ground work and other locations, where fogging is a serious problem, are made of a corrosion-resistant wire screen, coated a dull black to reduce reflection.

• *Melter's goggles* come in spectacle and cup types with cobalt blue glass in graded shades. Lenses with color in the upper half and clear glass in the lower half are also available. Frames are of leather or plastic to protect the face from radiant heat.

• *Welder's goggles* with filter lenses are available for such operations as oxyacetylene welding, cutting, lead burning, and brazing. *OSHAct* regulation 29 CFR 1910.252(e) provides a guide for the selection of the proper shade numbers. These recommendations may be varied to suit the individual's needs and operations.

• *Chipper's goggles*, which have contour rigid plastic eye-cups, come in two styles—one for individuals who do not wear spectacles, and one to fit over corrective spectacles. Chipping goggles should be used where maximum protection from flying particles is indicated.

Other considerations—All goggle frames should be of corrosion-resistant material that will neither irritate nor discolor the skin, that can withstand sterilization, and that are flame resistant or non-flammable. Metal frames should not be worn around electrical equipment or near intense heat. To permit the widest range of vision, goggles should be fitted as close to the eyes as possible without the eyelashes touching the lens. The lenses should have no appreciable distortion or prism effect.

Goggles should be sterilized before they are reissued to other employees. The proper procedure is to disassemble and wash them with soap or detergent in warm water. Rinse thoroughly. Immerse all parts in a solution containing germicide, deodorant, and a fungicide. Do not rinse, but hang to dry in air. Then place the parts in a clean, dustproof container.

If a lens has more than just the most superficial scratch, nick, or pit, it should be replaced. Such damage can materially reduce protection afforded the wearer.

As goggles hug the face, flexible mesh sideshield gives ventilated protection to the eye area.

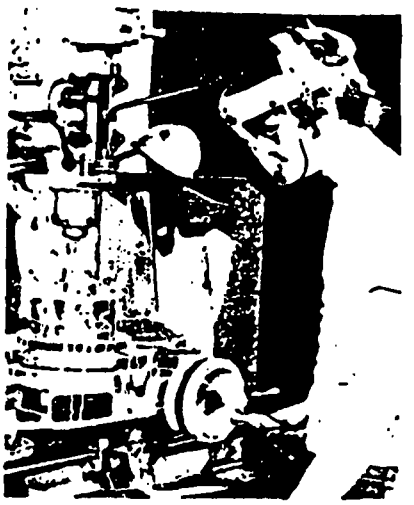
Laser beam protection—Although no one type of glass offers protection from all laser wavelengths, glass for protection against any single laser wavelength can be had on special order from eyewear manufacturers. Typically, the eyewear will have maximum attenuation at a specific laser wavelength—with protection falling off rather rapidly at other wavelengths.

Laser goggles designed for protection from specific laser wavelengths should not be mistakenly used with different wavelengths of laser radiation. To avoid such an occurrence, distinctively colored frames are recommended with the optical density shown on the filter. Technical details, uses, hazards, and exposure criteria for lasers are given in the National Safety Council's *Accident Prevention Manual for Industrial Operations* and *Fundamentals of Industrial Hygiene*.

Face Protection

Many types of personal protective equipment shield the face (and sometimes the head and neck also) against light impact, chemical or hot metal splashes, heat radiation, or other hazards. The employer should be familiar with the type best suited for his operation.

Face shields of clear plastic protect eyes and face of a person who is sawing or buffing metal, sanding or light grinding, or handling chemicals. The shield should be slow burning and must be replaced when warped or scratched. Also, plastic shields tend to become brittle with age and require replacement. The headgear and shield should be adjustable to the size and contour of the head, and be easy to clean.



This faceshield's design allows the wearer to adjust the tension for a comfortable fit. It can be swung off the face when not immediately needed, yet is always available.

Metal screen face shields deflect heat from a person and still permit good visibility. They are used around blast furnaces, soaking pits, open hearth furnaces, and other sources of radiant heat.

Babbitting helmets are used to protect the head and face against splashes of hot metal, rather than against heat radiation. The helmet consists of a window made of extremely fine wire screen, a tilting support, an adjustable headgear, and a crown protector. A chin protector can also be had if required.

Welding helmets, shields, and goggles protect the eyes and face against the splashes of molten metal and the radiation produced by arc welding. The shell of the helmet must resist sparks, molten metal, and flying particles. It should be a poor heat conductor, and a non-conductor of electricity. Helmets that develop pinholes or cracks must be discarded.