No. 821,845. PATENTED MAY 29, 1906.

E. ALBERT.

APPARATUS FOR BACKING UP OF ELECTROS.

APPLICATION FILED JUNE 21, 1905.

Fig. 1

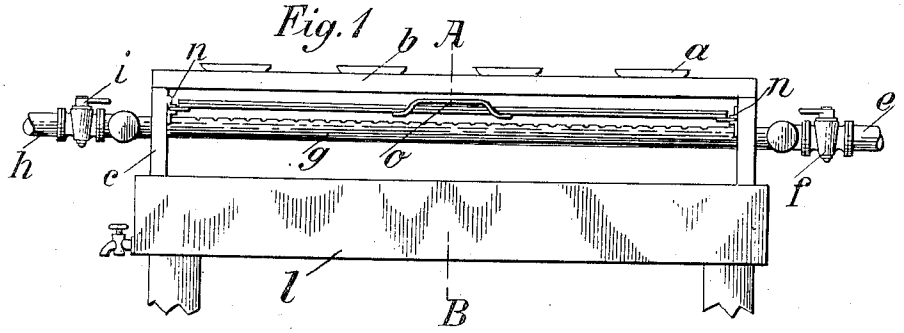


Fig. 2.

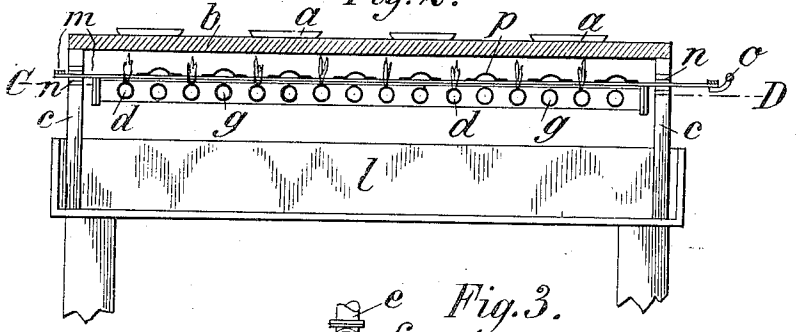
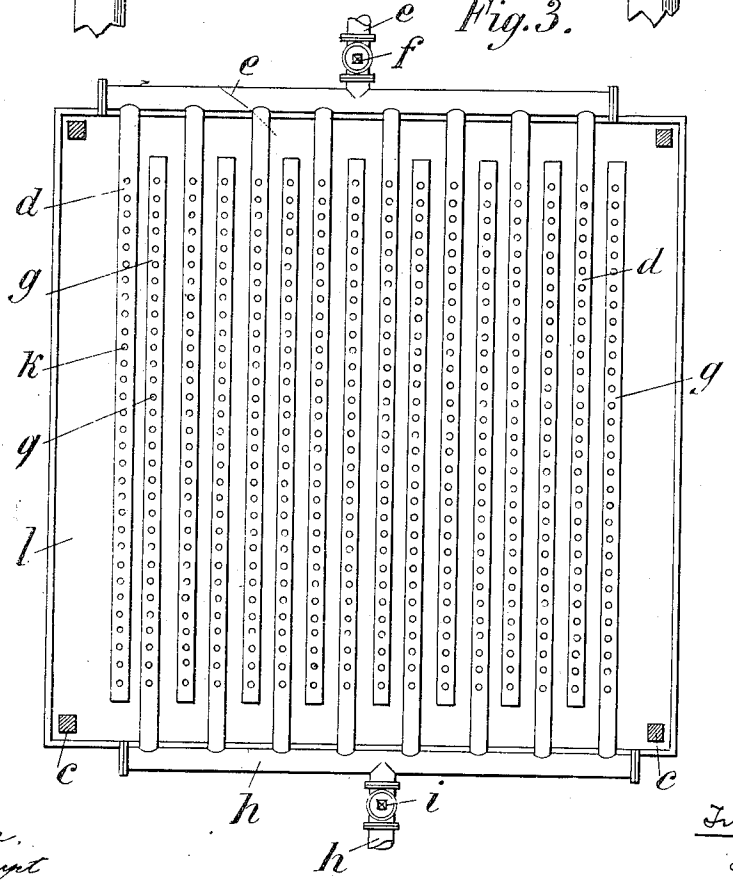


Fig. 3.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR BACKING UP OF ELECTROS.

No. 821,845. Specification of Letters Patent. Patented May 29, 1906.

Application filed June 21, 1905. Serial No. 266,231.

