M. HOGE & P. C. RIEBE.
BASE FOR PRINTING PLATES.
APPLICATION FILED FEB. 8, 1909.
1,031,267. Patented July 2, 1912.

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Fig. 12

Fig. 13

Fig. 15

Fig. 16

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UNITED STATES PATENT OFFICE.

MAX HOG AND PAUL C. RIEBE, OF CHICAGO, ILLINOIS, ASSIGNORS, BY DIRECT AND
MESNE ASSIGNMENTS, TO UPRIGHT GRAIN PRINTING BASE COMPANY, OF CHICAGO,
ILLINOIS, A CORPORATION OF ILLINOIS.

BASE FOR PRINTING-PLATES.

1,031,267.


Patented July 2, 1912.

Application filed February 8, 1909. Serial No. 476,841.

To all whom it may concern:

Be it known that we, MAX HOG and PAUL C. RIEBE, citizens of the United States, both residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Bases for Printing-Plates, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide an improved base or base block to support printing plates.

It consists in the features of construction and their combinations shown and described as indicated in the claims.

In the drawings:—Figure 1 is a plan view of a chase occupied with the base block embodying this invention and showing a printing plate secured over a portion of the base blocks. Fig. 2 is a plan view of a skeleton metal base employed in one form of this invention partly occupied with base blocks or fillers pertaining to the invention. Fig. 3 is a plan view of a form of base block containing the invention. Fig. 4 is a detail section at the line 4—4 on Fig. 1 showing the fastening of the printing plate to the base blocks. Fig. 5 is a section at the line 5—5 on Fig. 3. Fig. 6 is a section at the line 6—6 on Fig. 2. Fig. 7 is a plan view of a modified form of base block. Fig. 8 is a detail plan view of a portion of a base such as shown in Fig. 2 having the printing plates secured by a locking hook. Fig. 9 is a section through one cell showing in side elevation a plate hook having a device for locking it into the cell. Fig. 10 is a detail vertical section cutting the cell walls and adjacent parts axially with respect to a securing device similar to that shown in Fig. 9, but formed separate from the plate hook block. Fig. 11 is a section at the line 11—11 on either Fig. 9 or Fig. 10, the section presenting the same appearance in both cases. Fig. 12 is an inverted plan view of a skeleton frame such as shown in Fig. 2 having printing plates secured thereto by means of locking devices, for which the frame is provided with special construction on the side shown in said view. Fig. 13 is a detail section at the line 13—13 on Fig. 12. Fig. 14 is a section at the line 14—14 on Fig. 16. Fig. 15 is an elevation of the same device. Fig. 16 is a plan view of a plate clamp. Fig. 17 is a perspective view of a plate back stop.

This invention comprises a wooden base block or filler made with the grain vertical so that the printing plate is mounted upon the end of the grain, the block being typeto high less the thickness of the plate. Such blocks, A, are shown in Fig. 1 in the form of squares with the corners truncated or blocks thus assembled, and side sticks, and C, of triangular form, being respectively half and quarter of the squares, such triangular blocks also preferably having their corners truncated or blunted. In the mode of use of this invention in which the triangular blocks are employed, the squares are assembled in the chase in oblique position, the rectangular area being filled out by the triangular blocks, B and C, the entire chase W from end to end being occupied with blocks thus assembled, and side sticks and quoins D and D1 being applied at one side only of the chase, the oblique arrangement of the blocks causing the entire ensemble to become tightly locked in both directions by the clamping action of the quoin at one side and acting in one direction only. It is to facilitate this action and prevent any liability of encounter of the blocks with each other at their corners in the adjustment which will occur endwise when the pressure is applied sidewise that the blocks are made truncated or blunted at the corners as shown and above stated.

