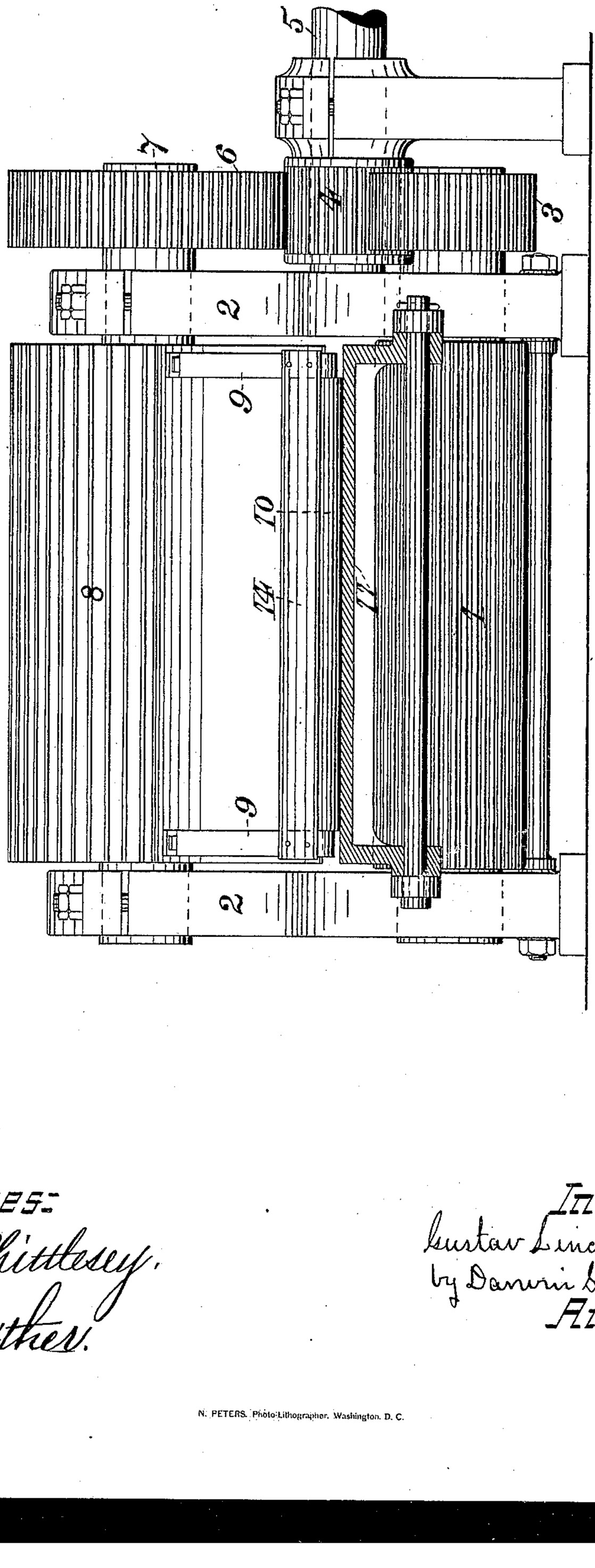
(No Model.) 2 Sheets—Sheet 1.

G. LINDENTHAL.

SQUEEZER.

No. 378,695. Patented Feb. 28, 1888.

FIG. 1.



Witnesses:
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Inventor:
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Attorney.

(No Model.) 2 Sheets—Sheet 2.

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FIG. 2.

