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COMBINED SAFETY DEVICE AND CONTAINER FOR GOGGLES AND OTHER PROTECTIVE SHIELDS

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FIG. 1

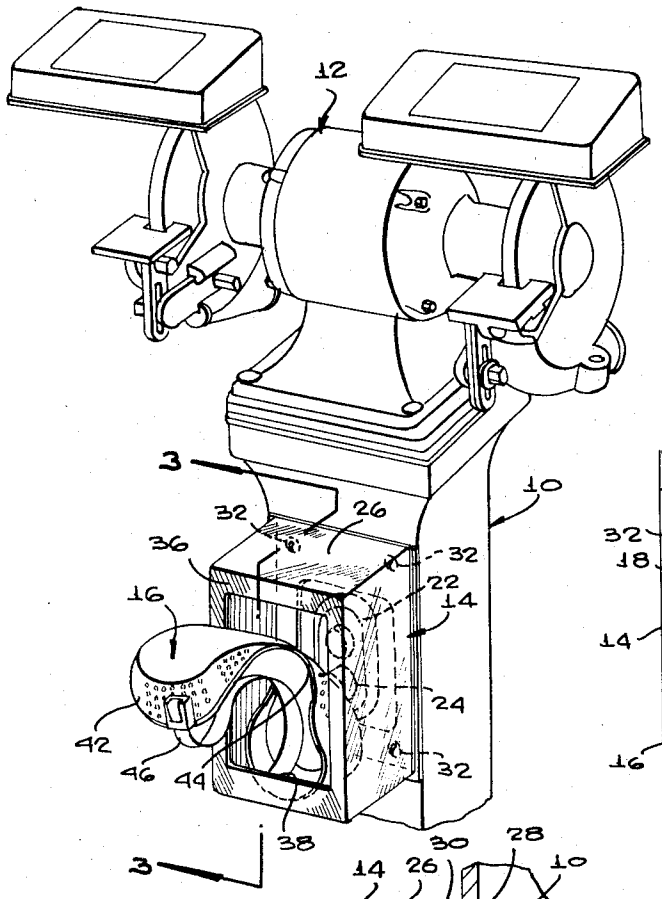


FIG. 2

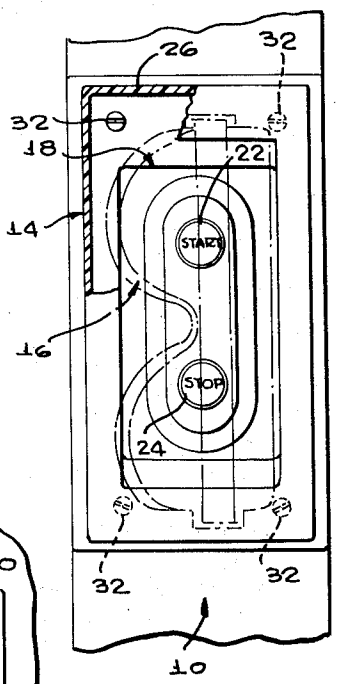
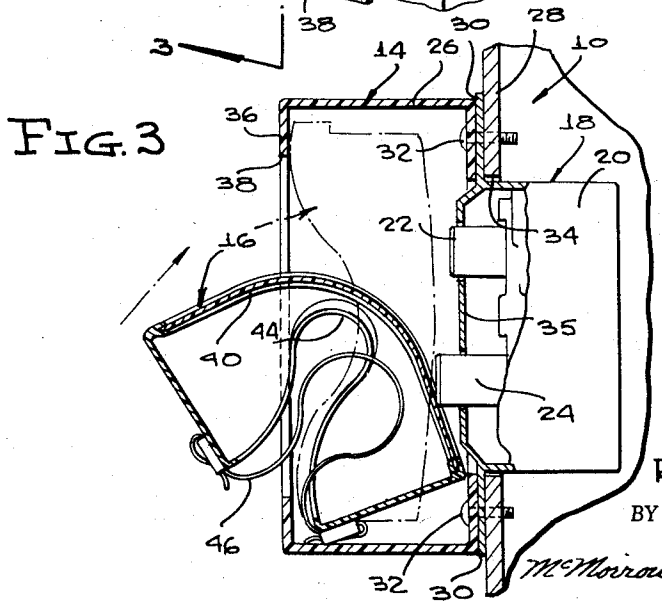


FIG. 3



INVENTOR.
ROBERT E. McKEMIE
BY
McMorrow, Berman & Davidson
ATTORNEYS

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COMBINED SAFETY DEVICE AND CONTAINER FOR GOGGLES AND OTHER PROTECTIVE SHIELDS

Robert E. McKemie, Jefferson City, Mo.