The second feature of this invention consists in a continuous metal peripheral binding which is preferably applied to each base block, A, and also to the triangular blocks, B and C, when blocks of this form are used. Figs. 3 and 5 represent square blocks, A, provided with such continuous metal peripheral binding, E. This binding resists any tendency of the blocks to swell laterally or endwise. In this respect, it is distinguished from mere wearing plates which
might be provided upon the edges of wooden blocks to resist the wear. For in order to resist the expansion of the block under the vertical or endwise pressure to which it is subjected, the encompassing metal must be a continuous band and not mere detached plates on the several sides.

A desirable form in which the invention, consisting of the two features,—viz., wooden blocks with the grain vertical and having the peripheral metal binding described,—is shown in Fig. 2, in which the metal skeleton, \( F \), constitutes the metal binding for all the blocks or fillers, \( A \), which are formed to fit tightly in and are forced into the rectangular apertures or cells, \( f_1 \), of the metal skeleton. This unitary form of base dispenses with the use of a chase and is designed to be made of proper size to be locked directly on to the bed of the press in the manner and by the means in which the chase is usually locked.

A complete base, formed either as shown in Fig. 2, or by means of the customary chase filled with base blocks, \( A \), either with or without the metal binding, is adapted to have printing plates secured to it by tacking, in any position, it being only necessary to observe the position of the metal binding when the blocks are so provided and avoid driving the tacks at positions which would strike the metal, and to observe the position of and avoid driving the tacks into the interstices between the blocks at their blunted corners.

One advantage of having the wood disposed with the grain vertical is that the deterioration caused by driving and withdrawing the tacks for securing the plates is very much less than in the case of blocks constructed so that the plates are applied to the side of the grain. For in the case of the endwise grain, the punctures made by the tacks fill up, the grain recovering its position without material loss of grip; whereas, in the case of a tack driven in the side of the grain the fibers of the grain are more or less cut off and broken so that fragments fall out and the block rapidly deteriorates and becomes uneven. Also the plate is more readily detached from the block having the grain endwise.

When this invention is applied to the construction of base blocks intended to underlie printing plates which are secured, not by tacking to the blocks but by any of the customary forms of plate hook, and when the skeleton frame shown in Fig. 2 is also employed, as the means of affording the metal binding for the blocks, the plate hooks may be locked in cells of the skeleton frame from which the wooden blocks are omitted, such plate hooks being in that case constructed with means for locking them to the skeleton in the cell in which they are thus locked. For that purpose, a plate hook of the form shown in Fig. 9 may be employed.

The particular construction of the hook and operating means, as shown, is familiar and need not be described. But for the purpose of adapting it to be used in connection with the skeleton shown in Fig. 2 in which the cells are disposed obliquely with respect to the length and breadth of the entire base, such hook is preferably constructed with a channel, \( G \), in which the hook-carrier is movable diagonal with respect to the rectangular outlines of the block, \( G \). The means for locking this or any other of the common forms of plate hook in a cell of the skeleton frame is shown in Figs. 9 and 10, consisting of two principal members, \( M \) and \( N \), connected together by a screw shaft or bolt, \( P \), extending longitudinally through or within them, having its head, \( P \), stopped upon the upper end of the member, \( M \), and having the other end which is threaded secured into the lower member, \( N \). The longitudinal cavity in the member, \( M \), through which the bolt extends oblong in cross section so that the bolt can slide laterally a short distance (one-eighth of an inch is sufficient for the maximum adjustment), and the two members, \( M \) and \( N \), have their proximate ends cut at an angle of about forty-five degrees and reciprocally furrowed for engagement of the two members for sliding on each other at their inclined ends which abut. Two or more of these locking devices, which may be termed wedges, being inserted in the cell with the locking hook at a side thereof opposite the plate to be engaged by the hook, the screw shaft or bolt, \( P \), is screwed down, thereby forcing the upper member, \( M \), against the outer side of the cell and guarding the inner member, \( N \), against the plate-hook block, \( G \), and thereby locking the plate hook securely in the cell. When the skeleton frame has its cells arranged obliquely as shown, the plate-hook block, \( G \); will be locked by locking devices or wedges interposed between the cell wall and the block at two adjacent sides of the cell. The plate hook block may have the lower member of the wedging device formed as a part of it, the block being merely cut away at one side,—or at two sides not opposite,—down to sloping shoulders into which the wedging bolts, \( P \), are screwed, an upper member precisely like the member, \( M \), above described being forced down by the bolt for wedging the plate hook block securely in place in a cell of the skeleton base frame.

