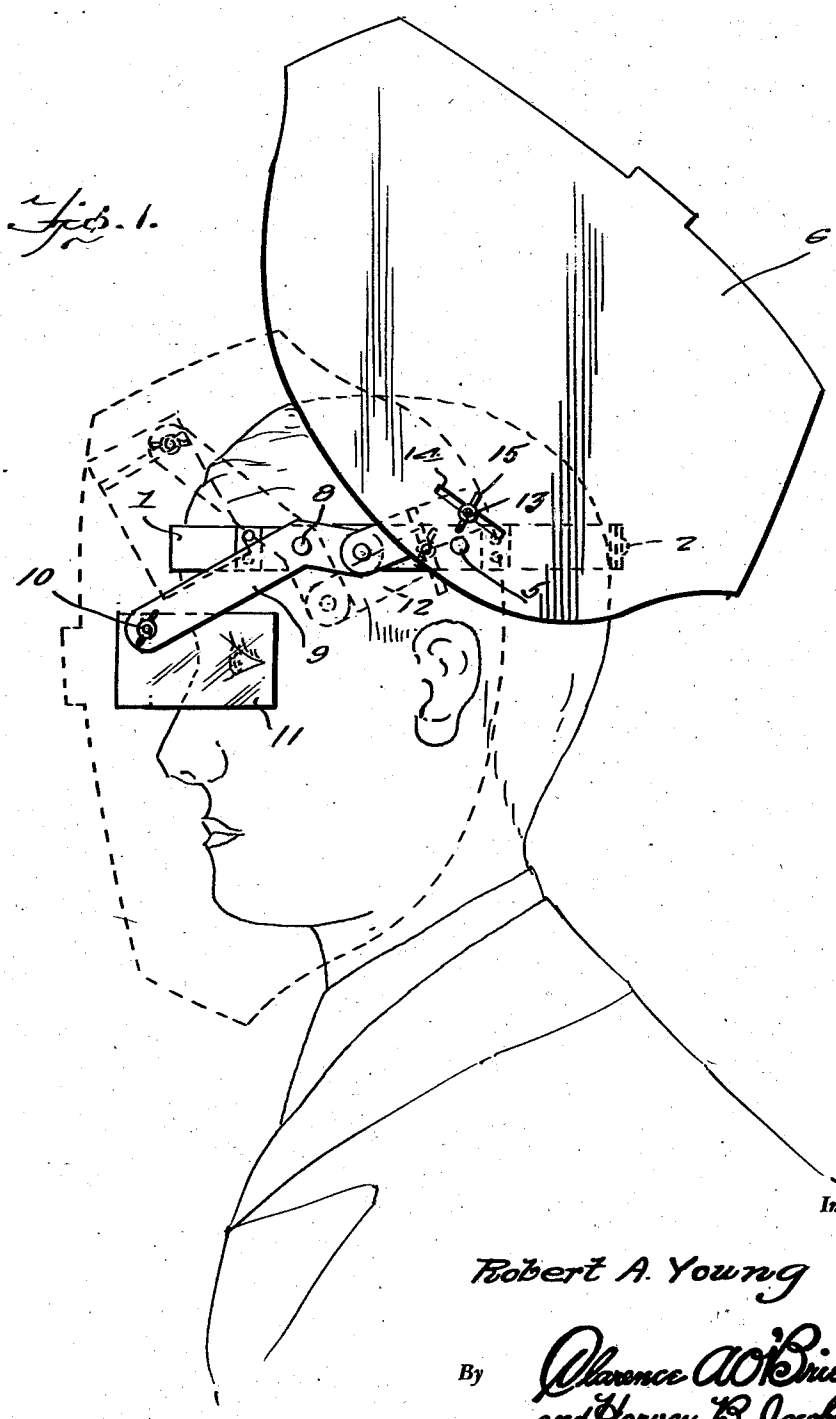
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PROTECTOR

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Fig. 1.



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Fig. 2.

