

UNITED STATES PATENT OFFICE.

ARTHUR EICHENGRÜN, OF ELBERFELD, GERMANY, ASSIGNOR TO FAR-
BENFABRIKEN OF ELBERFELD CO., OF NEW YORK, N. Y., A CORPO-
RATION OF NEW YORK.

FLASH-LIGHT COMPOSITION.

No. 812,028.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed June 17, 1905. Serial No. 265,806.

To all whom it may concern: . .

Be it known that I, ARTHUR EICHENGRÜN, doctor of philosophy, chemist, residing at Elberfeld, Germany, (assignor to the FAR-
5 FABRIKEN OF ELBERFELD Co., of New York,) have invented a new and useful Improvement in New Flash-Light; and I hereby declare the following to be a clear and exact description of my invention.
10 As is known, the ordinary flash-light powders of commerce for photographic purposes generally burn off in about from one-fortieth to one-tenth of a second. For exposures, however, which require a longer time—*e. g.*,
15 for exposures with large sizes of plates, whereby the lens must be stopped down for indoor portraiture, enlargements, &c.—flash-light powders must be used the combustion of which is slow. Such powders have hith-
20 erto been prepared by adding indifferent substances, such as gypsum or the like, to the flash-lights in order to lengthen the burning. Of course by such admixtures the luminosity produced is considerably reduced.
25 I have now found that slowly-burning flash-light powders giving a light of great intensity, rich in actinic power, which powders generate very little smoke and are proof against accidental explosion, can be prepared by mix-
30 ing tungsten compounds giving off oxygen, such as tungstic acid or tungstates with easily-combustible metallic powders, which produce a light of great intensity, such as magnesium or aluminium, &c. Such a flash-

light burning off during several seconds is, 35
e. g., obtained by intimately mixing one part of finely-ground magnesium with one part of tungstic acid or its sodium or calcium salt.

Of course there may be added to these powders other suitable substances, such as 40
strontium nitrate, in order to obtain a colored flame or it may be to shorten or lengthen the time of combustion or the like.

Having now described my invention and in what manner the same is to be performed, 45
what I claim as new, and desire to secure by Letters Patent, is—

1. The herein-described new flash-light powders being prepared from metallic powders, which have a strong affinity for oxygen 50
and are therefore easily combustible and the combustion of which produces a light of great intensity, with tungstic acid and derivatives, which flash-light powders burn slowly in comparison to the ordinary flash-lights for instan- 55
taneous exposures and produce great luminosity, substantially as described.

2. The herein-described new flash-light powder being a mixture of magnesium with tungstates, substantially as described. 60

In testimony whereof I have signed my name in the presence of two subscribing witnesses.

ARTHUR EICHENGRÜN.

Witnesses:

OTTO KÖNIG,

J. A. RITTERSHAUS.