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EXPLOSIVE AND PROCESS OF MAKING SAME.

No Drawing.

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To all whom it may concern:

Be it known that I, GUSTAV EGLOFF, a citizen of the United States, residing in the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Explosives and Processes of Making Same, of which the following is a specification.

This invention relates to explosives and process of making same and more particularly to explosives made by a combination of hydrocarbon gases with certain oxidizing agents or any combination with explosive material.

Among the salient objects of the invention are to provide explosive substances which consists in combining hydrocarbon gases either in a gaseous or liquid form under a high pressure with oxidizing agents and confining them while under high pressure in a shell container equipped with an electrical igniter, fuse or detonator.

The tremendous explosive power of hydrocarbon gases and liquids is well recognized and its effectiveness as an explosive has been shown by numerous accidental explosions and many experimental tests when used in bombs or in cartridges employed in blasting mines or wells. The basic idea in the herein-described invention is the use of liquefied methane, ethane, propane, natural gas, casinghead gas, normally, still and cracked gases produced from the pressure distillation of hydrocarbon oils, ethylene, propylene, coal gas or other gaseous hydrocarbons. These gases while in the liquefied form under high pressure are put into heavy pressure tight containers similar to an explosive shell and the shell equipped with an igniter in the form of a fuse or detonator of fulminate of mercury.

In the use of these hydrocarbon gases, they may be combined with an oxidizing agent such as air, oxygen, ozone or solid agents as sodium nitrate, ammonium nitrate, TNT, nitroglycerin, amatol, gun cotton, picric acid or the like. The amatol being a mixture of TNT and ammonium nitrate. In combining these reagents, the hydrocarbons may be in the form of gas or liquid and combined with a gaseous oxidizing agent as described. The hydrocarbons with the oxidizing agents mixed therewith are charged to the shell containers and the shells equipped with a fuse or det-

onator as required. In using explosives of this character, it is often necessary to have an absorbent such as charcoal, lamp black or a cellular material such as cotton present, to take up the explosive and oxidizing agents and with certain of the combinations the use of absorbent is somewhat more effective. The character or form of the container and the particular type of detonator device or igniter or fuse is of no particular importance to the invention other than the explosive substance in the shell must be equipped with an effective device for exploding the substance contained in the shell.

Such shells or containers would be useful not only for purposes of war but in blasting mines or in shooting wells for oil or for other useful purposes to which explosive materials may be used. An explosive made in the manner explained would have tremendous bursting power and the cost of production of such explosive material would be an important factor as explosive shells of this type could be much more economical, could be produced from gaseous or hydrocarbon liquids which are now common by-products from stills and processes in which the petroleum oil is treated.

I claim as my invention:

1. An explosive mixture consisting of hydrocarbon gas maintained in liquid form under pressure with an oxidizing agent.
2. An explosive mixture consisting of hydrocarbons and a gaseous oxidizing agent maintained under pressure.
3. An explosive consisting of a mixture of normally gaseous hydrocarbons maintained under pressure in a liquid state with an oxidizing agent.
4. An explosive consisting in a mixture of normally gaseous hydrocarbons maintained in a liquid state under pressure in combination with an oxidizing agent.
5. A process of making an explosive consisting in charging a leak proof container with liquid hydrocarbons and an oxidizing agent.
6. A process of making explosives consisting in charging a leak proof container with normally gaseous hydrocarbons maintained at sufficient pressure to keep them in liquid form, mixed with an oxidizing agent.

GUSTAV EGLOFF.