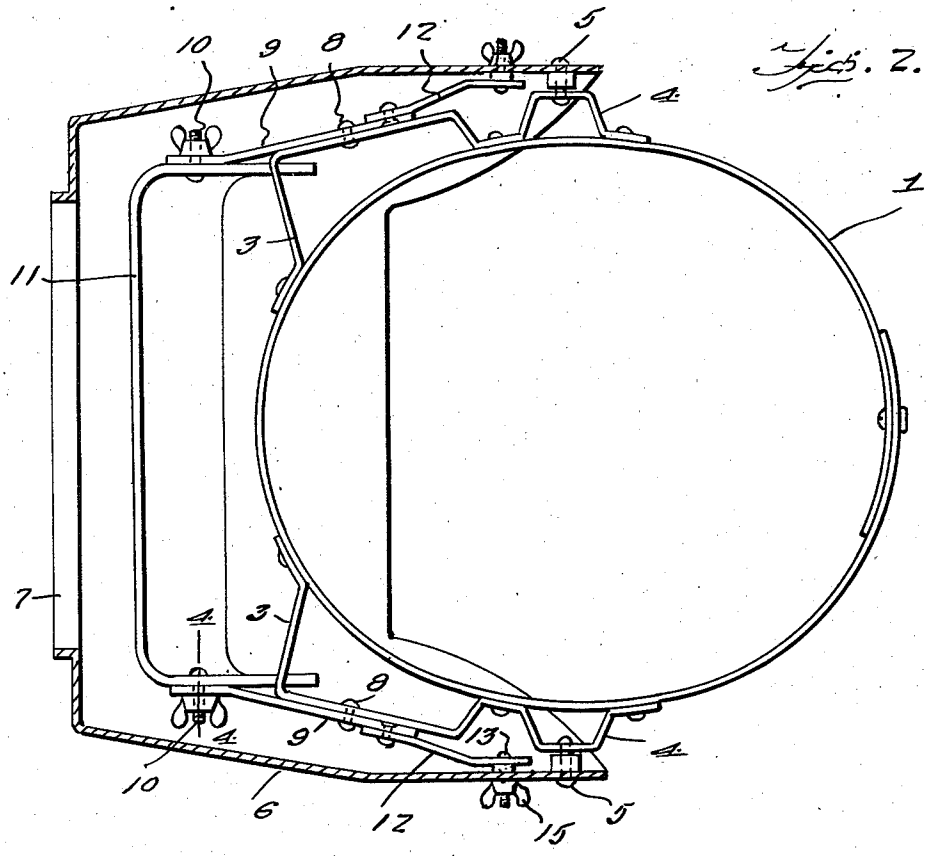


Fig. 3.

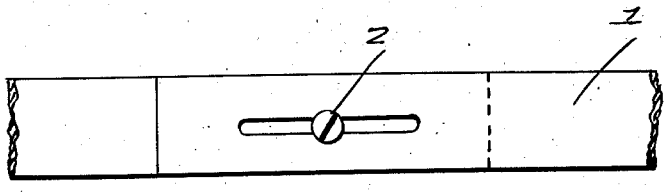
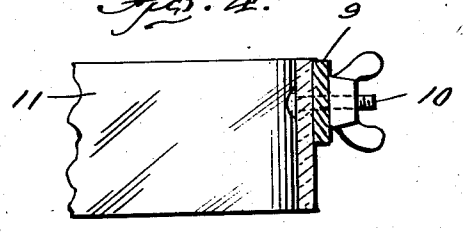


Fig. 4.



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UNITED STATES PATENT OFFICE

2,398,269

PROTECTOR

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Application October 13, 1942, Serial No. 461,865

12 Claims. (Cl. 2—8)

The present invention relates to new and useful improvements in protectors, particularly for welders using electric torches, and has for its primary object to provide, in a device of this character, comprising a shield and a goggle pivotally mounted on a head support, a novel construction and arrangement whereby said goggle will be automatically swung upwardly to inoperative position when said shield is swung downwardly to operative position, and vice versa, thus providing means for automatically protecting the eyes from the torches of other welders and from flying particles when the shield is raised to facilitate chipping flux, changing rods, inspecting the work, etc.

Other objects of the invention are to provide a protector of the aforementioned character which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, light in weight, and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in side elevation of a protector constructed in accordance with the present invention, showing the shield in inoperative position and the goggle in operative position in full lines and further showing, in dotted lines, said shield in operative position and said goggle in inoperative position.

Figure 2 is a view in horizontal section through the device with the shield in operative position, looking upwardly.

Figure 3 is a fragmentary view in rear elevation of a portion of the adjustable head band.

Figure 4 is a detail view in cross section, taken substantially on the line 4—4 of Figure 2.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises an adjustable head band 1 of suitable material. The head band 1 is split and has its end portions overlapping at the rear and adjustably connected at 2.

Mounted on the forward side portions of the head band 1 are comparatively large and small, substantially U-shaped front and rear metallic brackets 3 and 4, respectively. Pivotally mounted at 5 for vertical swinging movement on the rear brackets 4 is a shield 6 having a window 7 therein.

Pivotally mounted at 8 on the brackets 3 is a pair of angular lever 9. Pivotally secured for swinging adjustment at 10 between the forward end portions of the levers 9 is a substantially U-shaped goggle 11.

Links 12 connect the levers 9 to the shield 6 for actuation thereby. Toward this end, the links 12 have one end portion pivotally connected to the rear end portions of the levers 9. The other end portions of the links 12 are journaled on bolts 13, said bolts being adjustable in slots 14 which are provided therefor in the shield 6. Wing nuts 15 secure the bolts 13 in adjusted position in the slots 14. It will thus be seen that the stroke of the levers 9 relative to the movement of the shield 6 may be adjusted or regulated as desired.

