(No Model.) 2 Sheets—Sheet 1.

C. W. STAHL & O. HERZ.

HEEL MACHINE.

No. 547,363. Patented Oct. 1, 1895.

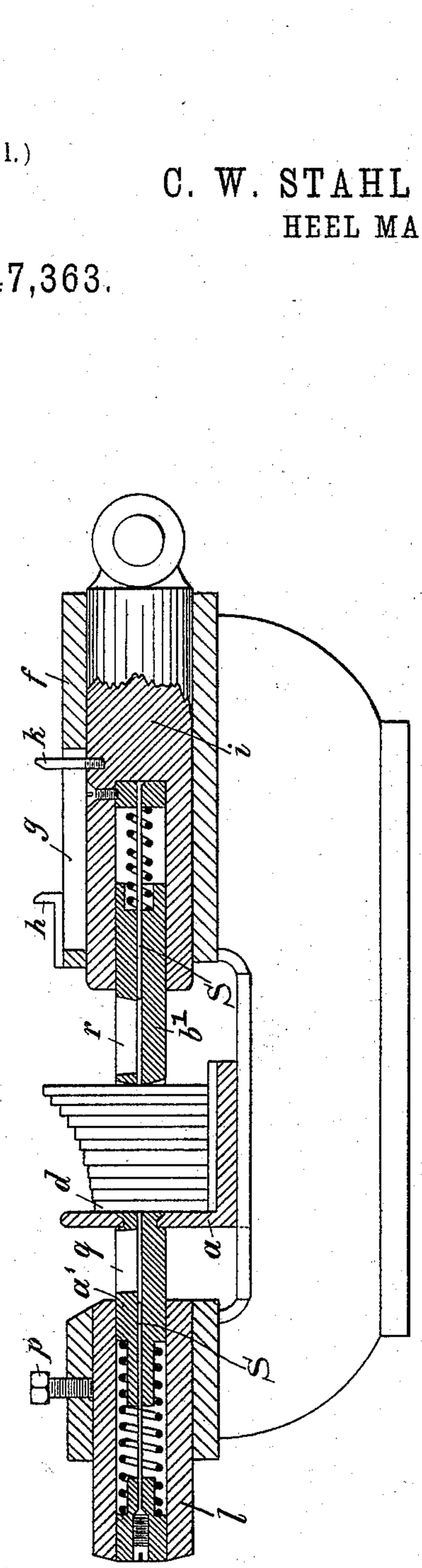

Fig. 1.

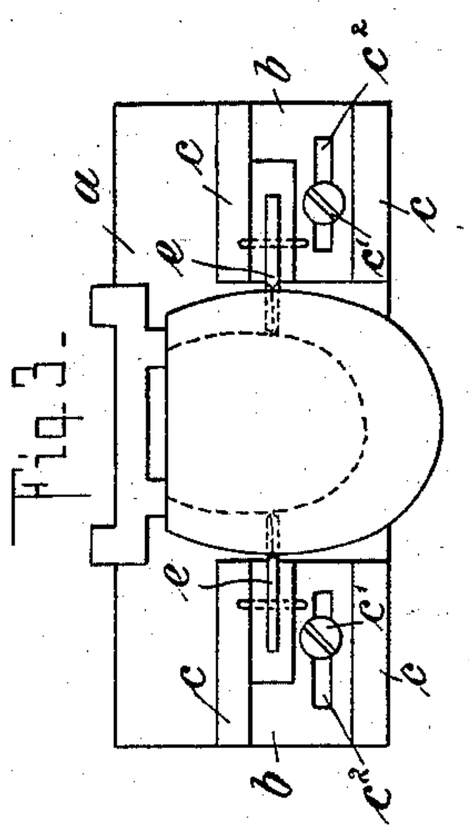

Fig. 3.