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8 Claims. (Cl. 200—61.58)

The present invention relates to an article which has a dual or combined function, first of a container for shipment and storage of safety goggles, protective face shields, and the like; and second, of a safety device designed to prevent switching on of the machine as long as the safety goggles or other protective shields are within the container.

Summarized briefly, the invention is a container which could be used as the container in which the goggles are sold. After sale of the goggles, the container is adapted for attachment to an adjacent structural component of a machine such as a grinder, planer, power sander, saw, etc. When the device is mounted in position over the main switch of such machine, and when the goggles are within the container, said device not only comprises a storage place for the goggles, but also comprises means that will insure that the machine cannot be turned on until after the goggles are removed. In this way, it is proposed to insure to the maximum extent against one not operating the machine unless he first removes the goggles from their normal storage place, and puts them on. One cannot, thus, forget to put on the goggles, nor can one deliberately ignore safety rules. Instead, one must remove the goggles from the storage place before the switch can be turned on, and the natural result will be that after the goggles are removed, the person will tend to wear them and thus be protected against flying particles during the machine operation.

A more specific object is to provide a container of the type stated which will be very simply designed, so as to be capable of manufacture at a low cost. In this way, it is proposed that the device could be used as the actual box or container in which the goggles are packed after manufacture of the goggles, and in which the goggles are shipped for sale and are actually sold to the ultimate buyer.

Due to this arrangement, it will be seen that the device comprising the present invention has high commercial feasibility, since a container for the goggles must be provided in any event, when the goggles are being shipped and are awaiting sale. Since such a container is almost inevitably required in the ordinary shipment and sale of the goggles, it follows that at little or no increase in cost, the buyer has a means readily applicable to a machine to serve two additional functions, in addition to the function of being the container in which the goggles are originally sold.

The first of these additional functions is that of a storage place for the goggles when they are not in use, which storage place will be conveniently accessible to the machine operator. The second additional function will be that of a protective enclosure extending about the main switch of the machine, in such a position that the storage goggles prevent turning on of the switch as long as the goggles are in the enclosure.

The invention, it may be noted, has the particularly advantageous characteristic that replacement of the goggles in the device following operation of the machine

automatically operates to turn off the switch. Conversely, however, removal of the goggles in the normal manner, to an extent requiring a complete extraction of the goggles from the enclosure, is required before the switch can be turned on to put the machine in operation.

Another important object of the present invention is to provide a device as stated which can be attached to a machine of any of various types either in a horizontal or a vertical position, depending upon the direction in which the switch extends, without affecting adversely in any way the operational characteristics of the device.

Another object is to permit effective use to be made of the device without requiring modification either of the conventional safety goggles, or of the switch of the machine.

Another object is to permit the device to be attached to the machine swiftly and easily, and without requirement of dismantling any portion of the machine.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing in which like reference characters designate like parts throughout the several views and wherein:

Figure 1 is a perspective view of a grinder, to the stand of which is attached a device according to the present invention, the goggles being partially inserted in the device;

Figure 2 is a fragmentary front elevational view of the machine, the device comprising the present invention being shown in front elevation with the goggles in dotted lines, a portion of the device being illustrated in section; and

Figure 3 is a vertical sectional view on the same scale as Figure 2, taken substantially on line 3—3 of Figure 1, in which the goggles are shown in full lines partially inserted and in dotted lines fully inserted in the container.

Referring to the drawing in detail, generally designated at **10** is a stand or pedestal on which is mounted a grinder **12**. The grinder is merely one of a large number of machines with which the device would be adapted for use.

In any event, generally designated at **14** is the device comprising the present invention. At **16** there has been generally designated a conventional pair of safety goggles while at **18** there has been generally designated a conventional main control switch of the machine. In the illustrated example, the switch is extended vertically, and accordingly, the safety device **14** is also extended vertically. However, the device could obviously be mounted horizontally and in addition might be usable in association with switches other than the specific type shown.