It is thought that the operation of the device will be readily apparent from the consideration of the foregoing. Of course, the band 1 encircles and rests on the upper portion of the head of the mechanic. When the shield 6 is swung downwardly to lowered or operative position, the links 12 swing the forward ends of the levers 9 upwardly, thus automatically raising the goggle 11 to inoperative position out of the line of vision of the mechanic. When the shield 6 is swung upwardly to raised or inoperative position, as seen in full lines in Figure 1 of the drawings, the goggle 11 is automatically swung downwardly to its operative position adjacent the eyes of the mechanic. The substantially U-shape of the goggle 11 provides side protection for the eyes. By loosening the wing nuts at the pivotal connections 10 of the goggle 11 to the levers 9, said goggle may be expeditiously adjusted as desired on said levers.

It is believed that the many advantages of a protector constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. A protector comprising a support for mounting on the head, a shield pivotally mounted on said support, a pair of levers pivotally mounted on the support, a goggle mounted between said levers, and means operatively connecting the

levers to the shield for raising and lowering the goggle when the shield is lowered and raised.

2. A protector comprising a support for mounting on the head, a shield pivotally mounted for vertical swinging movement on the support, a pair of levers pivotally mounted for vertical swinging movement on the support, means operatively connecting the levers to the shield for actuation thereby in opposite directions from said shield, and a substantially U-shaped goggle pivotally secured between the levers.

3. A protector comprising a head band, a shield pivotally mounted for vertical swinging movement on said head band, levers pivotally mounted on the head band and operatively connected to the shield for actuation thereby in opposite directions to those in which said shield is swung, and a substantially U-shaped goggle pivotally mounted between said levers.

4. A protector comprising a head band, a shield pivotally mounted on the head band and having slots therein, a pair of levers pivotally mounted on the head band, bolts adjustably mounted in the slots, links having one end pivotally connected to one end of the levers and their other end portions journaled on the bolts, and a substantially U-shaped goggle pivotally mounted between the other end portions of said levers.

5. A protector of the character described comprising an adjustable head band, front and rear brackets mounted on said head band, a shield pivotally mounted for vertical swinging movement on the rear brackets, said shield having slots therein adjacent its pivotal connections to the rear brackets, bolts adjustable in the slots, nuts on said bolts for securing same in adjusted position, angular levers pivotally mounted on the front brackets, links journaled on the bolts and pivotally connected to one end portion of the levers for operatively connecting said levers to the shield for actuation thereby in opposite directions therefrom, and a substantially U-shaped goggle pivotally mounted for swinging adjustment between the other end portions of the levers.

6. A protector comprising a support, a swinging shield on the support, a swinging goggle on the support, and means connecting the goggle to said shield for swinging said goggle to operative position when the shield is swung to inoperative position and vice versa.

7. In a protective device for welders, the combination of a welder's hood, safety goggles mounted within the hood for movement relative thereto, and actuating means operatively connected to said hood and said goggles and operable to move the goggles downward to protecting position in front of the eyes when the hood is raised and to raise the goggles to a position above the eyes when the hood is lowered to protecting position.

8. A protective device for welders comprising a head gear adapted for mounting on a person's head, a protecting hood pivotally mounted on said head gear for movement between a lowered position to protect the wearer's face and eyes and a raised position over the wearer's head, safety goggles disposed within said hood and pivotally mounted on said head gear for movement between a raised position above the wearer's eyes and a lowered position in front of the wearer's eyes, and actuating means operatively connected to said hood and said goggles and operable to move the goggles between the said raised and lowered positions thereof upon movement of said hood between said lowered and raised positions thereof.

9. A head protector comprising a headband, a face mask pivotally carried thereby and movable from face shielding position to a position above the face, an eye shield pivotally carried by said headband and movable from eye shielding position to a position above the eyes, and transmission means between said mask and eye shield whereby motion of the mask to non-shielding position moves the eye shield to shielding position and whereby motion of the mask to shielding position moves the eye shield to non-shielding position.

10. A head protector comprising a headband, a face mask pivotally carried thereby and movable from face shielding position to a position above the face, an eye shield pivotally carried by said headband and movable from eye shielding position to a position above the eyes, and transmission means between said mask and eye shield whereby motion of the mask to non-shielding position moves the eye shield to shielding position and whereby motion of the mask to shielding position moves the eye shield to non-shielding position, said transmission comprising a first crank arm movable with the face mask and a second crank arm actuated by said first crank arm and movable with the eye shield.

11. A head protector comprising a headband, a face mask pivotally carried thereby and movable from face shielding position to a position above the face, an eye shield pivotally carried by said headband and movable from eye shielding position to a position above the eyes, transmission means between said mask and eye shield whereby motion of the mask to non-shielding position moves the eye shield to shielding position and whereby motion of the mask to shielding position moves the eye shield to non-shielding position, said transmission comprising a first crank arm movable with the face mask and a second crank arm actuated by said first crank arm and movable with the eye shield, and means for securing said first crank arm in a plurality of different positions of rotary adjustment with respect to said mask.

12. A head protector comprising a headband, a face mask pivotally carried thereby and movable from face shielding position to a position above the face, an eye shield pivotally carried by said headband and movable from eye shielding position to a position above the eyes, transmission means between said mask and eye shield whereby motion of the mask to non-shielding position moves the eye shield to shielding position, and adjustable means for varying the range of movement of the eye shield with respect to the mask.

ROBERT A. YOUNG.