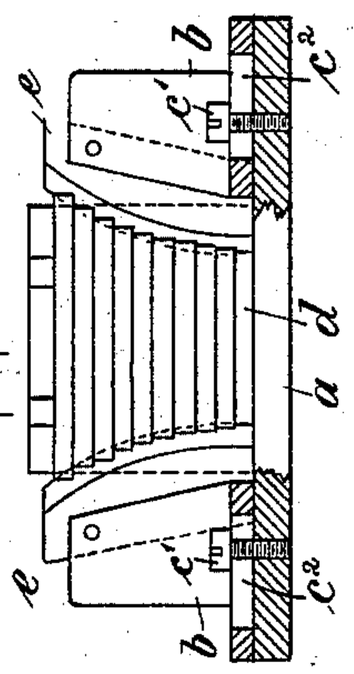

Fig. 2.

Witnesses:
Edith J. Griswold
L. C. Connor

Inventors:
Carl W. Stahl
and
Otto Herz
By their attorneys
Howson and Howson

(No Model.) 2 Sheets—Sheet 2.

C. W. STAHL & O. HERZ.

HEEL MACHINE.

No. 547,363. Patented Oct. 1, 1895.

Fig. 7.

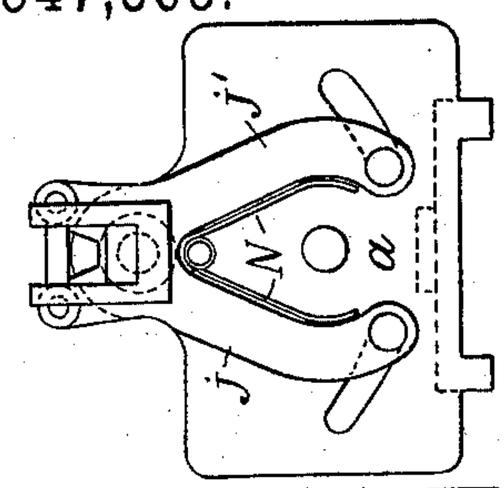

Fig. 9.

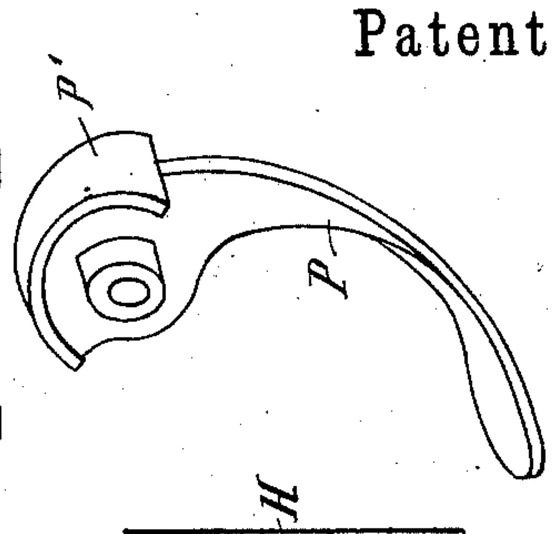

Fig. 6.

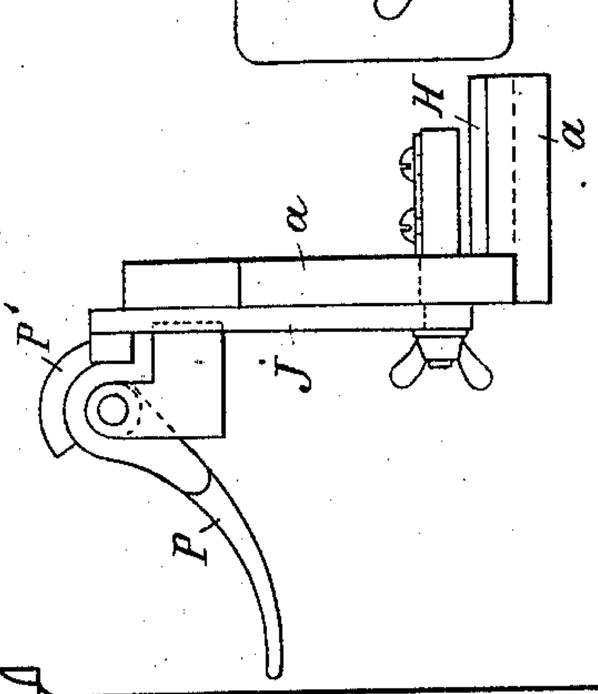

Fig. 8.