The switch **18**, as is usual, includes a switch housing **20**, a "start" button **22** and a "stop" button **24**.

A container comprising the present invention in the illustrated example is formed of molded plastic, and is transparent. However, it need not necessarily be made of plastic, nor need it necessarily be transparent. It could be formed of sheet metal, for example, if desired.

When the container is made of plastic it is particularly adapted for manufacture at a comparatively low cost, and in a typical arrangement, the container is of rectangular configuration, having a back wall **28** overlying the front plate **30** of the switch. When the device is sold, screws would be provided therewith, and as shown four screws are used in the present instance. These are designated **32**, and they are extended through corner openings of the back wall **28**, being threadedly engaged in the front wall of the stand **10** after passage through openings of the front plate **30** of the switch.

In accordance with the invention, centrally formed in the back wall **28** is a rectangular opening **34**. This opening is so proportioned as to expose that part of the front plate **30** from which switch buttons **22, 24** project. Nor-

mally, the front plate **30** of the switch has a forwardly projecting, central portion **35**, apertured for extension of the buttons **22, 24** therethrough. Opening **34** is proportioned, as will be best seen in Figure 3, to receive the raised, central portion **35** of the switch plate **30**.

Designated at **36** is a front wall of the container, and this has a rectangular opening **38**. The opening **38** occupies a major portion of the area of the front wall so that in effect the front wall becomes an inwardly turned flange surrounding the opening **38**.

The conventional safety goggles **16** are flexible, as will be noted from Figure 3. This is a completely conventional construction, and ordinarily, the goggles when released straighten out to the shape shown in dotted lines in Figure 3.

It is of importance, in this connection, to note that the goggles include a front wall or continuous sight window **40** extending the full length of the goggles, said goggles further including a rearwardly projecting, peripheral flange **42**. Flange **42** is deeply indented as at **44** along the opposite sides of the goggles, so that the goggles are foldable almost into a U-shape as shown in full lines in Figure 3, along a transverse line where the deep indentations occur. The goggles also have a head band **46** connected between opposite ends of the flange **42**.

The goggles are of a length slightly greater than the overall length of the opening **38**. Therefore, when the goggles are inserted in the container, the top and bottom portions of the wall **36** will comprise abutments against which the corresponding ends of the goggles will bear to prevent removal of the goggles. The goggles are removed by slightly flexing them after which they may be removed in the manner shown in Figure 1.

When the goggles are in the container, they are disposed in overlying relation to the buttons **22, 24**. Therefore, one cannot press the "start" button, without first removing the goggles. Once the person has the goggles out of the container and in his hand, then the tendency will be to put them on. After the machine has been operated, the goggles are removed, and the user places them back in the container by folding them to the condition shown in Figures 1 and 3. Thereafter, the lower end of the folded goggles is inserted through opening **38**. The act of insertion, with the goggles folded and being moved forwardly into the enclosure, causes the goggles to bear against the now projecting "stop" button **24**, as will be readily seen from Figure 3. As a result, insertion of the goggles is effective to depress the "stop" button to turn off the machine. Of course, one can manually turn off the machine before reinserting the goggles in the enclosure, if he should so desire. It is mainly important to note, however, that the goggles can serve as a means for turning off the machine.

The device has the desirable characteristic in that it can comprise the container in which the goggles are sold. At this time, the openings **34, 38** would be covered over with a thin cellophane wrapping or the like, as will be readily understood. When the wrapping is removed, the device is ready to be attached to the stand in position over the switch. Merely by attaching the device to the stand, it becomes operatively positioned without requiring any modifications or redesign of the machine or dismantling of any of the machine parts. The device thereafter becomes a storage place for goggles, as well as a safety device preventing turning on of the switch until the goggles have been removed.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles, it being considered that the invention comprehends any minor change in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. The combination, with a protective shield to be worn over one's face, and with a turn-on switch of a machine proportioned to be substantially covered by said shield, of a support for the shield comprising an enclosure snugly receiving the shield, said enclosure having an open front through which the shield may be inserted and removed and having a back wall formed with an opening receiving at least a portion of the switch, for covering of said portion by the shield when the shield is disposed within the support.

