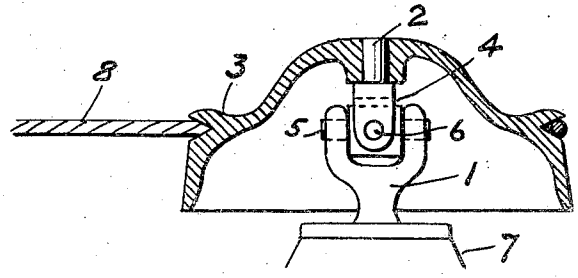


FIG. 9.

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UNITED STATES PATENT OFFICE.

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DRAG-SCRAPER BLOCK.

Application filed January 17, 1924. Serial No. 686,722.

The principal objects of the present invention are to provide a self-adjusting and compact drag scraper block; to avoid the subjection of the parts of the block to bending strain; to dispense with the use of fastening of the kind heretofore employed; to obtain, if desired, in the structure what is known as a castor effect; to provide a block adapted to work satisfactorily with a rope or cable the reaches of which may be disposed at a wide or obtuse angle; and to provide a drag scraper block of improved construction and operation.

The invention comprises the improvements to be presently described and finally claimed.

In the following description reference will be made to the accompanying drawings forming part hereof and in which—

Figure 1 is an elevational view, partly in section, of a block embodying one form of the invention.

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

Figs. 3 and 4 are diagrammatic views illustrating generally in plan the angle between the reaches of rope or cable.

Fig. 5 is an elevational view partly in section illustrating another form of embodiment of the invention.

Figs. 6 and 7 are respectively an elevational view and a plan view partly in section illustrating another form of embodiment of the invention.

Fig. 8 is a side view principally in section, illustrating another form of embodiment of the invention, and

Fig. 9 is a similar view illustrating another form of embodiment of the invention.

Referring to Fig. 9, which is an embodiment of the invention, 1 is a supporting standard, 2 is a supporting axle, and 3 is a sheave revoluble on the axle. Between the standard 1 and the axle 2 there is a universal joint shown to consist of a block 4 pivoted by means of pins 5 and 6, disposed at right-angles in respect to each other, to ears, of which one pair is connected with the standard 1, and the other pair with the axle 2. The universal joint described is of course but one embodiment of that type of articulation. 7 indicates a base from which the standard 1 rises and its construction and arrangement is not material. The rops 8 runs around the sheave 3, and the angle 9, Fig. 3, between its reaches 10 and 11, may be obtuse or wide while at the same time affording contact between the rope or cable and sheave through an arc measured by the angle 12.

The construction, arrangement and mode of operation of the form of embodiment illustrated in Figs. 6 and 7, are the same as has been described in connection with Fig. 9, and the corresponding parts are marked with the same number plus the exponent "a". However, the universal joint assumes the form of pivotally connected gimbal rings 13 and 14, of which the latter is pivoted to arms on the standard 1^a.

The construction and mode of operation of the forms or embodiment shown in Figs. 1 and 2, Fig. 5 and Fig. 8 are substantially as has been described except that there is introduced into the structure an arm provided on either the supporting standard or the supporting axle, and this arm has articulated connection with one element of the universal joint. This arm serves to introduce a castor effect or function into the structure.

In Figs. 1 and 2 the standard is indicated at 1^c, the axle at 2^c, and the sheave at 3^c. The universal joint consists of the elements or pivots disposed at right angles to each other and indicated at 15 and 16, and the arm 17 is turnable or has articulated connection with the standard 1^c, as indicated at 18. 19 is a counterweight channeled to clear the part of the arm 17 which is pivoted on the post 18. 20 is another counterweight which may be provided. A pair of guides, of which one 21 is shown, serve, when present, to guide the rope or cable in respect to the sheave. As shown in Fig. 5, the standard is marked 1^d, the axle is marked 2^d, and the sheave 3^d. The construction and arrangment and operation are substantially as shown in Fig. 1. The arm 22 is curved and 23 is a counterweight. The universal joint is provided by the pins or elements 24 and 25, disposed at right-angles in respect to each other.

In Fig. 8 the standard is marked 1^e, the axle 2^e, and the sheave 3^e. The arm 26 is in this case interposed between the axle 2^e and the member 27 of the universal joint, the other element 28 of which is turnable in

respect to the part 1^e by means of a pin 29, eccentrically disposed. The counterweight 30 is shown as a provision of the arm 26.

It will be obvious to those skilled in the art to which the invention relates that modifications may be made in details of construction and arrangement without departing from the spirit of the invention which is not limited to such matters or as to matters of mere form or otherwise than as the prior art and the appended claim may require.

I claim:

A drag scraper block comprising a fixed upright supporting standard, a supporting axle, a sheave revoluble on the axle and operatively arranged at the top of the structure, a universal joint structure provided between the supporting standard and the supporting axle, and an arm provided on one of said supporting elements and having articulated connection with one element of said joint, substantially as described.

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