

A. C. PARKER.
SAFETY DEVICE.

APPLICATION FILED AUG. 15, 1904.

Fig. 1'

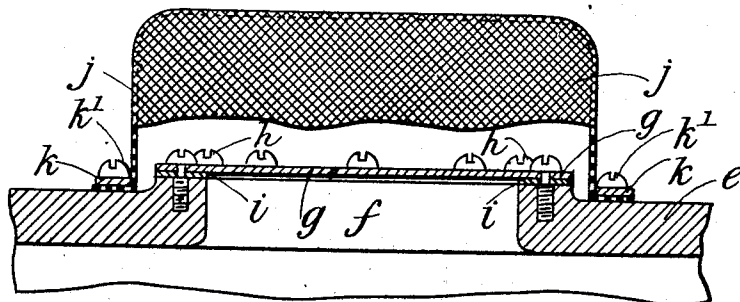
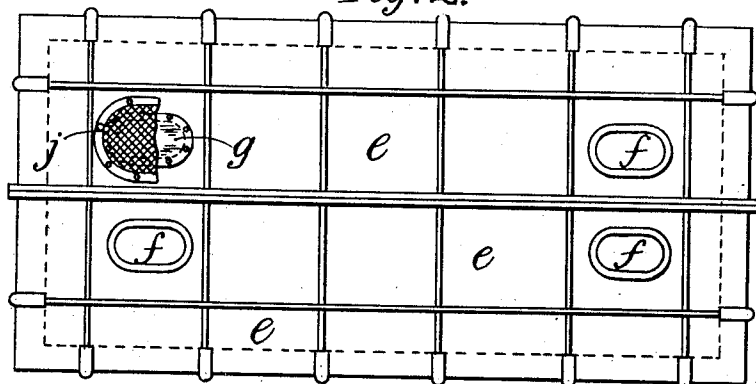


Fig. 2.



Witnesses:
Alfred H. Powell.
Maurice J. Kent.

Inventor:
Alfred Clement Parker
By Joseph H. Atkins
His Attorney

UNITED STATES PATENT OFFICE.

ALFRED CLEMENT PARKER, OF MANCHESTER, ENGLAND, ASSIGNOR TO
THE UNITED STATES AND CANADA DEGREASING SYNDICATE LIMITED,
OF NOTTINGHAM, ENGLAND.

SAFETY DEVICE.

No. 833,694.

Specification of Letters Patent.

Patented Oct. 16, 1906.

Application filed August 15, 1904. Serial No. 220,842.

To all whom it may concern:

Be it known that I, ALFRED CLEMENT PARKER, a subject of the King of Great Britain and Ireland, residing at Chorlton-cum-Hardy, Manchester, in the county of Lancaster, England, have invented certain new and useful improvements in Safety Devices, of which the following is a specification.

This invention relates to safety devices for receptacles which are adapted to inclose fluids under pressure, and is particularly adapted for use upon receptacles in which combustible fluids are employed.

The object of this invention is to prevent the destruction of a receptacle by the excessive pressure of a contained fluid or by an explosion due to the communication of combustion to a combustible fluid in the interior of the receptacle.

This invention, therefore, comprehends means for automatically lowering the fluid-pressure when that pressure exceeds a predetermined amount and means for preventing the communication of combustion to the interior of the receptacle while the fluid-pressure is being lowered.

In the accompanying drawings, which constitute a part of this specification, Figure I is a vertical sectional view of a safety device, the cage being broken away in order to permit of clearer illustration. Fig. II is a plan view of a receptacle, showing safety devices attached thereto.

Referring to the characters upon the drawings, *e* indicates a lid or top of a receptacle to which a safety device is preferably attached. The top *e* is provided with any suitable number of safety apertures *f*, four of these apertures being shown in Fig. II of the drawings. Aperture *f* may be closed by any means adapted automatically to permit the efflux of fluid from the receptacle when the fluid-pressure exceeds a predetermined amount. In practice a thin plate or sheet *g* of glass or other frangible material is preferably employed to close each aperture *f* and is secured to the top *e*, as by screws *h*. The connection between the plate *g* and the top *e* is rendered fluid-proof, as by a washer *i* interposed between the plate and the top.

Plate *g* may be of such material and thickness as to be capable of withstanding a de-

terminate amount of fluid-pressure, the plate being disrupted when the pressure exceeds that amount. The force of fluid-pressure necessary to disrupt the plate is of course less than that which would injure the receptacle.

When combustible fluids are employed in the receptacle—as, for instance, when the receptacle is the drenching-tank of a degreasing apparatus—an accidental fire in the neighborhood or any other cause raising the temperature will volatilize the combustible fluid, which will then exert increased pressure upon the receptacle, the pressure becoming greater as the temperature rises. When the pressure becomes great enough to disrupt plate *g*, a new danger arises, for the communication of combustion to the fluid in the interior of the receptacle would result in an immediate explosion. By this invention suitable means are provided for obviating this danger. For this purpose I prefer to employ a cage *j*, of wire-gauze, covering and completely surrounding the aperture *f* and the plate *g*. The cage *j* is attached to the top *e*, as by a ring *k* and screws *k'*. Upon the disruption of plate *g* cage *j* retains the broken fragments, while all of the escaping fluid passes through said cage. If this fluid is fired, it burns quietly on the outside surface of cage *j*, the cage acting upon the principle of Davy's safety-lamp to prevent communication of combustion to the interior of the receptacle.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device for preventing explosion by pressure or by fire, the combination with a receptacle provided with an aperture and adapted to inclose a combustible fluid, of a frangible plate closing said aperture, and means attached to the receptacle and completely surrounding said plate for preventing the communication of combustion to the interior of said receptacle.

2. In a device for preventing explosion by pressure or by fire, the combination with a receptacle provided with an aperture and adapted to inclose a combustible fluid, of a plate closing said aperture adapted to be disrupted by a certain pressure, and means at-

tached to the receptacle and completely surrounding said plate for preventing the communication of combustion to the interior of said receptacle when such disruption occurs.

5 3. In a device for preventing explosion by pressure or by fire, the combination with a receptacle provided with an aperture and adapted to inclose a combustible fluid, of a plate closing said aperture adapted to be disrupted by a certain pressure, and wire-gauze
10 covering and completely surrounding said plate.

4. In a device for preventing explosion by pressure or by fire, the combination with a
15 receptacle provided with an aperture and adapted to inclose a combustible fluid, of a plate closing said aperture adapted to be disrupted by a certain pressure, and a wire-

gauze cage attached to the receptacle and completely surrounding said plate. 20

5. In a device for preventing explosion by pressure or by fire, the combination with a receptacle having a lid provided with an aperture and adapted to inclose a combustible fluid, of a plate closing said aperture adapted
25 to be disrupted by a certain pressure, and a wire-gauze cage attached to the receptacle and completely surrounding said plate-closed aperture.

In witness whereof I have hereunto signed
30 my name in the presence of two subscribing witnesses.

ALFRED CLEMENT PARKER.

Witnesses:

ERNALD SIMPSON MOSELEY,
MALCOLM SMETHURST.