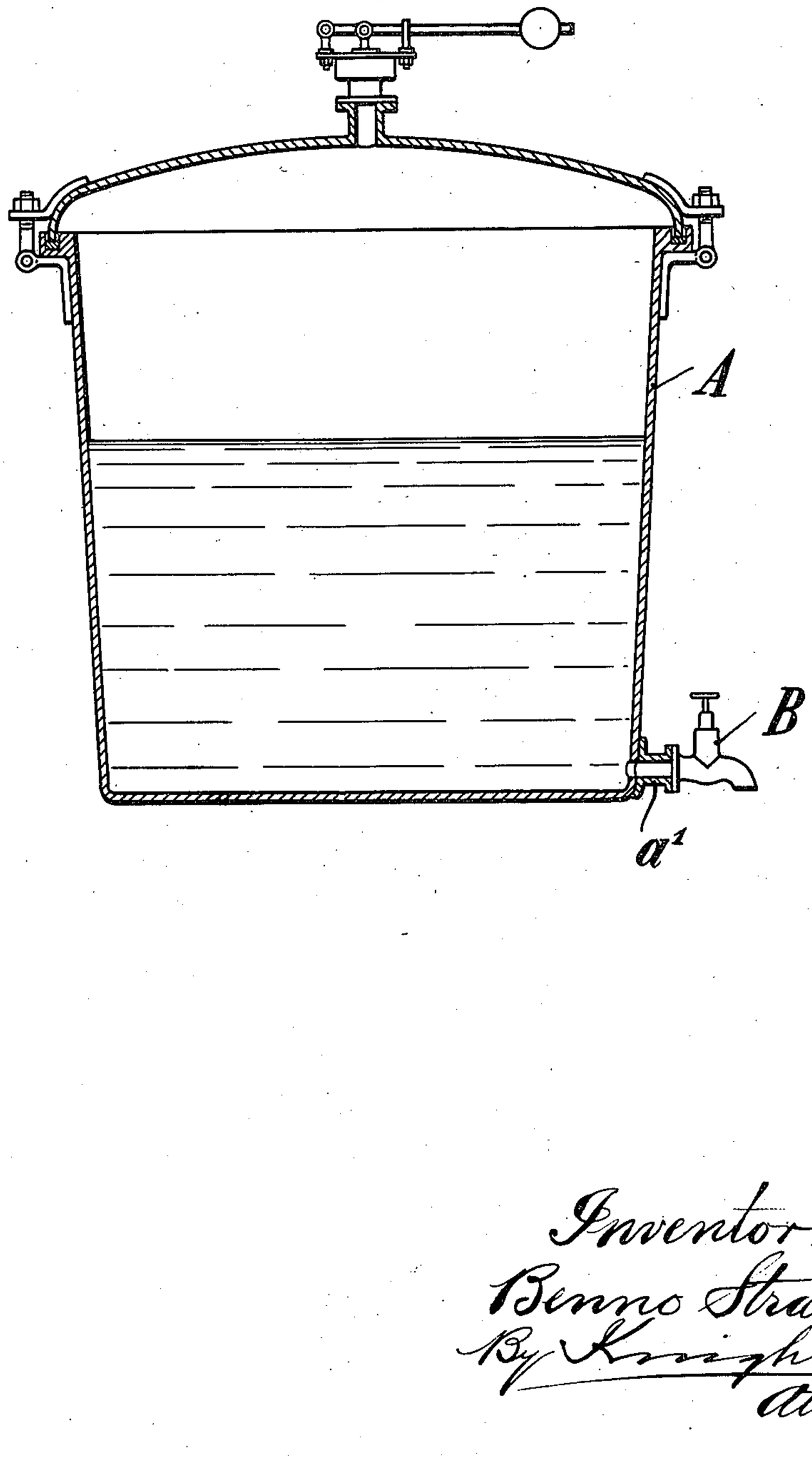
B. STRAUSS.

VESSEL FOR BOILING LYE.

APPLICATION FILED MAY 27, 1913.

1,166,866.

Patented Jan. 4, 1916.



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UNITED STATES PATENT OFFICE.

BENNO STRAUSS, OF BREDENEY, GERMANY, ASSIGNOR TO FRIED. KRUPP AKTIEN-GESELLSCHAFT, OF ESSEN-ON-THE-RUHR, GERMANY.

VESSEL FOR BOILING LYE.

1,166,866. Specification of Letters Patent. **Patented Jan. 4, 1916.**

Application filed May 27, 1913. Serial No. 770,267.

To all whom it may concern:

Be it known that I, BENNO STRAUSS, residing at Bredeney, Germany, a subject of the Emperor of Germany, have invented a certain new and useful Improvement in Vessels for Boiling Lye, of which the following is a specification.

The present invention relates to vessels, such as barrels, piping, etc., for the reception of boiling lye.

The mild steel heretofore mostly used in the manufacture of such vessels, is greatly affected by the lye. Trials have proved that mild steel loses about 25 grams in weight per hour and square meter of its surface area, by the influence of boiling caustic soda.

In order to obtain strong vessels, which at the same time are capable of resisting the lye, nickel steel has been suggested for these vessels, whereby a considerable actual reduction in loss of weight would be attained. Experience teaches, however, that nickel steel of ordinary composition does not satisfy the higher requirements of resistance.

In accordance with the present invention a nickel steel is utilized containing 25% or more nickel, which gives so high a resistance against the action of the lye, that the loss in weight may practically be disregarded. By bringing the nickel steel into a passive state, that is by coating its surface with a thin film of oxid, preferably a coating developed by oxidizing metal contained in the alloy, the steel will be entirely invulnerable to boiling lye. From one half to two per cent. of chromium may be added to the nickel steel to increase the mechanical strength, without diminishing its resisting quality against the action of lye.

The accompanying drawing shows, in vertical section, a container for receiving boiling lye, which receptacle is produced from an alloy of the kind described.

The receptacle, which is represented by A, is provided with an outlet pipe a^1 controlled by a cock B, both of which adjuncts are likewise produced from an alloy of the kind described.

I claim:

1. A boiling lye receptacle made of a nickel steel alloy containing a minimum of about 25% of nickel.

2. A boiling lye receptacle made of a nickel steel alloy containing a minimum of about 25% of nickel and also containing from $\frac{1}{2}$ to 2% of chromium.

3. A boiling lye receptacle made of a nickel steel alloy containing a minimum of about 25% of nickel, and having the surface of the alloy coated with a thin film of oxid developed from metal contained in the alloy of which the receptacle is made.

The foregoing specification signed at Barmen, Germany, this 10th day of May, 1913.

BENNO STRAUSS. [L. S.]

In presence of—

HELEN NUFER,

ALBERT NUFER.