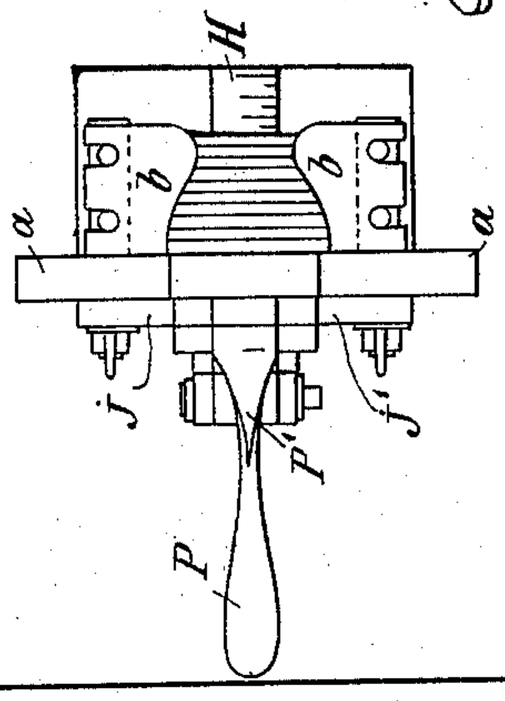

Fig. 4.

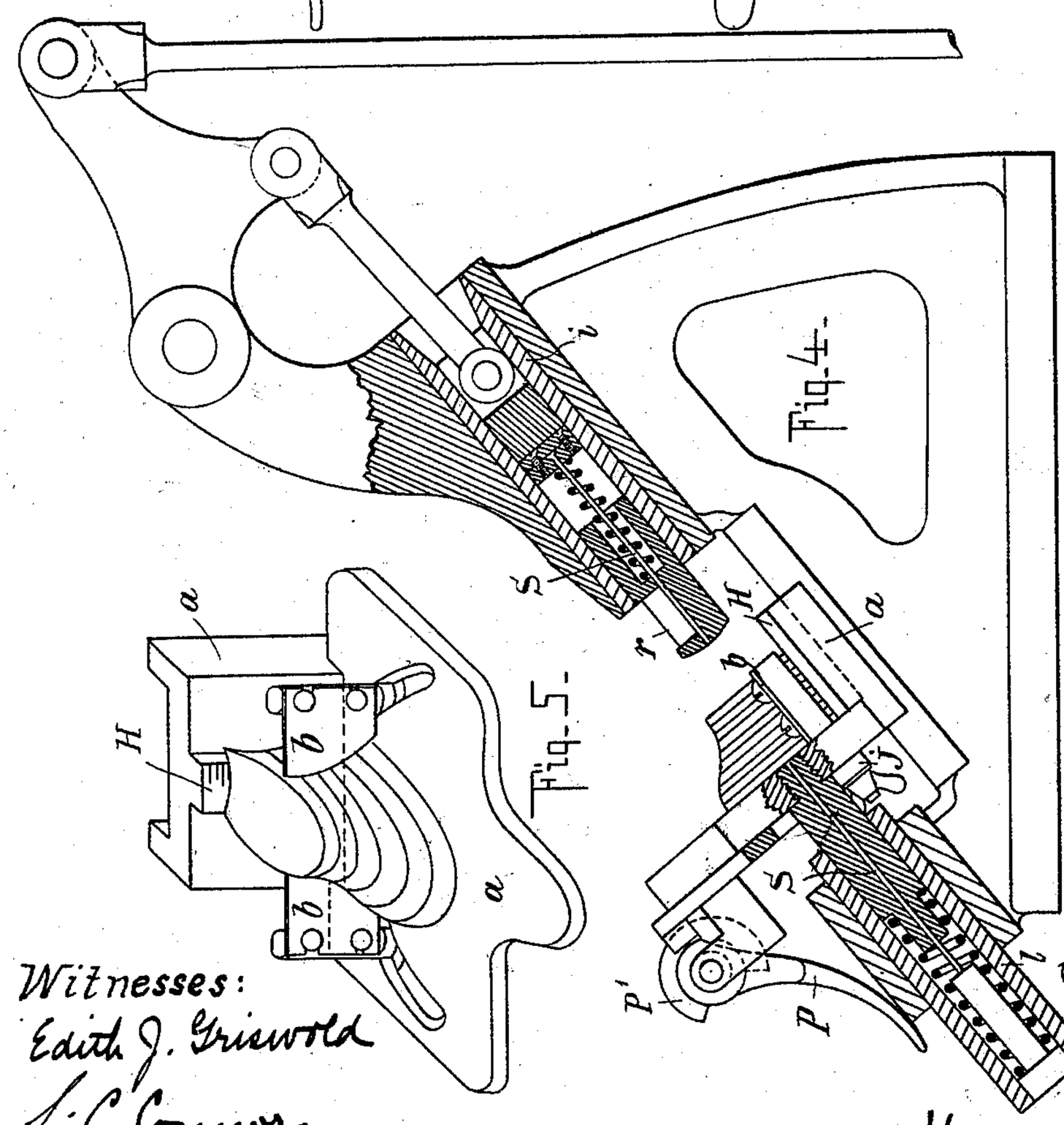

Fig. 5.

Witnesses:
Edith J. Griswold
S. C. Connor

Inventors.
Carl W. Stahl
and
Otto Herz
By their attorneys
Howson and Howson

UNITED STATES PATENT OFFICE.

CARL WILHELM STAHL, OF STUTTGART, AND OTTO HERZ, OF FRANKFORT-ON-THE-MAIN, GERMANY.

HEEL-MACHINE.

SPECIFICATION forming part of Letters Patent No. 547,363, dated October 1, 1895.

Application filed September 1, 1893. Serial No. 484,593. (No model.) Patented in Germany January 1, 1892, No. 64,759; in France May 10, 1893, No. 230,000, and in England May 10, 1893, No. 9,409.

To all whom it may concern:

Be it known that we, CARL WILHELM STAHL, residing at Stuttgart, and OTTO HERZ, residing at Frankfort-on-the-Main, Germany, subjects of the Emperor of Germany, have invented new and useful Improvements in Machines for Building Up the Lifts of Boot and Shoe Heels, (for which we have obtained Letters Patent in Germany, No. 64,759, dated January 1, 1892; in France, No. 230,000, dated May 10, 1893, and in England, No. 9,409, dated May 10, 1893,) of which the following is a specification.

This invention relates to machines for building up the lifts of boot and shoe heels.

In the accompanying drawings, Figure 1 is a longitudinal section of one form of machine. Fig. 2 is a plan view of a portion of Fig. 1. Fig. 3 is an end view of the bed-plate carrying the heel and templet. Fig. 4 is a longitudinal section of another form of the machine. Fig. 5 is a perspective view of the bed-plate carrying the heel and modified form of adjustable templet. Fig. 6 is a side view, Fig. 7 a rear view, and Fig. 8 a plan view, of the part of the machine for adjusting the templets; and Fig. 9 is a perspective view of the lever P for adjusting the templets.

