A. C. CLARK.

ANESTHETIC APPARATUS.

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1,167,353.

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Fig. 1

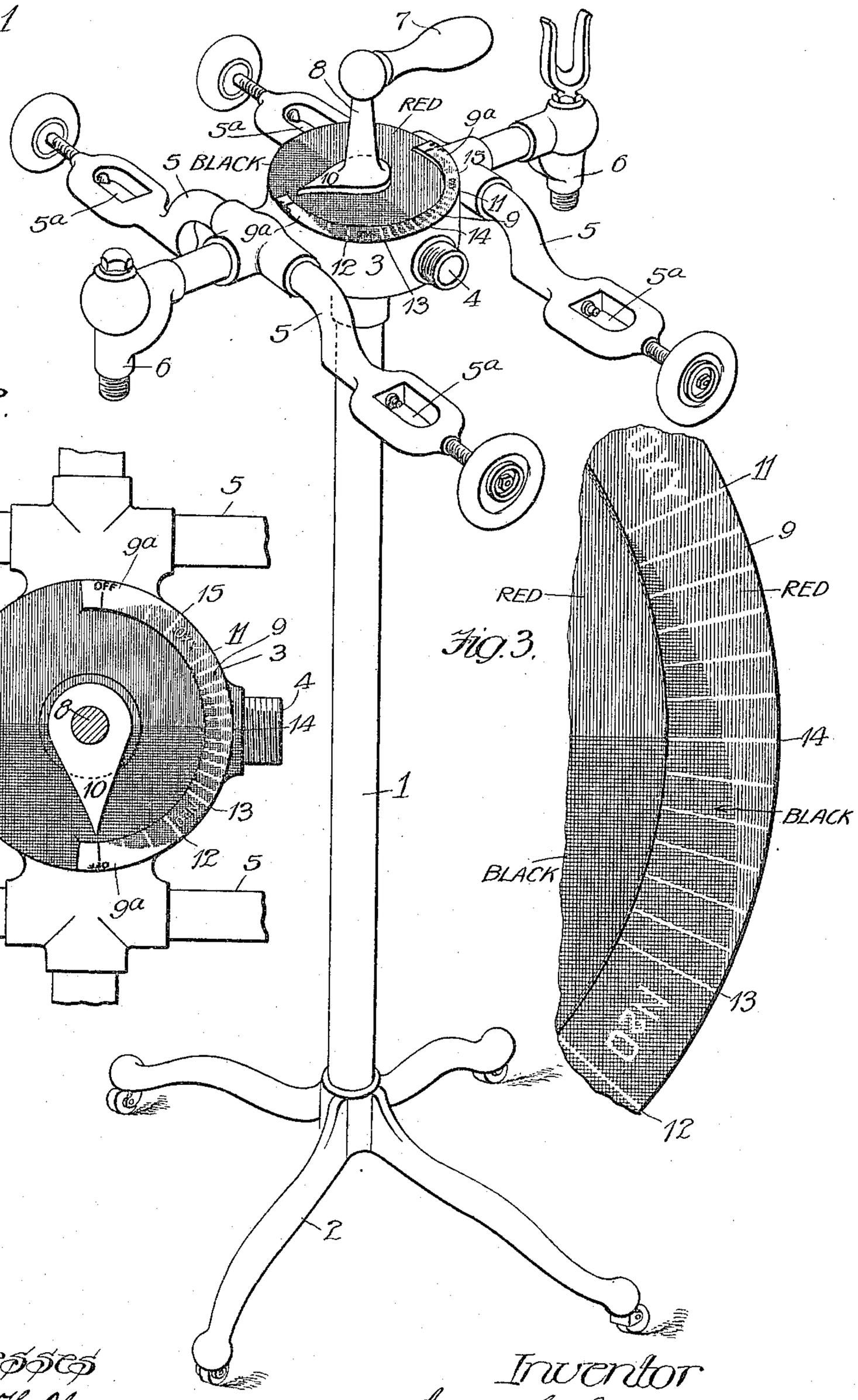

Fig. 2.

