No. 610,907. Patented Sept. 20, 1898.

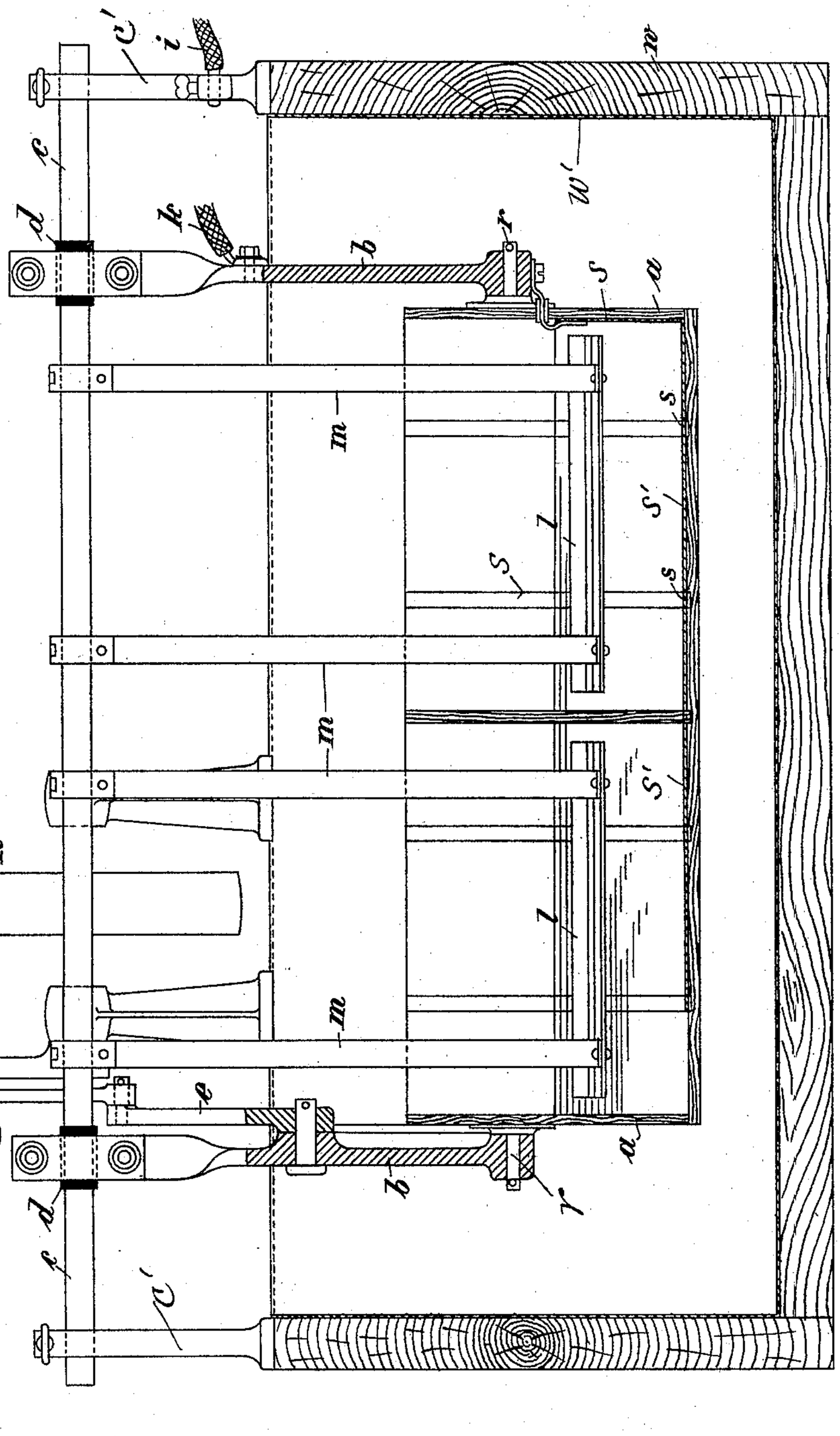
G. LANGBEIN.

APPARATUS FOR ELECTROPLATING ARTICLES IN BULK.