2. The combination, with a protective shield to be worn over one's face, and with a turn-on switch of a machine proportioned to be substantially covered by said shield, of a support for the shield comprising an enclosure snugly receiving the shield, said enclosure having an open front through which the shield may be inserted and removed and having a back wall formed with an opening receiving at least a portion of the switch, for covering of said portion by the shield when the shield is disposed within the support, said enclosure having a flat back wall adapted to be disposed in face-to-face contact with the machine in surrounding relation to the switch.

3. The combination, with a protective shield to be worn over one's face, and with a turn-on switch of a machine proportioned to be substantially covered by said shield, of a support for the shield comprising an enclosure snugly receiving the shield, said enclosure having an open front through which the shield may be inserted and removed and having a back wall formed with an opening receiving at least a portion of the switch, for covering of said portion by the shield when the shield is disposed within the support, said open front of the enclosure having a large rectangular opening through which the shield moves during insertion and removal of the same.

4. The combination, with a protective shield to be worn over one's face, and with a turn-on switch of a machine proportioned to be substantially covered by said shield, of a support for the shield comprising an enclosure snugly receiving the shield, said enclosure having an open front through which the shield may be inserted and removed and having a back wall formed with an opening receiving at least a portion of the switch, for covering of said portion by the shield when the shield is disposed within the support, said open front of the enclosure having a large rectangular opening through which the shield moves during insertion and removal of the same, said open front including a flange surrounding said opening thereof, said flange comprising an abutment adapted to engage opposite ends of the shield when the shield is disposed within the enclosure.

5. The combination, with a protective shield to be worn over one's face, and with a turn-on switch of a machine proportioned to be substantially covered by said shield, of a support for the shield comprising an enclosure snugly receiving the shield, said enclosure having an open front through which the shield may be inserted and removed and having a back wall formed with an opening receiving at least a portion of the switch, for covering of said portion by the shield when the shield is disposed within the support, the front and back of the enclosure being disposed in parallel planes.

6. The combination, with a protective shield to be worn over one's face, and with a turn-on switch of a machine proportioned to be substantially covered by said shield, of a support for the shield comprising an enclosure snugly receiving the shield, said enclosure having an open front through which the shield may be inserted and removed and having a back wall formed with an opening receiving at least a portion of the switch, for covering of said portion by the shield when the shield is

disposed within the support, the opening of the back wall being centered in the back wall and being elongated.

7. In a safety device for industrial machinery, the combination of a machine including a wall and a switch mounted in and having a start button projecting forwardly from the wall; a container having a back wall overlying the machine wall in face-to-face contact therewith and formed with an opening, said button projecting forwardly from said wall through the opening into the container, said container including top, side, and bottom walls projecting forwardly from the periphery of the back wall, and a front wall rigid with the top, side, and bottom walls and having a single, continuously open aperture centered in and occupying the major part of the area of the front wall, said switch being centered in respect to said aperture; means fixedly connecting the back wall to the machine wall; and a safety eye shield removably housed within the container, said shield being of a length greater than the corresponding dimension of the aperture of the front wall and being of a width effective to cover the start button when the shield is in its housed position.

8. In a safety device for industrial machinery, the combination of a machine including a wall and a switch mounted in and having a start button projecting forwardly from the wall; a container having a back wall overlying the machine wall in face-to-face contact therewith and formed with an opening, said button projecting forwardly from said wall through the opening into the container, said container including top, side, and bottom walls projecting forwardly from the periphery of the back wall, and a front wall rigid with the top, side, and bottom walls and having a single, continuously open aperture centered in and occupying the major part of the area of the front wall, said switch being centered in respect to said aperture; means fixedly connecting the back wall to the machine wall; and a normally generally straight safety eye shield resiliently, longitudinally flexible from its normal to a bowed shape and removably housed within the container, said shield when bowed being proportioned for insertion through said aperture, the shield when housed in the container in its normal, generally straight condition being of a length greater than the corresponding dimension of the aperture of the front wall whereby the front wall forms abutments for the ends of the shield limiting the shield against removal from the container until the shield is flexed for disengagement from the butments and for passage through the aperture, said shield being of a width effective to cover the start button when the shield is in its housed position.

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