

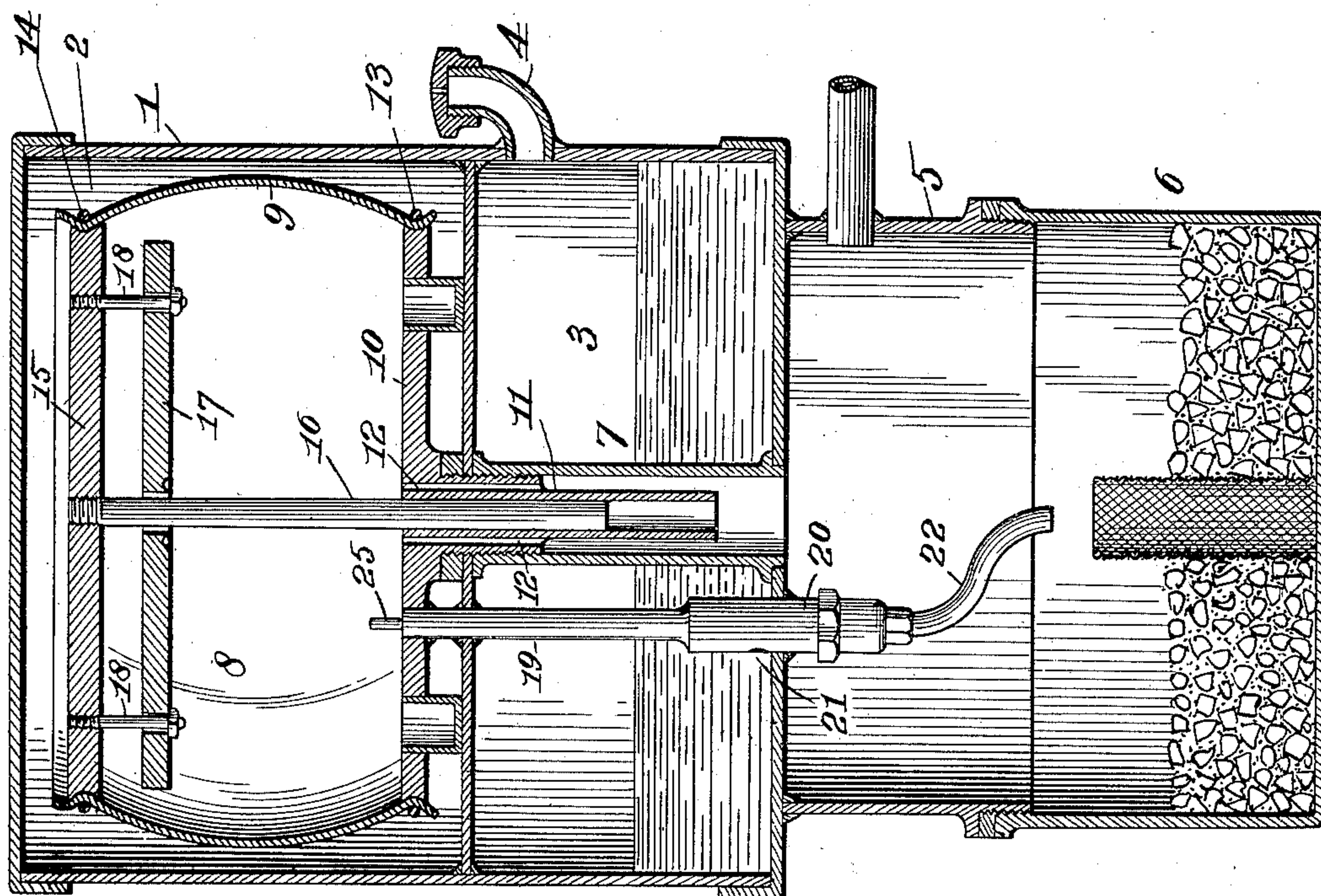
