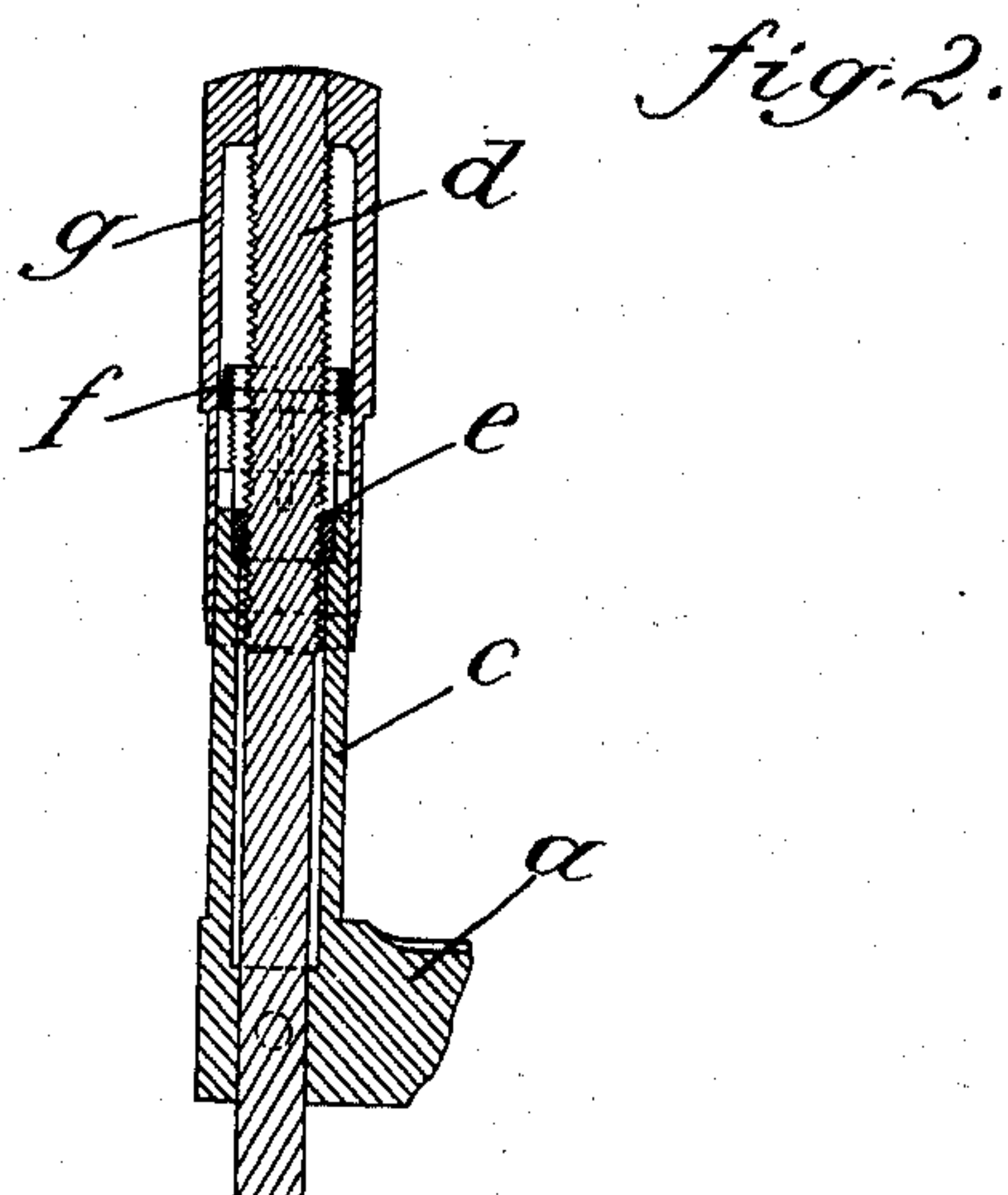
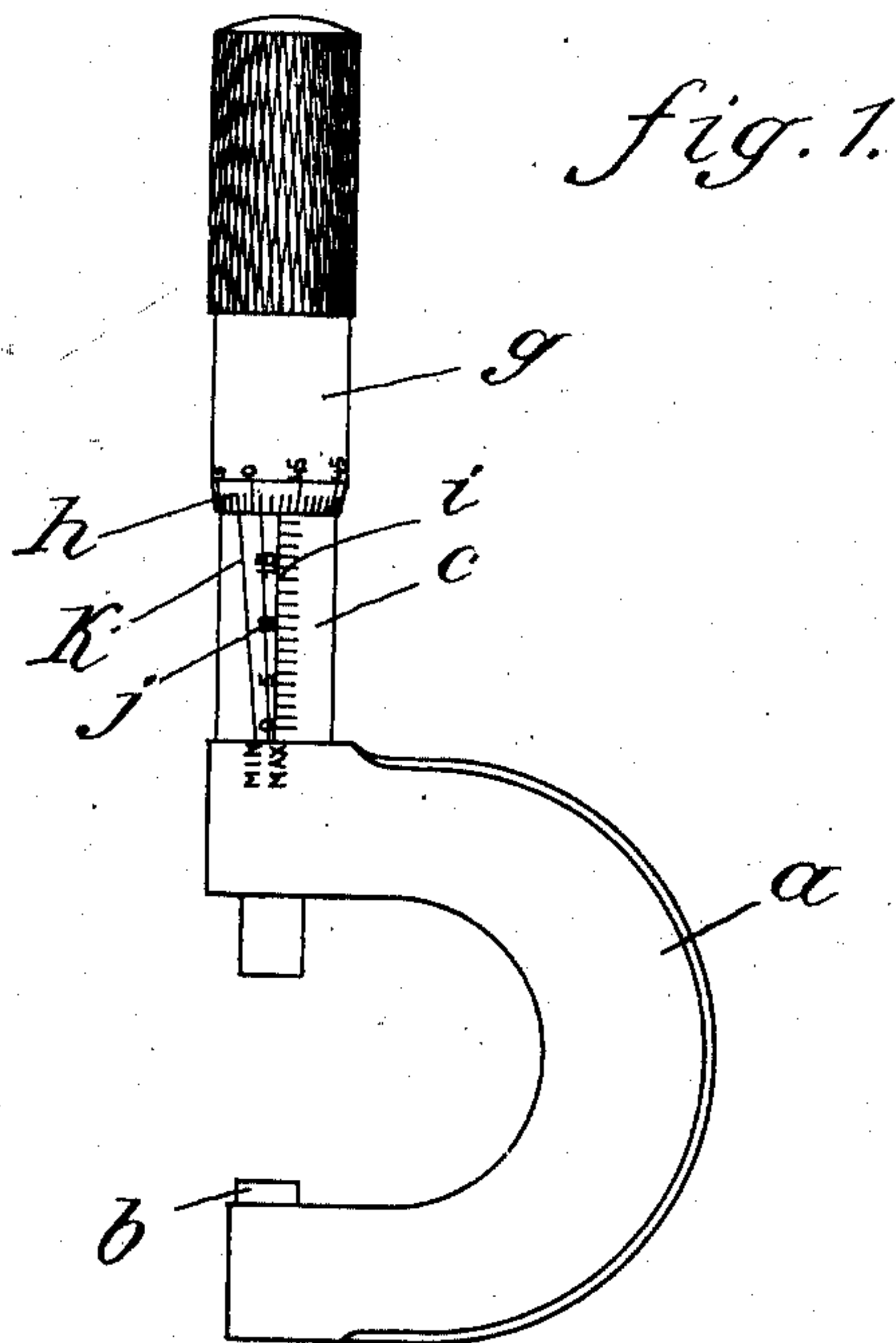


