

(No Model.)

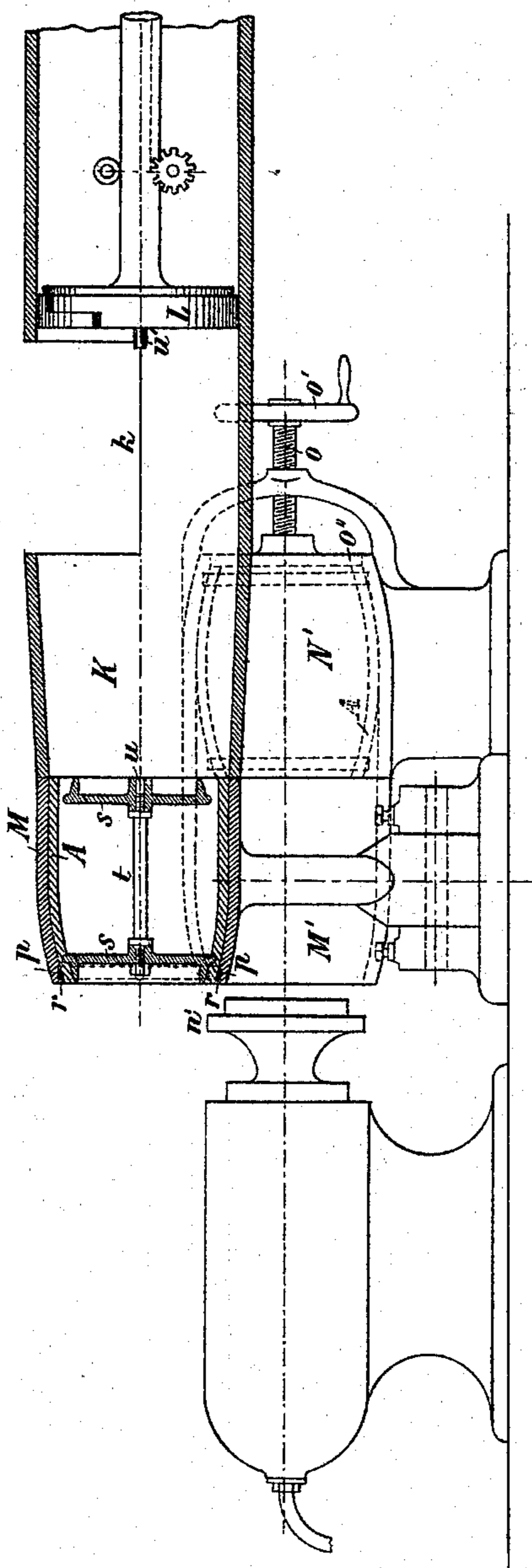
2 Sheets—Sheet 1.

J. POLKE.  
BARREL MACHINE.

No. 573,915.

Patented Dec. 29, 1896.

Fig. 1.



WITNESSES:

*A. Benesch.*  
*G. Beckmann.*

INVENTOR:

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ATTORNEY.

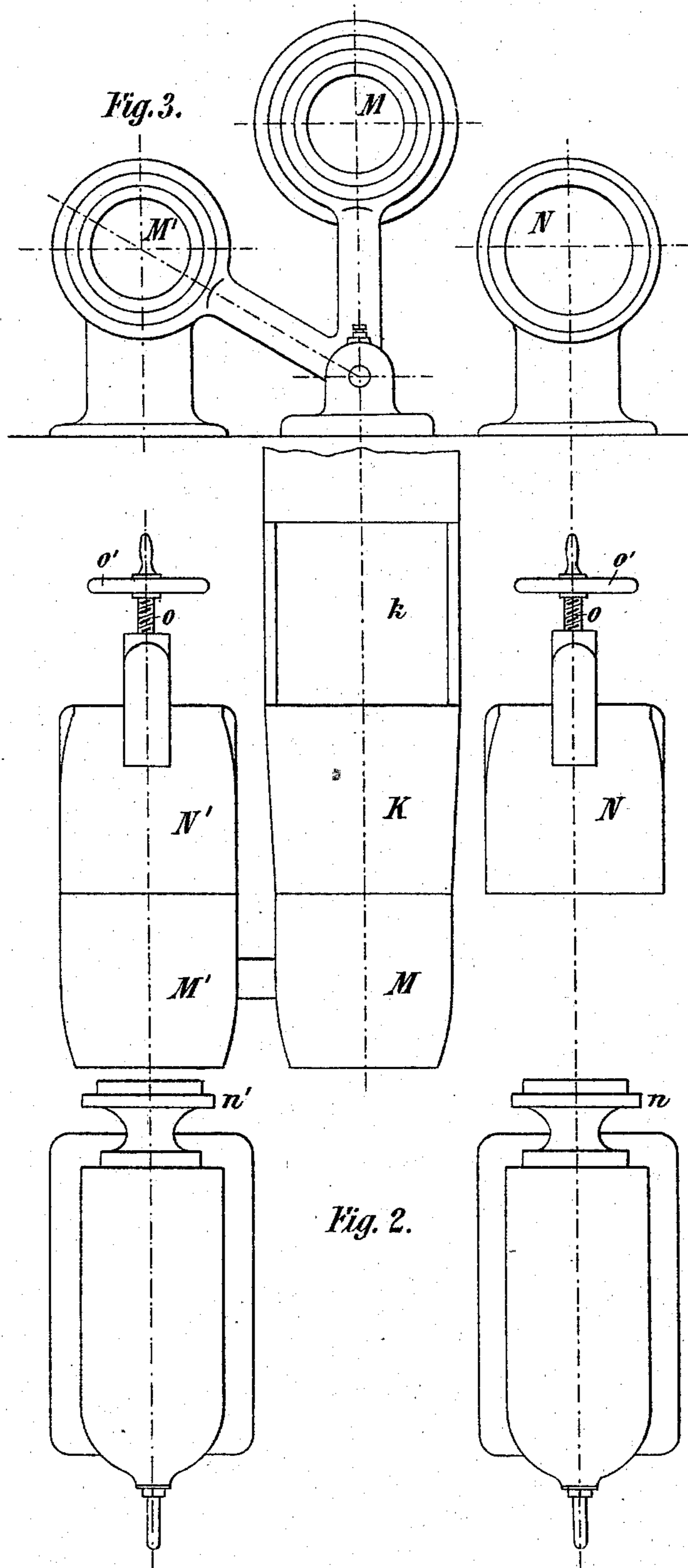
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2 Sheets—Sheet 2.