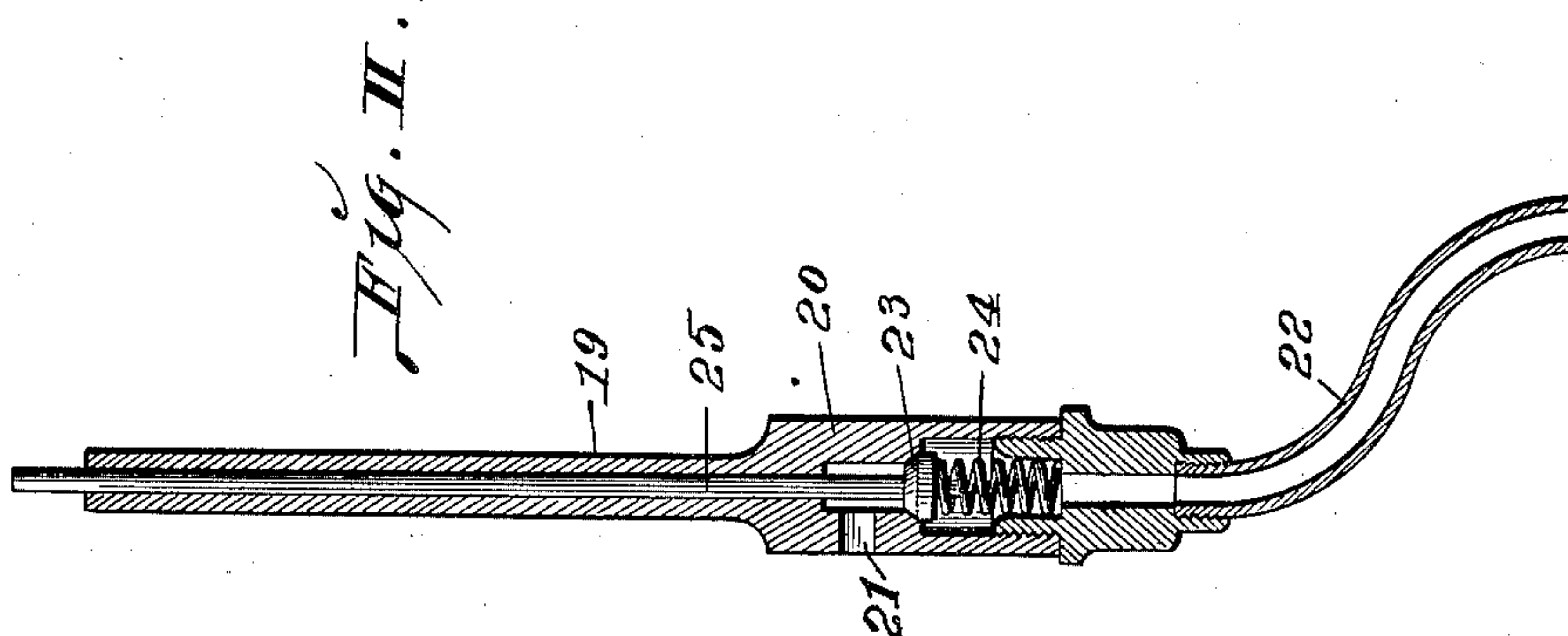
No. 706,810.