When the metal frame shown in Fig. 2 is employed, it is of great advantage to have the cells which are to be occupied by the wooden base blocks, which furnish the metal binding for the blocks, disposed obliquely, as shown in Fig. 2, because printing plates being customarily rectangular and designed
to be used with their edges parallel to the corresponding sides of the entire form, if the intercepting septa, $F$, of the metal frame were also parallel to such sides it would frequently happen that the edge of a plate would coincide with a septum of the frame so that there would be no opportunity for driving tacks through the margin of the plate usually provided for such purpose so as to reach and engage the wood; whereas, with the cells and blocks disposed obliquely, any edge of any plate of any dimension, having its edges parallel with the sides of the form can be readily tacked, since the edge will only cross the septa and not lie coincident therewith. When a plate hook is to be employed for securing plates on such a base, there is a similar advantage resulting from the oblique disposition, of the cells and blocks consisting in that the plate hook can be introduced into any cell crossed by the margin of the plate, one corner of the block, $G$, projecting under the portion of the edge of the plate which overhangs the cell (from which the wooden base block will have been removed to admit the plate hook being so arranged that the opportunity can always be obtained for securing the plate by the plate hook, as would not be the case if the septa were parallel with the sides and ends of the form if the edge of a plate happened to coincide with a septum.

The structure consisting of a metal skeleton frame having cells for the wood base blocks, by dispensing with the chase and by reason of the skeleton frame having a multiplicity of light septa stiffening it, yields a structure which is very much stiffer than a form made up of any form of printing material, whether metal or wood, which is bound in place only by such devices as quoins, which react ultimately wholly upon the chase and which must be made very tight for even moderate security and stiffness of the form, and which are liable to strain or spring the chase in a manner which very seriously interferes with register in case of any change in airy contents. Furthermore, it is well understood that in a form made up of metal bases, the weight of the metal bases producing a tendency of the form to sag or droop at the middle cannot be compensated by any amount of clamping which can be effected by the quoins, and that forms so constituted are always liable to sag and sometimes to fall to pieces in carrying to and from the press. The lightness of the wood bases herein shown, taken with the stiffness of the skeleton frame entirely overcome all such difficulties. Also, even when employing a chase, the metal-bound wooden base blocks herein shown which are adapted to endure with perfect safety a degree of clamping which would be injurious to un-reinforced wooden bases adapts them to make a form which may be clamped tightly enough so that in view of their lightness as compared with metal bases, the tendency to sag above-mentioned is practically overcome. It will be obvious to any printer that any construction which diminishes the weight of the frame as it is diminished by the employment of wood bases for metal greatly reduces the strain upon the press in operating.

We have also found in the use of this invention that the labor involved in the care of wood bases having the grain vertical so that the ends of the grain are exposed is very much less than that involved in caring for metal bases, and that the deterioration of wood bases as the result of their use and cleaning is very much less than that of metal bases resulting from the same causes, while the cost is a small fraction of the cost of a correspondingly adequate outfit of metal bases.

Whether metal bound or not, the base blocks having the grain vertical have very much greater life and utility than the wooden blocks constructed for mounting the plates on the side of the grain, for the following reasons in addition to those above indicated:—

First. Wood is much more readily compressed sidewise of the grain than endwise, and base blocks constructed for having the plate mounted on the side of the grain when exposed to the pressure for locking up yields more readily in one direction than in the other, and this inequality interferes with uniformly tightening the chase containing the plates mounted on wooden blocks which cannot be arranged all with the grain running the same way. The vertical-grain block resists compression equally in all horizontal directions.