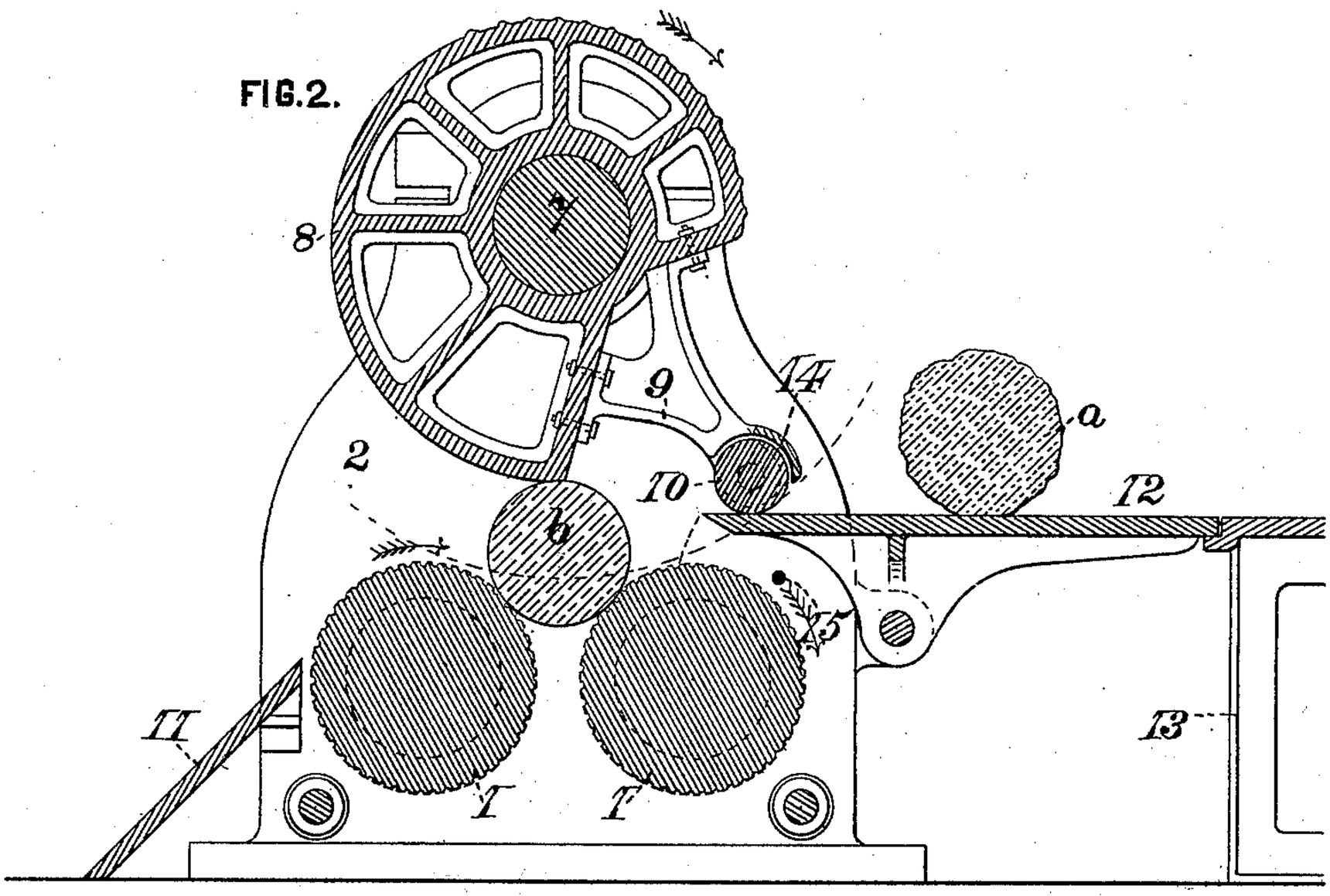