Patented Aug. 12, 1902.

A. C. EINSTEIN.
ACETYLENE GAS GENERATOR.

(Application filed Feb. 18, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 706,810, dated August 12, 1902.

Application filed February 18, 1901. Serial No. 47,711. (No model.)

To all whom it may concern:

Be it known that I, ALFRED C. EINSTEIN, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to acetylene-gas generators, and has particular reference to a regulator for controlling the delivery of water to the calcium carbide.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claim.

Figure I is a vertical sectional view taken through the generator. Fig. II is a longitudinal sectional view of the water-delivery valve and parts in which it is mounted.

1 designates an upper casing member containing a chamber 2.

3 is a water-reservoir provided with an inlet 4. Beneath the water-reservoir is a lower casing member 5, to which the carbide-cup 6 is connected.

7 designates a tube centrally positioned in the water-reservoir 3 and providing communication from the gas-chamber within the casing member 5 and carbide-cup 6 to a compartment 8 within a collapsible bag 9, located in the chamber 2 of the upper casing. The lower end of the bag 9 is connected to a disk 10 by a band 13, and the disk 10 is equipped with a tubular leg 11, that has screw-thread connection with the tube 7, extending through the water-reservoir.

12 designates ducts that provide for the passage of gas into the chamber 8 from the lower end of the tube 7.

The upper end of the bag 9 is connected by a band 14 to a traveling disk 15, that carries a guide-stem 16, which operates in the tubular leg 11 of the disk 10 and serves to direct the movement of the traveling disk 15 to obviate swaying thereof.

17 designates a weight movably connected to the traveling disk 15 by hanger-rods 18, so that the said weight is suspended for verti-

cal play within the compartment 8 of the collapsible bag 9.

19 designates a tube located in the water-reservoir 3 and extending upwardly therefrom through the perforation between said reservoir and the chamber 2 and into the disk 10 in said chamber. At the lower end of the tube 19 is a valve-housing 20, provided with an inlet 21, through which water enters said housing to pass therefrom to a discharge-pipe 22, from which it falls to the carbide in the cup 6. Within the housing 20 is a valve 23, supported by a spring 24 and provided with a stem 25, that extends upwardly through the tube 19 and into the compartment 8 of the bag 9.

The operation of the generator is as follows:

In starting the generation of gas, water is introduced into the reservoir 3 through the inlet 4, and at this time the bag 9 is in a collapsed condition, owing to the fact that no gas is present within said bag to distend it. At such time the weight 17 rests upon the stem 25 of the valve 23 and holds it unseated, thereby permitting the flow of water through the valve-housing 20 from the inlet 21 and through the discharge-pipe 22 to the carbide. The flow of water to the carbide continues until such time as the generation of gas has caused sufficient pressure within the apparatus for the gas to be forced up through the tube 7 and ducts 12 into the compartment 8 of the bag 9 to distend said bag. As the bag is distended the traveling disk 15 is raised and carries therewith the weight 17, thereby removing said weight from contact with the valve-stem 25 and permitting the spring 24 to carry the valve 23 to its seat. In this way the delivery of water to the carbide is shut off, thereby stopping the flow of water to the carbide through the discharge-pipe 22. The weight 17 remains in elevated position until such time as the pressure of gas in the apparatus becomes diminished to such extent as to permit of the weight forcing the gas from the compartment 8 back into the generation-chamber, so that the bag 9 may again collapse. Immediately upon the weight 17 again coming in contact with the stem 25 the valve 23 is unseated, and the flow of water to the

carbid is again started, to continue as in the first instance until the supply again distends the bag 9 and lifts the weight 17.

I do not herein claim matter claimed in my
5 application Serial No. 47,710.

I claim as my invention—

In an acetylene-gas generator, the combination of a casing containing a generating-chamber, a collapsible bag having communi-
10 cation with said generating-chamber, a weight loosely suspended from the top of said bag, a water-reservoir, a valve-housing mounted in said reservoir between the generating-chamber and collapsible bag and having com-

munication with said reservoir and said gen- 15
erating-chamber, a tube extending from said housing to said collapsible bag, a valve in said housing, a spring arranged to press said valve to its seat and a stem carried by said valve extending through said tube into said 20
collapsible bag above the bottom thereof and adapted to receive the impact of said weight when the bag collapses for the purpose of unseating said valve, substantially as described.

ALFRED C. EINSTEIN.

In presence of—

E. S. KNIGHT,

N. V. ALEXANDER.