Second. The expansion and contraction of wood under changes of temperature and moisture is much greater transversely to the grain than lengthwise. This again tends to great difficulty in obtaining uniform tightness of plates mounted on blocks constructed for carrying the plates on the side of the grain, which, though originally constructed with both dimensions multiples of the same unit of measure, as the point unit of the point system of type, will be found varying from such dimensions. The vertical-grain blocks expand and contract equally in all horizontal directions.

Third. The unequal exposure to moisture upon the two sides of a base block constructed for having the plate mounted upon the side of the grain causes tendency of the blocks to warp, no matter how carefully selected the wood may be nor how perfectly cured. Such warping, however slight, prevents the plate from making perfect contact with the block over the entire surface.
of the latter and causes air cushions to be formed between the plate and the block, which, being compressed at every printing action, tends to loosen the plate from the block, besides interfering with the perfection of the impression. The vertical-grain blocks do not warp perceptibly.

Fourth. As compared with blocks constructed for mounting the plate on the side of the grain, even if made to be used in the sectional arrangement shown in Figs. 1 and 2, and to have the plates tacked in any position to the base made up of such assembled sections, there is a further advantage in the blocks having the grain vertical, consisting in that after tacking the plate on to the base, its position can be rectified to secure perfect registration by driving it edge-wise. The tacks will move sidewise in the wood with whose grain they are parallel, and such movement will be in the direction of the driving without tendency to deflection; whereas, when such driving is attempted in a block which is penetrated by the tacks crosswise of the grain, as must be the case when the plate is mounted on the side of the grain, the grain tends to deflect the tack unless the driving is in the direction of the grain, and stubbornly resists the driving when it is attempted directly crosswise the grain; and even if the plate is successfully forced in the direction of the driving at the time, the wood not tending to close in behind the tack, but on the contrary tending to react to recover its original position, prevents the plate from holding the new position to which it may be thus forced, and it is not the case when the tack is driven into the end of the grain; and in practice with blocks constructed with the latter form, according to this invention, a very considerable movement of the plate in any direction for correction is possible, and the plate is securely retained in the new position, with the result that, while, generally, the method of securing plates by tacking is not practicable when base blocks constructed for having the plates mounted on the side of the grain are employed and when accurate registration is essential, with blocks of the form of this invention constructed for mounting the plate on the end of the grain, perfect registration and security of position is readily obtained when the plates are secured by tacking, thus dispensing with more expensive methods.

The advantage of the method of forming the base consisting in making it of a multitude of blocks, either assembled in a case as in Fig. 1 or mounted in the cells of a skeleton frame shown in Fig. 2, is the facility and economy with which any injuries to the base due to accident may be remedied, because only the injured sections need be removed, and these are very easily removed even from the metal frame shown in Fig. 2 by driving them out of the cells.

The further advantage of the celled metal frame for receiving the wooden base blocks over the customary devices consisting of a plurality of base blocks, whether wood or metal, locked in the usual manner into a chase, is that especially when several base blocks are in line in one direction across the chase and are clamped by the usual quoins or other locking devices, the sum total of all the slight and individually negligible inaccuracies in the several base blocks, which may consist of nothing more than a little ink here and there dried on to the sides, results in a tendency for the row to bulge up when clamped, and this is sometimes accentuated by the engagement of the plate hook with the edge of the plate drawing and holding the edge down tightly to the particular block on which that edge rests. In the cell construction shown in Fig. 1, no lateral clamping pressure upon the individual bases being employed, each being securely retained in its own cell, and the plate hook being also clamped in an individual cell from which the clamping pressure by which the plate hook is secured does not extend to any adjacent cells or blocks, this tendency of a row of blocks to buckle up is entirely avoided.