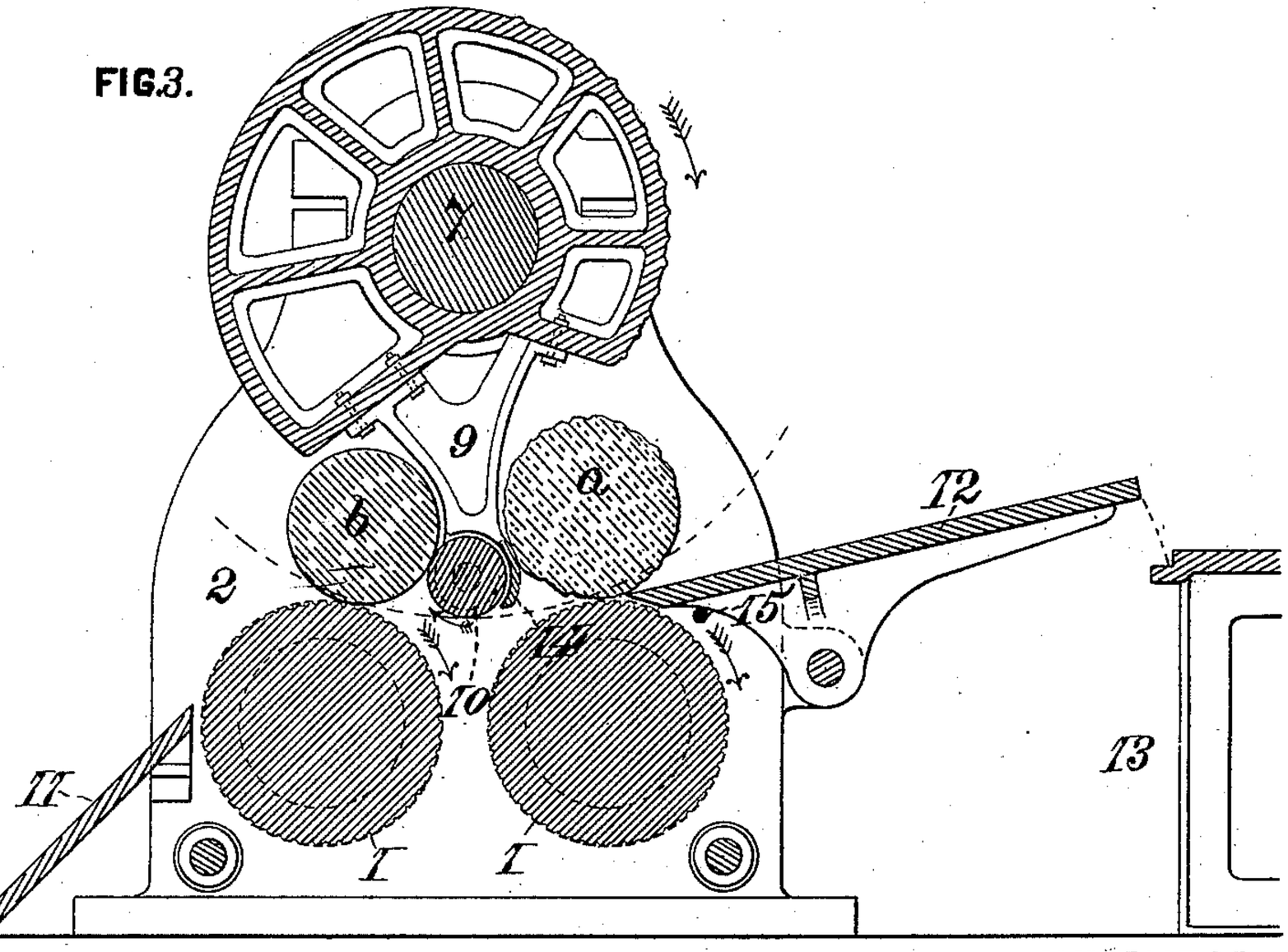