No. 864,280.

PATENTED AUG. 27, 1907.

L. C. WOERNER.
MICROMETER GAGE.
APPLICATION FILED FEB. 5, 1907.



Inventor

L. C. Woerner,

Witnesses

J. P. Brett
E. C. Suffer

By

O. C. Suffer

Attorneys

UNITED STATES PATENT OFFICE.

LOUIS C. WOERNER, OF BERLIN, GERMANY.

MICROMETER-GAGE.

No. 864,280.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed February 5, 1907. Serial No. 355,788.

To all whom it may concern:

Be it known that I, LOUIS CHRISTIAN WOERNER, engineer, a citizen of the United States of North America, residing at 17-20, Huttenstrasse, Berlin, German Empire, have invented new and useful Improvements in Micrometer-Gages, of which the following is a specification.

The subject of my invention is an improvement in micrometer gages of well known construction, whereby an ordinary micrometer gage can be employed as a limit gage. For this purpose the hollow shank in which the mandrel works, in addition to the ordinary graduations, is provided with two marks located in such manner that on adjusting the zero point or other division of the circular graduations between these two marks the dimension given by the gage lies within definite limits.

In the accompanying drawing the invention is illustrated applied to a mouth shaped gage.

Figure 1 is a side elevation, and Fig. 2 a longitudinal section through the micrometer screw.

a is the body of the gage, which is preferably made of cast iron. At the one end of the body a cheek-piece *b* of tempered steel is let in; the other end has a hollow shank *c*, forming one piece with the body *a* and containing the micrometer screw. *d* is the threaded mandrel; *e* is the nut, rigidly fixed in the shank *c*. The outside of the nut *e* is likewise provided with a thread to receive an adjusting collar *f*. To the screw mandrel *d* there is rigidly connected in well-known manner a hollow cap *g*, which fits over the shank *c* and is furnished with circular graduations *h*. The shank *c*, in addition to the

scale *i* is provided with two marks or line *j* *k*, which converge below. The line *j* gives the permissible maximum limit and the line *k* the permissible minimum limit for the dimensions to which the work is to be finished. If now the micrometer gage is so adjusted that its zero point (or, in the case of measurements involving fractions of a millimeter, the corresponding division of the circular graduations) comes between the lines *j* and *k*, being thus read off between these latter instead of, as hitherto, on the vertical line of the shank *c*, then a piece of work finished to this measurement always lies within the limits given by the two lines *j* and *k*. The provision of the lines *j* and *k* thus renders the employment of limit gages of all descriptions superfluous.

Having thus described my invention, what I claim as new is:

In a micrometer gage a hollow shank provided with graduations, a fixed maximum limit mark longitudinally of said hollow shank, a fixed minimum mark longitudinally of said hollow shank and a micrometer screw working in the shank and having a hollow cap furnished with circular graduations any division of which can be set between the said maximum and minimum limit marks, substantially as described.

In witness whereof I have hereunto signed my name this 5th day of January 1907, in the presence of two subscribing witnesses.

LOUIS C. WOERNER.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.