Another advantage of this celled construction over the customary method and usage of clamping a multiplicity of blocks in the chase and securing plates thereon by plate hooks is that the plate hooks also clamp between the bases by the same means by which the latter are cramped in the chase, is that in said customary method the breaking of a plate hook which may occur after the entire form is assembled and locked and registered, or in the very last step of so securing and registering it, necessitates completely unlocking the form, disengaging the various plate hooks in order to remove the broken plate hook and substitute another, thus necessitating complete revision of the form for registration; whereas, in the celled construction, the breaking of a plate hook necessitates only releasing the hooks which hold that particular plate in order to make the necessary substitution for the broken hook, and no registration of any plate is disturbed.

For base blocks of greater extent than the individual elements shown in Figs. 1 and 2, designed for mounting individual printing plates of same size as such base blocks or unitary bases for a form of any extent, a plurality of small wooden elements, rectangular and preferably square, with grain vertical, may be assembled and glued together with advantage in respect to uniformity of density of the wood, which is effected by selecting small elements for each block with this in view. Such composite...
block is rendered more secure against breakage and against separation at the glued joints by interposing between the consecutive rows of the small rectangular elements of longitudinally fibrous material to both sides of which the adjacent rows are glued, such septa being preferably extended in both directions and intersecting. The most convenient and preferred material for such septa is wood with the grain horizontal,—that is, longitudinal with respect to the rows between which the septa are interposed. Such structure is shown in Fig. 7, the wooden blocks being indicated by reference character a, and the intercepting wooden septa by the character $\alpha$.

In Fig. 12 there is shown a feature of construction of the skeleton frame which may be present in the same as represented in Fig. 2, but is observable only upon the opposite side of said frame and may be used either side up according to the service required. Said Fig. 12 shows this frame and the wooden blocks, A, therein provided with intersecting grooves or channels, $f'$, which are parallel with the sides of the frame and cross the intersections of the septa or cell walls, $F'$, at an angle of 45° to said cell walls, said channels being about two picas deep, as seen in sectional views in Figs. 12 and 14. The purpose of this feature of the construction is to adapt the skeleton frame for the mounting thereon of page plates of any size to be locked thereto by clamping or locking devices similar in general character to those which are now commonly employed for securing such page plates upon base blocks of construction now in use for that purpose. Such page plates are represented at K, K, mounted with their edges parallel with the edges $F'$, of the frame. For securing the plates there are provided plate clamps comprising one or more blocks, $M$, of suitable dimensions to fit snugly in the channels, $f'$, and when so fitted to be flush at their upper sides with the top of the frame and blocks, A, to which they are secured by tacks, N, driven into the blocks, and when in suitable position by split pins, $N'$, driven into small holes, $n'$, formed for that purpose at the intersections of the cell walls, $F'$. Each of the blocks, $M$, is provided with a clamping screw, $P$, for whose threaded portion there is provided a clear channel, $M'$, at one side of the diaphragm, $M''$, through which the bolt, $P$, is screwed, a larger cylindrical channel, $M^*$, being provided at the other side of said diaphragm to accommodate the collars, $L^*$, which are formed as lugs on the clamping lip of the clamp, L, said lugs or collars fitting snugly, but adapted to slide in the channel, $M''$, of the block, and being engaged between the head, $P'$, of the bolt and a collar, $p'$, which is fast thereon at a little distance from the head. To cooperate with these clamps, back stops, $L^*$, are provided, having each in its length one or more block lugs, $M'$, adapted to be tacked into the channels, as seen in Fig. 12. Such back stops can be mounted at any position on the base and adjusted to accommodate a plate of any dimensions, leaving only a slight range of adjustment necessary to be made by the clamp, M, for tightening the plate. The head, $P'$, of the bolt, $P$, is provided in any customary way with means for rotating it, the most convenient being a plurality of small holes, $p$, in the head, which may be engaged by a pin to rotate the bolt for engaging the lip, $L$, with the edge of the plate and forcing the same tight.