FIG. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GUSTAV LINDENTHAL, OF PITTSBURG, PENNSYLVANIA.

SQUEEZER.

SPECIFICATION forming part of Letters Patent No. 378,695, dated February 28, 1888.

Application filed July 23, 1887. Serial No. 245,086. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV LINDENTHAL, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, a citizen of the United States, have invented or discovered certain new and useful Improvements in Squeezers, of which improvements the following is a specification.

The invention herein relates to certain improvements in apparatus for reducing the spongy masses of metal or "balls" as they come from the puddling-furnace to blooms, and at the same time removing the cinder therefrom, whereby they are adapted for subsequent reduction by rolling.

My invention is more especially adapted for use in connection with that form of apparatus known as the "vertical squeezer," which consists, generally, of two lower rolls and an eccentric or cam arranged above them. While it is comparatively easy in this form of apparatus to place the balls in position for reduction, it is a matter of considerable difficulty to remove them after they have been reduced.

The object of the invention herein is to provide for the automatic charging and discharging of the balls to and from the squeezer; and to these ends the invention consists in the construction and combination of parts, substantially as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a view in side elevation of a squeezer embodying my invention. Figs. 2 and 3 are sectional views on the line *x x*, Fig. 1, showing the position of the several parts at different stages of the operation.

The squeezer, which is of the well-known form, consists of the longitudinally grooved or fluted rolls 1, mounted in suitable housings or standards, 2, and provided at one end, outside of the housings, with pinions 3, which intermesh with an idler-pinion, 4, on the power-shaft 5. The pinion 4 also intermeshes with a pinion, 6, on the shaft 7, mounted in suitable bearings in the upper part of the housings, as shown. On the shaft 7, between the housings, is secured the cam or eccentric roll 8, of the usual form and construction. Heretofore in using this machine the balls were placed on a table and then pushed onto the rolls 1, and after one revolution of the cam the bloom was removed from the opposite side by means of hooks or tongs; but as the rear roll 1 revolves in a direction opposite to the direction in which the bloom is moved this operation is difficult and laborious. In order to overcome this difficulty, I secure two brackets, 9, to the cam or eccentric in the opening or recess between the points of greatest and least eccentricity of the cam, said brackets carrying at their lower ends one or more rollers, 10. The brackets are made of such a length that the roller 10 will in its revolution just escape the rolls 1, and, engaging the bloom *b*, previously formed by a single rotation of the cam, throw it off the rolls 1 onto the inclined table 11 at the rear of the squeezers, whence it rolls to the floor of the mill. The roller 10 in its revolution and prior to its engagement with the finished bloom strikes upon the inner end of the table 12, pivoted, as shown, in brackets projecting from the housings, and tips said table, so that the ball *a* previously placed thereon will roll down onto the rolls 1. The outer end of the table 12 is supported in a horizontal position by a stationary table, 13, or other suitable support, on which the balls from the puddling-furnace can be placed and moved forward by an attendant onto the tipping table as required. As the table 12 is tipped before the bloom is removed, as above described, I provide a guard-plate, 14, attached to the brackets 9 and extending along behind the roller 10, said guard-plate being designed to prevent the ball *a*, as it rolls down the table, from coming in contact with the roller 10, and thereby preventing its rotation when acting on the bloom.

In order to prevent the inner end of the tipping table from coming into contact with the front roll, 1, I provide stop-pins 15, which will limit the movement of the table.

I claim herein as my invention—

1. A squeezer constructed substantially as described, in combination with a rotating arm arranged to engage the completed bloom and remove the same from the squeezer, substantially as set forth.

2. A squeezer constructed substantially as described, in combination with arms secured to the cam or eccentric and provided with a roller at their lower ends, substantially as set forth.

3. A squeezer constructed substantially as described, in combination with a rotating arm and a pivoted table, said parts being arranged to automatically deliver a ball to the squeezer and discharge the bloom therefrom, substantially as set forth.

4. A squeezer constructed substantially as described, in combination with arms secured to the cam or eccentric of the squeezer, a roller mounted in the lower ends of the arms, a guard-plate extending along behind the roller, and a pivoted table, substantially as set forth.

In testimony whereof I have hereunto set my hand.

GUSTAV LINDENTHAL.

Witnesses:

DARWIN S. WOLCOTT,

R. H. WHITTLESEY.