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BARREL MACHINE.

No. 573,915.

Patented Dec. 29, 1896.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

JOSEF POLKE, OF VIENNA, AUSTRIA-HUNGARY.

## BARREL-MACHINE.

SPECIFICATION forming part of Letters Patent No. 573,915, dated December 29, 1896.

Application filed January 2, 1895. Serial No. 533,671. (No model.) Patented in Hungary November 28, 1894, No. 1,690; in France December 3, 1894, No. 243,323; in Belgium December 3, 1894, No. 112,975; in Italy December 3, 1894, XXIX, 37,717, LXXIV, 45; in Luxemburg December 3, 1894, No. 2,187; in Germany December 4, 1894, No. 85,641; in Austria December 5, 1894, No. 44/6,265; in Spain December 6, 1894, No. 16,675, and in England December 11, 1894, No. 24,071.

*To all whom it may concern:*

Be it known that I, JOSEF POLKE, a subject of the Emperor of Austria-Hungary, and a resident of the city of Vienna, Austria-Hungary, have invented certain new and useful Improvements in Barrel-Machines, (patents for which have been applied for by myself in Switzerland, Sweden, Norway, and Denmark all on December 3, 1894, and for which patents have been obtained by myself in France December 3, 1894, No. 243,323; in Belgium December 3, 1894, No. 112,975; in Italy December 3, 1894, No. XXIX, 37,717, LXXIV, 45; in Great Britain December 11, 1894, No. 24,071; in Luxemburg December 3, 1894, No. 2,187, and in Spain December 6, 1894, No. 16,675, and with my consent by St. Szczepanowski in Austria December 5, 1894, No. 44/6,265; in Hungary November 28, 1894, No. 1,690, and in Germany December 4, 1894, No. 85,641,) of which the following is a specification.

My invention relates to the manufacture of wooden bulging barrels by compression from cylindrical blanks, and has for its object the construction of improved machinery for producing such barrels.

In the annexed drawings this machine is shown, of which Figure 1 is a side elevation, partly in section. Fig. 2 is a plan view, and Fig. 3 an end view.

In all the figures similar letters of reference indicate like parts.

As shown in the drawings, my improved barrel-machine is here placed in connection with an apparatus for compressing the cylindrical barrel-blanks. As this apparatus, together with the process of making the said cylindrical barrel-blanks, forms the subject of a separate application for Letters Patent, I shall only refer to this process and apparatus in so far as it can be brought into connection with the machine to be herein described. The apparatus for compressing the cylindrical blanks consists of a tubular body K, the interior diameter of which gradually diminishes toward one end to the proper outside diameter of the blank. A piston L, operated by hydraulic or any other suitable power, serves to drive the blanks placed through an aperture

into body K through the latter and out at the smaller end thereof. At this smaller end of body K two conical press forms or dies M and M' are mounted upon a common shaft in such manner that either one or the other of said forms or dies may be swung close before the discharge-opening of body K, to which they present their wider opening, which corresponds in diameter with said discharge-opening. At both sides of body K and opposite to forms M M' are placed two stationary press forms or dies N N', which are also, but reversedly, conical, so that they present their wider opening to the wider opening of forms or dies M M'. The disposition of forms or dies M M' to the discharge-opening of body K and to the stationary forms N N' is such that when one of the two forms M M', the distance between which is fixed, is brought to correspond with the discharge-opening of body K the other will correspond in the same manner with one of the stationary forms N N'. In line with forms or dies N N' two press-pistons n n', operated by hydraulic or any other suitable power, are placed at such distance that in their receded position they will clear forms M M', and of such diameter and stroke that they may pass through said forms M M' when either of them is situated before one of the stationary forms N N'.

