No. 761,066. PATENTED MAY 31, 1904.

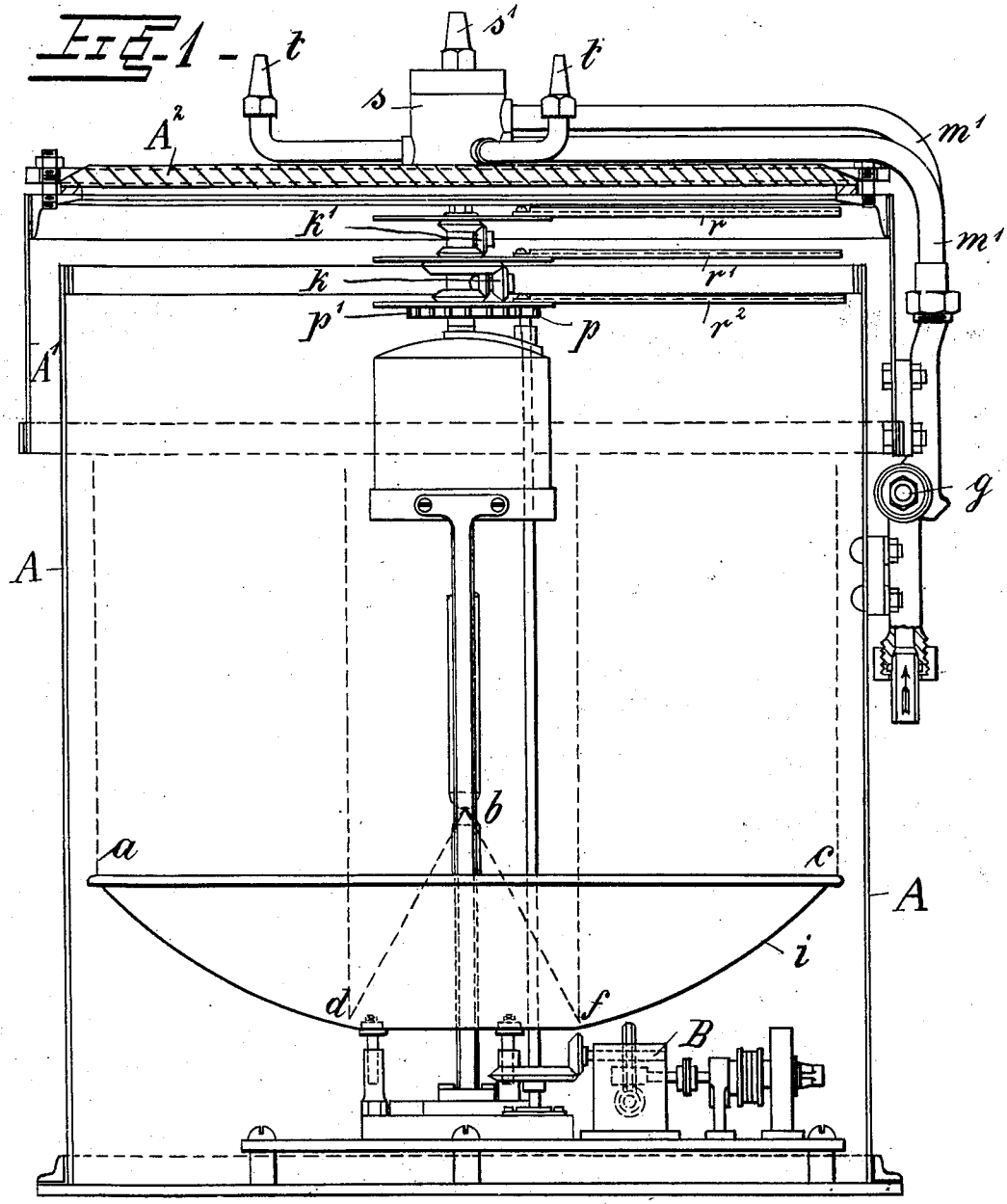
A. ENGELSMANN.

LIGHT ACCUMULATOR FOR CONTINUOUS AND ALTERNATING ELECTRIC CURRENTS.

APPLICATION FILED AUG. 1, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
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Willy Sacke

Inventor
August Engelsmann,
by his Attorneys,
Wirth & Attmann

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig. 2.

