June 21, 1927. **1,633,412**

T. J. KELLEHER

EYE AND FACE SHIELD FOR GRINDING WHEELS

Filed Aug. 22, 1925

Fig. 1

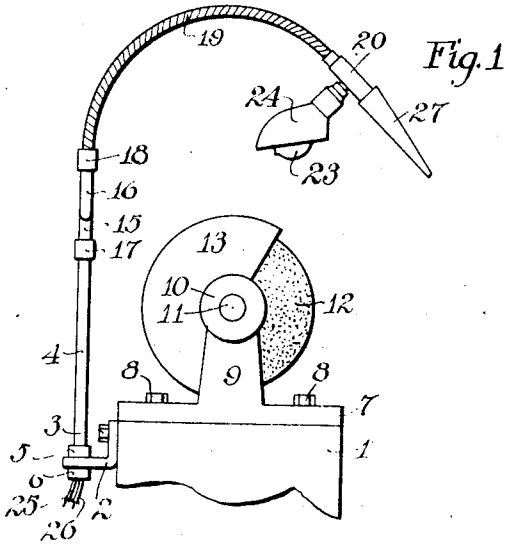


Fig. 2

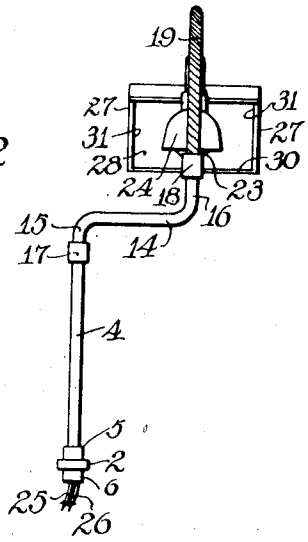


Fig. 3

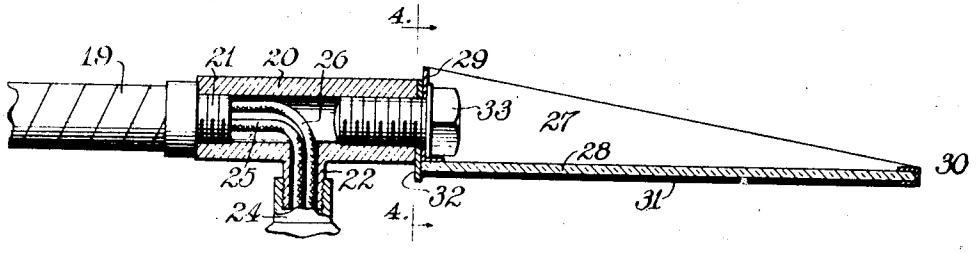
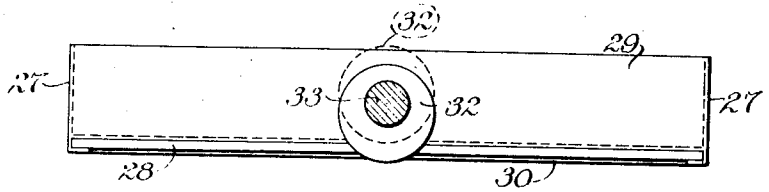


Fig. 4.



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EYE AND FACE SHIELD FOR GRINDING WHEELS.

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This invention relates to a device attachable to the base of an emery or grinding wheel, or to a horizontal or vertical member adjacent to an emery or grinding wheel; said device being provided with a transparent member which may be adjustably interposed between said emery or grinding wheel and the eyes and face of an operator using said wheel for grinding or polishing purposes, and being also provided with an electric light or lamp which, by the adjustment of said transparent member will also be adjusted to illumine the emery or grinding wheel and the work which is being operated on.

Among the objects of my invention is to obtain a device of the kind recited which is easily mounted in place relative to an emery or grinding wheel, and which is easily adjusted so that the transparent member thereof is interposed between said wheel and the eye and face of the operator; and which, by said adjustment, will determine the position of an electric light or lamp relative to said wheel. An additional object is to obtain a device of the kind recited, in which an adjustment of the light or lamp forming an element of the device so that the emery or grinding wheel and the work being done thereon or thereby will be illumined by said light or lamp, the transparent member forming an element of the device, will necessarily be interposed between said wheel and the article on which work is being done and the eyes and face of the operator, and thereby the operator is required to make use of the transparent member of the device, as a shield to protect his eyes and face from the sparks or other material thrown off by the contact of the article on which work is being effected and the rapidly revolving emery wheel or other abrading surface. An additional object is to obtain a device of the kind recited which may be mounted at the rear of the emery or other abrading wheel and the transparent member, together with the light or lamp member may be adjusted to a desired position and angle in front of said emery or other abrading wheel. An additional object is to obtain a device of the kind recited, by means of which the transparent member, and the light or lamp member thereof, can be adjusted in a desired position by the operator without recourse to bolts or nuts to change and maintain said parts in said adjusted position. An additional object is to obtain a device of the kind recited in which the transparent member may be readily removed from the frame thereof and an additional transparent member substituted therefor. An additional object is to obtain a device of the kind recited which is economically made, comprising few parts, durable and not liable to break or get out of order.