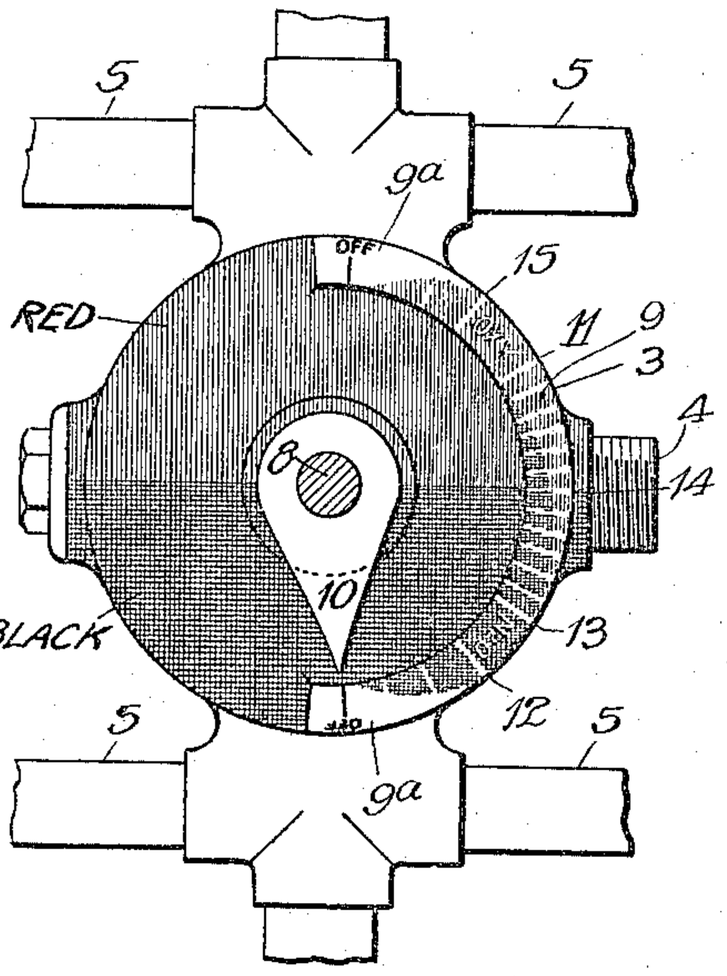

Fig. 3.

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ANESTHETIC APPARATUS.

1,167,353. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed April 19, 1913. Serial No. 762,343.

To all whom it may concern:

Be it known that I, ALBERT C. CLARK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Anesthetic Apparatus, of which the following is a specification.

My invention relates to anesthetic apparatus of that type or character capable of administering different kinds of gases such as nitrous oxid and oxygen, the apparatus being capable of administering such gases either separately or mixed.

The object of my invention is to provide an apparatus of this character which shall have means for readily indicating to the operator at a glance the particular kind of gas or the degree of mixture thereof with the other gases according to the position of the operating handle, such indication being a visual one and in general comprising contrasting colors such as black to indicate nitrous oxid and red, the oxygen.

In the drawings Figure 1 is a perspective of my gas apparatus but with the usual gas cylinders and bags removed; Fig. 2, a top plan view of a portion of the same, but with the operating handle stem in section; and Fig. 3, a portion of the top face of the valve on a larger scale.

Referring to the structure illustrated in the drawings the apparatus comprises a central post 1 supported by the legs 2 and surmounted by a valve casing 3 within which the valve mechanism (not shown), for governing the supply and mixture of the gases through the outlet 4 is located. It will be understood that the usual gas cylinders are secured to the arms 5 by being clamped and held within the openings 5ª thereof, the gas passing through the arms and through gas bags (not shown) which are secured to the fixtures 6 in a manner which need not be here set out, but which is fully described in applicant's pending application filed March 26, 1912, Serial No. 686,252.

It will be sufficient to state as above that the valve mechanism which here comprises a single valve operated by a handle 7 and a stem 8 controls the supply of either gas separate or both gases mixed.

The top face of the valve casing is graduated but instead of having these graduations or marks appear entirely upon the face itself of the casing I prefer to provide thereupon a raised portion or a substantially semicircular plate 9 on which appear such graduations whereby in connection with the pointer 10 forming a part of the stem 8 the different positions of the valve may be accurately determined. In the present instance these graduations consist of two "off" indications at opposite sides of the valve casing to indicate the two closed positions of the valve, a "N_2O" indication to indicate a position of the valve for the admission of the nitrous oxid and an "oxy" indication to indicate the position for the admission of oxygen alone and between the two last mentioned indications a series of marks or graduations for the purpose of indicating the position of the valve to obtain a mixture of the two gases in different proportions according to its particular position.