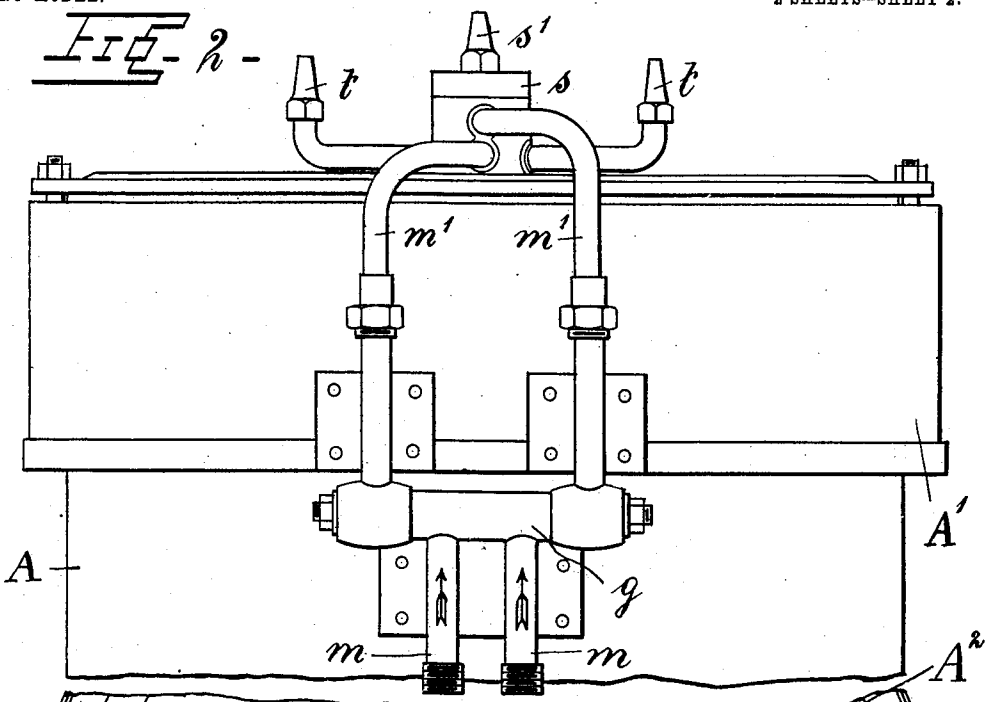
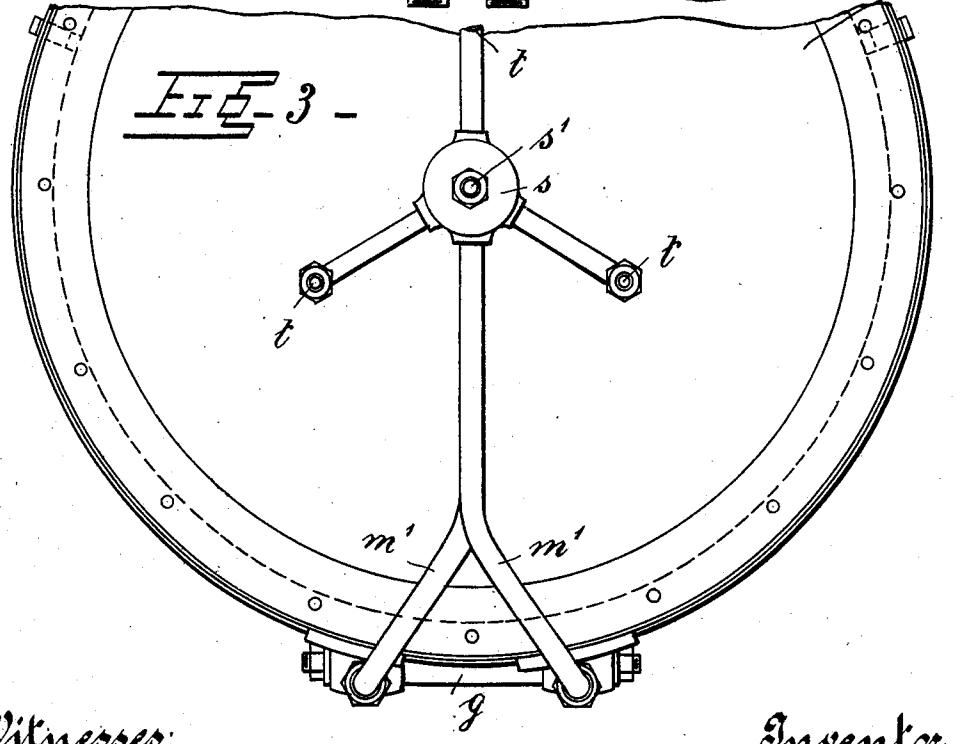


Fig. 3.



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No. 761,066. Patented May 31, 1904.

UNITED STATES PATENT OFFICE.

AUGUST ENGELSMANN, OF STUTTGART, GERMANY.

LIGHT-ACCUMULATOR FOR CONTINUOUS AND ALTERNATING ELECTRIC CURRENTS.

SPECIFICATION forming part of Letters Patent No. 761,066, dated May 31, 1904.

Application filed August 1, 1902. Serial No. 117,990. (No model.)

To all whom it may concern:

Be it known that I, AUGUST ENGELSMANN, a subject of the Grand Duke of Baden, residing at Stuttgart, in the Kingdom of Würtemberg, in the German Empire, have invented new and useful Improvements in Light-Accumulators for Continuous and Alternating Electric Currents, of which the following is a specification.