(Application filed Jan. 22, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



Witnesses.
E. B. Bolton
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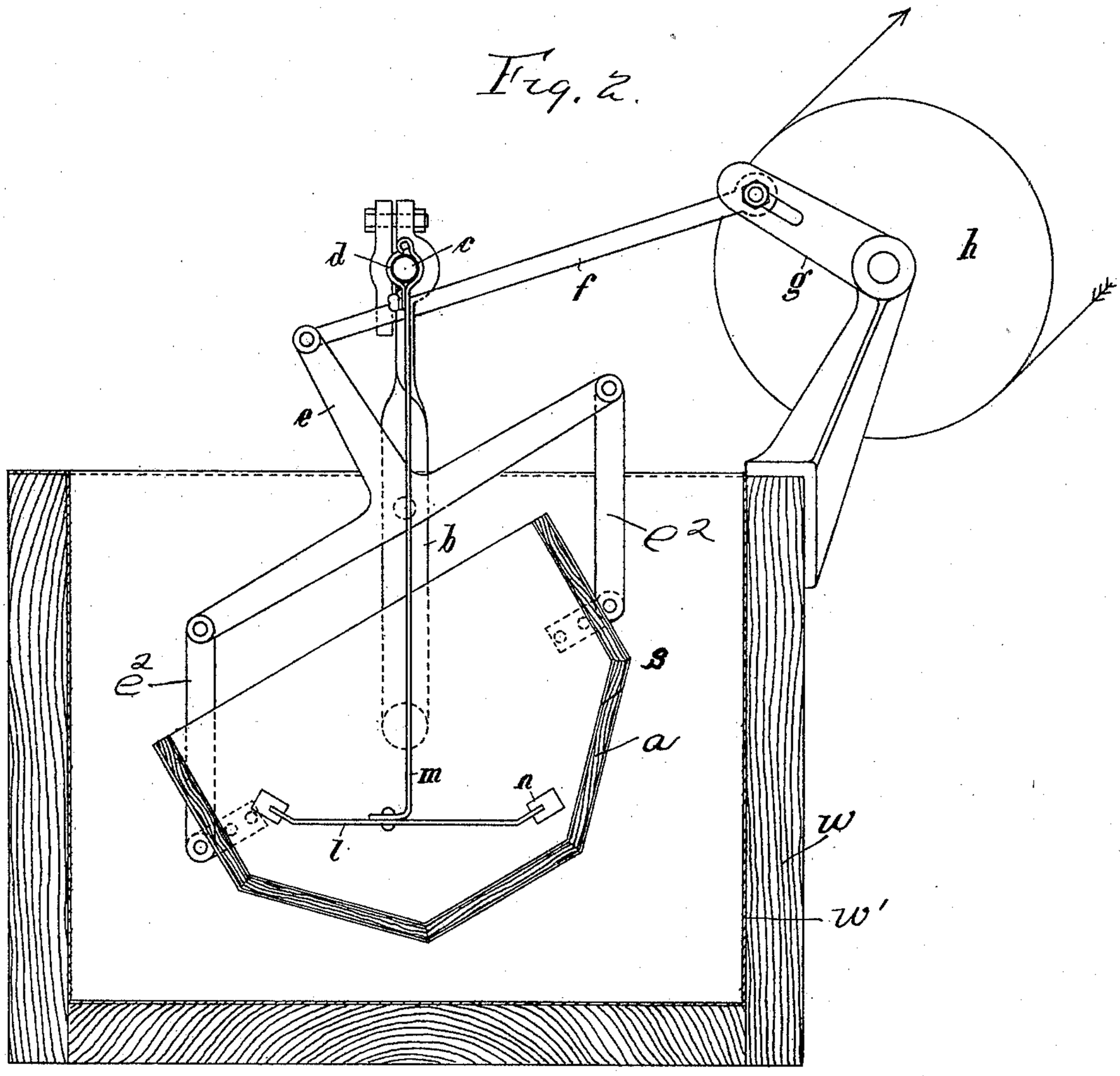
Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORG LANGBEIN, OF LEIPSIC, GERMANY.

APPARATUS FOR ELECTROPLATING ARTICLES IN BULK.

SPECIFICATION forming part of Letters Patent No. 610,907, dated September 20, 1898.

Application filed January 22, 1898. Serial No. 667,581. (No model.)

To all whom it may concern:

Be it known that I, GEORG LANGBEIN, chemist, a citizen of the German Empire, and a resident of 62 Torgauerstrasse, Leipsic, Sellerhausen, Germany, have invented certain new and useful Improvements in Apparatus for Use in Electroplating Articles in Bulk and in Large Quantities, of which the following is a specification.

My invention relates to an apparatus adapted to hold articles to be electroplated, the said apparatus being given a rocking movement instead of a rotary movement.

In the drawings, Figure 1 is a vertical longitudinal sectional view with parts in elevation. Fig. 2 is a transverse sectional view with parts in elevation.

In the drawings, *a* is the cradle or receptacle for holding the articles to be electroplated. It is made of material, as wood, not affected by the electrolyte, which is contained in the tank *w*, into which the cradle dips.

The cradle is suspended by hangers *b*, receiving the pivots *r* of the cradle, said hangers being supported from the bar *c*. The hangers are insulated from the bar *c* by the rubber sleeves *d*.

The cradle is rocked by the three-armed lever *e*, pivoted to one of the hangers *b* and connected through the link *f* with the crank *g*, which is driven from the pulley *h*. The three-armed lever *e* is connected with the front and rear sides of the cradle by the links e^2 e^2. The pivots *r* are in electrical connection through the strip S′ with several strips of copper *s s*, fastened to the interior of the cradle, Fig. 1, and these strips form one set of electrodes. The pivots *r* are also in electrical connection with the wire *k* through the hangers *b*.

The anodes *l l* dip into the cradle and are in metallic connection with the bar *c* through the hangers *m*, and said bar *c* is in electrical connection with the positive pole of the source of electricity through the wire *i*, said wire *i* being electrically connected to the support *c′* of the bar *c*.

Strips of wood *n* may be used to protect the edges of the anodes *l l*.

The rocking action of the cradle as compared with a rotary action of a drum is that of rolling the articles from side to side on the bottom of the cradle without becoming entangled, as is often the case with the rotary drums. The articles are kept close to the anodes, thus reducing resistance, and the rolling of the articles bringing about an even galvanic deposit in a short time. The lining of the tank is shown at *w′*.

I claim—

In combination, the tank, the open-top cradle, the bar *c*, the hangers *b* insulated from the bar *c* and extending down therefrom to pivotally support the cradle, the anodes extending down from the bar *c* into the open-top cradle the cathodes in the cradle, the electrical connections, and means for rocking the cradle on its pivots, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 4th day of January, 1898.

GEORG LANGBEIN.

Witnesses:
RUDOLPH FRICKE,
E. KUHFUSS.