In the drawing referred to:

Fig. 1 is a side elevation of the upper end of a floor stand, a journal bearing secured thereon, an emery or grinding wheel, the shaft whereof is rotatably mounted in said journal bearing, and an eye and face shield embodying this invention mounted on said upper end of the floor stand.

Fig. 2 is a rear end elevation of the eye and face shield which is illustrated in Fig. 1, removed from the floor stand and wheel illustrated in Fig. 1.

Fig. 3 is a side elevation of the end of the flexible member forming an element of the device, which is adjacent to the light or lamp and transparent members, also forming elements of the device, the means of attaching said light or lamp and the frame of said transparent member to said end of the flexible member being shown in vertical section; and

Fig. 4 is a vertical section, on line 4—4 of Fig. 3, viewed as indicated by arrows, showing the rear end of the frame of the transparent member of the device, and the means by which said transparent member is removably secured in said frame.

A reference character applied to designate a given part indicates said part throughout the several figures of the drawing wherever the same appears.

1 represents (Fig. 1), the upper end of a floor stand. 2 represents a right angle member attached to the rear end of the upper end 1, as by means of bolt 3. 4 represents a vertical tubular member which is illustrated as attached to the horizontal element of member 2, by nuts 5 and 6. 7 represents the base of a journal bearing which is illustrated as secured to upper end of floor stand 1, as by nuts 8. 9 represents the standard of base 7, and 10 the journal bearing on said standard. 11 represents the rotatable shaft of emery or grinding wheel 12. 13 represents an ordinary shield or guard to wheel 12. 14 represents a tubular member which is provided with a horizontal element inter-

mediate the ends thereof, said ends, 15 and 16, being vertical. The end 15 is mounted on the upper end of tubular member 4, by means of member 17. Member 17 is preferably provided with internal screw threads and the upper end of tubular member 4, and that portion of end 15 of member 14 which extends into member 17, are preferably provided with external screw threads corresponding with and fitting into the internal screw threads in member 17. Whether the upper end of member 4, the end 15 of member 14, and member 17 are provided with screw threads, or not, the member 4 is not rotatable, and member 14 is rotatable, to an extent permitting any required adjustment of the light or lamp and the transparent members of the device. 18 represents a member secured on the upper end of end 16, preferably by means of corresponding screw threads. 19 represents a nonextensible, tubular flexible member, one end of which is rigidly secured in member 18, and the other end rigidly secured in tubular connection 20, as by means of screw threads 21, Fig. 3, and corresponding screw threads in said connection. Tubular connection 20 is provided with the vertically extending tubular element 22, to which the light or lamp 23, and shade 24, are attachable in the ordinary way. 25 and 26, respectively represent electric conductors which extend into and through member 4, members 17, 14 and 19, into connection 20 and through the depending element 22, to the lamp 23, to which they are attached in the ordinary way. 27 represents the frame of transparent member 28. Frame 27 is provided with a back element 29, and with the forward U-shaped element 30. The sides of member 27 are provided with tables, 31, which are at substantial right angles to the remainder of said sides, and on which transparent member 28 rests, with the forward edge of said transparent member held in the U-shaped member 30. 32 represents an eccentric washer, and 33 a bolt. Washer 32 is mounted on bolt 33, and said bolt extends through an aperture in the back member 29 of frame 27, and the screw threaded portion of said bolt fits into corresponding screw threads in one end of connection 20. When eccentric washer 32 is in the position illustrated by full lines in Fig. 4, and bolt 33 is firmly set in connection 20, said washer 32 holds transparent member 28 in frame 27. When said bolt 33 is loosened, (entirely removed if necessary) from connection 20, washer 32 may be turned into the position indicated by broken lines in Fig. 4, and transparent member 28 may then be removed from frame 27.

When the several hereinbefore described members are assembled, as recited, and as illustrated in Fig. 1, by the turning of end 15 in member 17, and making the required adjustment of flexible member 19, light or lamp 23 is in position to illumine grinding or emery wheel 12, and at the same time frame 27 is positioned so that transparent member 28 intervenes between said emery or grinding wheel 12 and the eyes and face of an operator.

I claim:

In an eye and face shield, a vertical tubular member, an additional tubular member and a non-extensible flexible tubular member mounted at one end on said additional tubular member in combination with a lamp, a frame, a transparent member slidably mounted in said frame, a tubular connection, said lamp mounted on said connection, a bolt extending through said frame and into said connection, an eccentric washer on said bolt interposed between said frame and said connection, and said connection secured on said non-extensible tubular member, and electric conductors extending through all said tubular members and in electric connection with said lamp; whereby adjustment of said lamp to illumine work necessarily adjusts said transparent member between said work and the workman doing said work.

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