The subject of the present invention is a light-accumulator for continuous and alternating electric currents by which the whole of the light of an electric lamp is thrown upon a parabolic mirror. The accumulator is combined with a color-changing appliance and with a water-jet apparatus, both of which devices are located above the parabolic mirror. The parabolic mirror is so arranged that the electric lamp lies completely in the shadow of the negative carbon, which shadow is somewhat larger than the lamp mechanism which is located within it. The appliance for changing the colors consists of an arrangement of colored panes or sectors covering a certain portion of the surface of the light-reflecting mirror above the parabolic mirror. The sectors are mounted on a central shaft in such manner that the speeds at which they rotate differ, so that by superimposing one color on another a different shade of color can be produced and by superimposing all the color-sectors one upon the other all colored light can be shut off. The sectors are coverd by a glass plate, above which a water-jet apparatus is arranged, fed by any suitable means.

The annexed drawings illustrate one construction of my new light-accumulator.

Figure 1 shows a vertical section through the whole apparatus. Fig. 2 is a side elevation of the top portion of the apparatus, seen at right angles to Fig. 1. Fig. 3 is a plan view of Fig. 2, partly broken away.

The parabolic mirror i is arranged below the electric lamp in such manner that the angles of radiation of the light *abd* and *cbf* throw the whole mass of light proceeding from the positive crater onto the annular portion *ad* and *fc* of the mirror, the depth of the latter being so selected that the shadow *df* is slightly larger than the lamp mechanism, which with the color-changing devices is arranged to lie within this shadow. The color-changing mechanism is located above the lamp within the shadow of the negative carbon in such manner that only the transparent color-sectors rotate within the path of the rays of light. For changing the colors three sectors—yellow, red, and blue—r r' r^2 are provided, each covering one-third of the surface of the light-radiating mirror. If the sectors do not allow light of only one color to pass through them, other shades of color may be produced by bringing the sectors one above the other. In order to enable all three sectors to be brought together at will or in order to shut off all colored light by bringing the sectors into position one above the other, whereby two-thirds of the whole mass of light sheds a colored or a pure white light, respectively, all the sectors are mounted on a central shaft with bevel-gearing. The latter is so arranged that the speeds of rotation of the three sectors differ one from another or at all events so that the disks turning in the same direction rotate at different speeds.

This system can be employed also with, for instance, four sectors, in which case each sector must occupy one-fourth of the area of the circle in order that all colors may be shut off when a three-quarter white light is required. For the purpose in view a vertical double bevel-gearing k is arranged on the central shaft in order to rotate the lowermost sector r over the middle sector r' in the manner above alluded to. The middle sector r' is connected with the uppermost disk r^2 by a bevel-wheel gearing k' for the attainment of a certain fixed speed.

The whole mechanism for changing the colors is inclosed in a casing A.

The color-sectors r, r', and r^2 may be rotated by means of an endless cord or chain led over wheels or in the manner shown in the drawings by means of a pinion p, meshing with a toothed wheel p', keyed to the central shaft and driven by a motor B.

The casing A is covered by a cap A′, having a glass top A^2, whereby the whole apparatus is closed over. The cap A′ is hinged to the casing g, so that it can be turned back. On

the glass plate A^2 is located the water-jet apparatus s, having a rose s' and several nozzles t, so that by shutting off one of the pipes m' either the rose s' or the nozzles t may be brought into continuous or intermittent action. Since the pipes m' are also fitted onto the hollow axis g' with capability of turning, the water-jet apparatus can be turned back either alone or together with the cap A'.

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

1. A light-accumulator for continuous and alternating electric currents, comprising an electric lamp and a parabolic mirror located below, in such position that the shadow df cast is somewhat greater than the lamp mechanism lying within it, and the whole of the light is thrown onto the annular portion ad, fc of the mirror; in combination with a color-changing device consisting of a central shaft, superimposed colored sectors, lying in the path of the rays of light from the lamp, mounted on said shaft, and gearing for rotating said sectors at differing speeds; and a water-jet apparatus consisting of a central rose and lateral nozzles and means for supplying water to same, in such manner that rose and nozzles can play simultaneously or alternately, continuously or intermittently, substantially as described.

2. A light-accumulator for continuous and alternating electric currents, comprising an electric lamp and a parabolic mirror located, in such position that the shadow df cast is somewhat greater than the lamp mechanism lying within it, and the whole of the light is thrown onto the annular portion ad, fc of the mirror; in combination with a color-changing device consisting of a central shaft superimposed colored sectors, lying in the path of the rays of light from the lamp, mounted on said shaft, and gearing for rotating said sectors at differing speeds; a hinged cap for the lamp-case having a glass top; and a central, hinged water-jet apparatus located above said top and means for supplying water to said apparatus, substantially in the manner specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

AUGUST ENGELSMANN.

Witnesses:
ERNST ENTENMAN,
WM. HAHN.