The mode of operation of this machinery for the conical compression of the cylindrical blanks is the following: Supposing form or die M to be situated before the discharge-opening of body K, as shown in Fig. 1 of the drawings, a barrel-blank as it is driven by piston L through the discharge-opening of body K enters form or die M and is forced with its one end into the conical part of the latter, whereby it is compressed into the tapering barrel form. In the drawings, A indicates the barrel-blank. Press form or die M having a length corresponding to the whole length of a barrel, the blank A will clear body K as soon as it has been pressed far enough into form M, and this latter, now containing the half-finished barrel-body, may now be swung down in front of the reversedly-conical stationary form or die N, thereby bring-

ing the other still empty form  $M'$  before the discharge-opening of body  $K$ . Now piston  $n$ , which fits upon the already conical end of the barrel-blank  $A$ , contained in form  $M$ , is put  
 5 in operation and drives the half-finished barrel-body through form  $M$  into form  $N$ , where its other end is compressed into the conical form. This compression being finished and piston  $n$  withdrawn, the barrel-body is re-  
 10 moved from the form  $N$  by a piston or follower  $o''$ , situated at the end of the latter and operated either by a screw  $o$  and hand-wheel  $o'$  or in any other suitable manner; for in-  
 15 stance, by a link coupled to the receding piston  $n$ . In the meantime a second blank has been driven from body  $K$  into the other form or die  $M'$ , whereupon it is swung before the other stationary form  $N'$ , form  $M$  again tak-  
 20 ing its place before the discharge-opening of body  $K$ , ready for the reception of a third blank, while piston  $n'$  is completing the pressing of the second blank. In this manner a continuous operation of the machinery and an uninterrupted production of barrel-bodies  
 25 are insured, requiring but very little manual attendance.

In Fig. 1 of the drawings I have shown the manner in which the device for pressing the chimes or grooves for the barrel-heads is best  
 30 employed in my improved machinery. As the process and device for forming the chimes by compression form the subject of a separate application made by Richard Klinger and assigned to me, I do not claim this device, but  
 35 only desire to show the manner of its application in the present case. The chime-pressing disks  $s$   $s'$  are here connected with each other by a bar or rod  $t$  and are provided with a central sleeve  $u$ , into which fits a central  
 40 stud  $u'$  upon piston  $L$ , so as to hold said disks in their proper place in the barrel-blank during the conical compression of one of its ends. I have also shown in Fig. 1 the temporary  
 45 hoop  $p$  of triangular cross-section, which is placed in a corresponding recess in the forms or dies, so that it will remain upon the barrel-body when this is removed from the die.

As this is also claimed in the application made by Richard Klinger and assigned to me, I have only shown this for the sake of complete- 50  
 ness, but do not claim it.

Although I have shown my improved barrel machinery in connection with the apparatus for the cylindrical compression of the barrel-blanks, this is not absolutely necessary 55  
 and is intended only as an example.

Tube or body  $K$ , instead of being tapering toward one end, may have a cylindrical bore throughout adapted to receive the ready prepared blanks and to permit their free passage 60  
 without giving them any cylindrical compression. Thus the tube  $K$  will simply serve as a guide for the blanks as they are fed through aperture  $k$  and driven into the conical dies. The rocking movement of the forms or dies 65  
 $M$   $M'$  alternately from tube  $K$  to the stationary forms  $N$   $N'$  may be effected by hand or mechanically.

Having now fully described my invention, what I claim is— 70

1. In machines for making bulging barrels, by compression, from cylindrical blanks, the combination with a piston  $L$  of two stationary conical forms or dies  $N$ ,  $N'$ , pistons  $n$ ,  $n'$  placed in line with dies  $N$ ,  $N'$ , and of two con- 75  
 ical forms or dies  $M$ ,  $M'$  adapted to be swung alternately in line with piston  $L$  and with pistons  $n$ ,  $n'$ ; substantially as set forth.

2. In machines for making bulging barrels, by compression, from cylindrical blanks, the 80  
 combination with a piston  $L$  of a feeding-tube  $K$ , two stationary conical forms or dies  $N$ ,  $N'$ , pistons  $n$ ,  $n'$  placed in line with dies  $N$ ,  $N'$ , and of two conical forms or dies  $M$ ,  $M'$  adapted to be swung alternately in line with piston  $L$  85  
 and with pistons  $n$ ,  $n'$ ; substantially as set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOSEF POLKE.

Witnesses:

HARRY BELMONT,  
 JOSEF ZEHETEN.