As shown in Figs. 1, 2 and 3 the top of the casing is provided with different and contrasting colors, one-half being in the present instance colored black and the other half red, and the plate 9 is provided with crescent shaped overlapping markings or surfaces of black and red arranged to indicate visually the proportions of nitrous oxid and oxygen being used. The black corresponds to the nitrous oxid side of the casing that is that side occupied by the indicator 10 when nitrous oxid is being supplied by the valve mechanism alone or in higher percentage as compared with the oxygen. The red is on that side of the casing corresponding to the oxygen side that is the side occupied by the indicator or pointer 10 when oxygen is being supplied alone or in a higher percentage as compared with nitrous oxid.

The black marking upon the plate 9 begins at an "off" position, at the inner edge thereof, and extends in crescent form over the plate and disappears at the graduation 11 which indicates the position for the admission of oxygen alone. This crescent increases in size from the said "off" position or indication, reaching maximum between the graduations 12 and 13 representing the position for the admission of nitrous oxid alone. The crescent then decreases across the medial line 14 and ends at the inner end of the graduation 11. In like manner a similar crescent but colored red starts at the other "off" indication and after increasing to full size between the graduations 15 and 11 disappears at the outer end of the grad-

uation 13, overlapping the other crescent between the graduations 11 and 13. The admission of oxygen begins when the pointer of the valve handle is at 13 position and the amount admitted increases as indicated by the size of the crescent, oxygen alone in full quantity being admitted between the graduations 11 and 15 and the amount decreasing from thence to the "off" position or graduation. As a result of this construction and use of contrasting colors the operator can see at a glance whether he is administering nitrous oxid or oxygen and the relative proportions of both, in case of a mixture, without the necessity of taking the pains to accurately observe the particular position of the pointer 10 with relation to the calibrated plate. When this pointer is covering the black side of the casing the operator knows that nitrous oxid is being administered either alone or in excess of the oxygen and likewise when the pointer is over the red side of the casing, he knows that either oxygen alone or an excess of the oxygen is being administered. Also by the use of the colored crescents, the operator is visually informed of the exact proportions of the mixture of the two gases according to the position of the valve handle pointer. For instance, when such pointer is at graduation 14, where the crescents are of equal width, it is visually indicated that the two gases are being admitted and mixed in equal proportions.

By preference the top surface of the valve casing and the plate 9 are enameled with the exception of the substantially half crescent portions 9^a at opposite ends of the plate, which portions are preferably left plain, in practice being nickel plated, thereby affording a sharp contrast with the two colored crescents as indicated in Figs. 1 and 2.

While I have described the indicator as a separate element (the pointer 10 carried by the stem 8) it is obvious that it is only necessary that some part of the handle structure—for instance the handle itself—shall coöperate with the graduations upon the plate 9 in order to afford an indication of the position of the mixing valve.

I claim:

1. In an anesthetic apparatus, a valve device arranged to supply two different gases from different sources either alone or mixed in different proportions and including a valve handle and fixed and movable indicating elements, one of said elements being provided with complementary contrasting colored areas constituting scales for indicating at a glance the particular gas being supplied or the relative proportions of such gases.

2. In an anesthetic apparatus, a valve device arranged to supply two different gases from different sources either alone or mixed in different proportions and including a valve handle arranged for indication, and a casing having indicated thereon in contrasting colors two crescents overlapping each other.

3. In an anesthetic apparatus, a valve device arranged to supply nitrous oxid and oxygen either alone or mixed in different proportions and including a valve handle arranged for indication and a casing colored on one-half to indicate the nitrous oxid side thereof and colored by a contrasting color on the other half to indicate the oxygen side thereof, said casing having at its margin overlapping crescents in contrasting colors.

4. In an anesthetic apparatus, a valve device arranged to supply two different gases from different sources either alone or mixed in different proportions and including a valve handle arranged for indication, and a casing provided with an upwardly projecting portion having indicated thereon in contrasting colors two overlapping crescents at its intermediate portion to indicate mixture of the two gases and substantially half crescents in still different contrasting color at its end portions.

5. In an anesthetic apparatus, a valve device arranged to supply nitrous oxid and oxygen either alone or mixed in different proportions and including a valve handle arranged for indication, and a casing colored black on one half to indicate the nitrous oxid side thereof and colored red on the other half to indicate the oxygen side thereof, said casing being provided with a plate 9 having graduations to indicate "off" positions of the valve device, "N_2O" and "oxy" positions thereof and also having indicated thereon in contrasting colors two overlapping crescents to indicate mixture of the two gases.

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