To all whom it may concern:

Be it known that I, EUGEN ALBERT, a subject of the King of Bavaria, residing at Schwabingerlandstrasse, Munich, in the Kingdom of Bavaria, Germany, have invented certain new and useful Improvements in Apparatus for Backing Electros, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

The backs of electros used in printing are generally cast by first placing them on the bottom of a metal box, which is dipped into the molten metal to be applied to the electros in order that the electros may be brought to the same temperature as the metal, after which the electros are filled with the molten metal. The electros with the backs thus cast on are cooled by exposing them to a cold current of air in a suitable device. In accordance with the present invention the backing of electros is considerably improved and simplified by cooling the plate on which the backs of the electros are cast by spraying it with jets of water. In this way the backs are cooled so quickly and so uniformly that there is little danger of any contraction of the electros upon the plate. This process has another advantage in that no motor or similar device is required for producing compressed air for the cooling.

An apparatus for carrying out the invention is shown in the accompanying drawings, in which—

Figure 1 shows the apparatus in side elevation. Fig. 2 is a vertical section on line A B of Fig. 1, and Fig. 3 a horizontal cross-section on line C D of Fig. 2.

The plate *b*, intended to receive metallic deposits or shells which are to be provided with a back, is preferably made of metal and is supported on a frame *c*. Under the plate *b* are arranged two groups of pipes supported in some suitable manner. The pipes *d* of one group are connected with a gas-pipe *e*, which can be closed by a tap *f*, the pipes *g* of the other group being connected with a water-pipe *h*, which can be closed by a tap *i*.

The pipes *d* or *g* of both groups are provided, as will be seen in Fig. 3, with holes *k* or *q* at the top and arranged alternately side by side in such manner that between each two gas-pipes *d* there is a water-pipe *g*, and vice versa. Under the groups of pipes is arranged a casing or box *l*, made of sheet metal or the like for receiving water sprayed from the pipes *g* against the plate *b*. Between the groups of pipes *d g* and the plate *b* there is arranged a protecting-frame for the purpose of preventing water sprayed against the plate *b* from penetrating into the gas-pipes *d* through their holes *k*. This protective frame can be constituted by a flat iron frame *m*, guided in the guides *n n* of the frame *c* and provided with a handle *o*. To this flat iron frame *m* is riveted a series of narrow curved metal strips *p*. When the plate *b* is heated, the frame *m* is in the position shown in Fig. 2, in which the metal strips *p* are situated over the water-pipes *g*. Before cooling the plate *b* the frame *m* is shifted toward the left, as in Fig. 2, so that the strips *p* come to lie over the gas-pipes *d*, water thus being prevented from penetrating into the gas-pipes *d*.

It will be obvious that protective means other than the frame *m* may be employed, if desired.

The apparatus is used in the following manner: The metal deposit or deposits or shells *a* to be provided with a back are placed on the plate *b*. Then the gas-tap *f* is opened, and the gas escaping from the holes *k* of the gas-pipe *d* is lighted. The plate *b* is then heated by the gas-flames. As soon as it is sufficiently hot, which can be, for instance, indicated by the melting of a little strip of tin-foil or the like placed on the plate *b*, the gas-tap *f* is closed and the metal alloy cast into the deposit or shell *a*. After this casting of the back has been effected the electros are immediately cooled without the necessity of changing the position of the said electros. To this end the frame *m* is at first shifted in such manner as to bring the curved strips *p* over the gas-pipes *d*. The water-tap *i* is then opened, so that jets of water escape from the holes *q* of the pipes *g* and impinge from below against the plate *b*. In this way the plate *b* and the electros *a* on it are quickly cooled. Water trickling off from the plate *b* collects in the box *l*. After the plate *b* and the electros arranged on it have been sufficiently cooled these electros are removed, and new metal deposits or shells *a* are placed on the plate *b*, whereupon the process described is again repeated.

What I claim is—

1. In an apparatus of the character described, means to heat electros, means to cool electros, and means to protect one of said means while the other of said means is in operation.

2. In an apparatus of the character described, means to support electros, means to heat electros, means to cool electros, and means to cover the second-named means while the third-named means is in operation.

3. In an apparatus of the character described, a plate to support electros, gas-pipes for heating electros, water-pipes for cooling electros, and means to cover the gas-pipes while the water is issuing from the water-pipes.

4. In an apparatus of the character described, a plate to support electros, gas-pipes thereunder for heating said plate, water-pipes also underneath said plate and alternating with the gas-pipes for cooling said plate, and a slidable frame adapted to cover the gas-pipes while the water is issuing from the water-pipes.

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

EUGEN ALBERT.

Witnesses:

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