Referring to Figs. 1, 2, and 3, two templet-holders *b* are fixed adjustably on a bed-plate *a* by means of guides *c* and screws *c'* passing through slots c^2. In these holders a pair of changeable knife-edged templets *e* are fixed, the shape of the templets corresponding to the intended configuration of the heel. When both of the templets have been adjusted against the lowermost lift *d*, the whole of the remaining lifts can be inserted between the templets by pushing them gently against the rear part of the angle-plate *a* and then pressing them somewhat downward between the two templets, any variations in the shape of the heel due to the inequalities in the leather being thereby equalized by the knife-edged templets cutting into the unequal layers. Taking ten lifts as the number required to make a heel of the proper height, a second heel of similar shape cannot be produced of the same height with a corresponding number of lifts of thinner or softer leather, in consequence of which the latter press deeper into the cutter-templets, so that one or two more lifts have to be added.

In Fig. 1 the device is shown in direct connection with a nailing-machine, a nail-guide plunger *a'* being riveted to the angle-plate *a* and working in a guide-cylinder *l*, which can be adjusted according to the height of the heel and fixed by a clamping-screw *p*. In a fixed cylinder *f* works a pressure-plunger *i*, operated by a lever, and at the end of this cylinder is an index *h*, another index *k*, fixed in the pressure-plunger *i*, moving in a slot *g* in the cylinder *f*. By pushing the plunger *i* against the inserted heel the index *k*, connected to the bolt *i*, is pushed against the index *h*. When the first pressure on the heel has been completed and the rear edge of the index *k* meets the front edge of the index *h*, the proper height of heel is obtained. As, when the heel-lifts are set up the uppermost lift is not put in at first, the index *k* at the first pressure on the heel passes the index *h*, the distance then existing between the two latter corresponding exactly with the thickness of the remaining heel-lift, which is then selected by the workmen and put in. Having done this, a nail is dropped into each of the slots *q* and *r* in the two nail-guide plungers *a'* and *b'* and driven into the heel by the nail-driving pins *s*, when the plunger *a'* is forced into its guide-cylinder *l* and the plunger *b'* into the plunger *i* by the latter being pressed forward by means of a foot-lever.

The modified form of machine shown in Figs. 4 to 9 differs from that above described, in that the axes of the two nail-driving plungers are not in line with each other, so that the nails driven in on opposite sides of the heel pass each other, thus permitting the employment of longer nails than hitherto possible, whereby the heel-lifts are held together more securely and their displacement prevented.

A modification of the building-up devices has also been devised. The changeable templets *b b*, which determine the curve of the heel, are carried by levers J J', pivoted scissorswise, and are simultaneously set by one motion for a heel of any size by means of a

lever P, having a wedge-shaped cam-segment P′, which acts between the tail ends of the levers, which are pressed apart by the spring N N when the lever is turned up.

To enable heel-lifts with straight and with curved front edges to be evenly superposed, the guide-plate *a* is provided with a rib H, Fig. 5, of square section. By means of this rib H the lifts can be superposed regularly, both in the case of heels with straight and hollow fronts. The rib H is provided with a scale which shows at once the index device required in the first-described apparatus can be dispensed with.

We claim as our invention—

1. In a machine for building up the lifts of boot and shoe heels, the combination of an angle plate, and templet holders adjustable thereon, with a nail guide plunger secured to the angle plate, and a nail guide plunger opposite thereto, substantially as set forth.

2. In a machine for building up the lifts of boot and shoe heels, the combination of an angle plate and templet holders adjustable thereon, with a nail guide plunger secured to the angle plate and a cylinder for the said plunger adjustable according to the height of the heel and a second nail guide plunger opposite the first one, substantially as set forth.

3. In a machine for building up the lifts of boot and shoe heels, the combination of an angle plate and adjustable templets with pivoted levers J J′, carrying the said templets and lever P having a wedge shaped cam and springs N, as and for the purposes set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CARL WILHELM STAHL.
OTTO HERZ.

Witnesses to the signature of Carl Wilhelm Stahl:

ALBERT FEHWEIZER,
FRH. RUDOLF STROHECKER.

Witnesses to the signature of Otto Herz:

JEAN GRUND,
FRANK H. MASON.