By forming the channels, $f'$, upon one side of the cellular frame and one end of the wooden blocks therein, leaving the other side of the frame and the wooden blocks without such channels, the base is adapted most conveniently for both modes of use illustrated; that is, for such use as shown in Fig. 2, wherein printing plates are tacked onto the base by tacks engaging the wooden blocks and may be mounted at any position,—a mode of use which would be somewhat interfered with by channels in the blocks at that side,—or the mode of use shown in Fig. 12, in which page plates are secured by locking devices, no tacks being driven through the plate. The same side of the cellular base which has the channels, $f'$, may be used for mounting page plates, as shown in said Fig. 12, and at the same time for mounting other plates by means of plate hooks, as represented in Fig. 8, and this is sometimes convenient, as when setting up page matter with marginal column annotations required to be set on the same plate which might not reach from one channel to another and could not be so conveniently secured by the form of fastening shown in Figs. 12 to 15 inclusive.

The form of the channel, $M'$, in the block, $M$, being substantially cylindrical, as described, but opening through the upper side of the block and being thereby undercut laterally from the longitudinal opening at the top of the block, is adapted to afford engagement with the lugs, $L'$, of the plate-engaging lip, which prevents the same being crowded or pulled upward by a slightly warped plate or by any other cause which might tend to lift it. In the absence of such provision it would be obviously impracticable to secure the plate in the manner shown by a clamping screw engaged with the block in which it is screwed only at the end remote from that at which the plate edge is engaged; but with the lug, $L'$, engaged with the bolt at the opposite end from that at which its thread is engaged and fully stopped against upward displacement by en-
e gagement in the undercut channel described, it is possible to effect perfectly secure clamping of the plates without any tendency to spring them up or permit them to be sprung up at the clamped edge; and this construction has the further advantage over other devices in use, that the head, P, of the bolt, P, follows up the edge of the plates so that its protrusion beyond that edge is no greater when the width of the plate is such that the bolt is screwed considerably into the block than at the most extended position. Obviously the plate hooks shown in Fig. 8 may be shown on the same side of the frame on which the securing devices shown in Fig. 12 are employed.

We claim:—

1. A base for printing plates, consisting of a multiplicity of parallelogrammatic blocks of wood, each having the grain vertical, and means for binding them together.

2. A base block for printing plates made of non-metallic, penetrable, fibrous material, having the fibers extending vertically.

3. A base for printing plates, a metallic skeleton consisting of thin, intersecting septa enclosing parallelogrammatic cells, whose horizontal area is large relatively to the area occupied by the septa, such cells extending entirely through the skeleton and opening at the top and bottom thereof, and parallelogrammatic wooden blocks having the grain of the wood vertical fitting tightly in the cells and extending therethrough from top to bottom.

4. A base for printing plates, comprising a metal skeleton having inclosing side and end walls and thin intersecting septa oblique to the side and end walls, and subdividing the area inclosed by said walls into cells whose horizontal area is large relatively to that of the intersecting septa, such cells extending entirely through the skeleton from top to bottom, and wooden blocks having the grain of the wood vertical fitted tightly into such cells and extending therethrough from top to bottom.

5. In combination with a base for printing plates consisting of a metal skeleton having cells for receiving base blocks, a plate hook comprising a block adapted to be entered in a cell and of less size in one or both dimensions than the cell, and a wedging device interposed between the wall of the cell and the plate hook block.

6. In combination with a called skeleton for printing base and a plate hook block adapted to be entered in a cell thereof, a block-clamping device comprising two members having similarly oblique ends abutting and engaged for sliding on each other, and a shouldered bolt extending through said oblique faces and binding the two members together, one member being threaded for engagement with the bolt, the other engaged by its shoulder and having the bolt aperture wider in a plane at right angles to said oblique faces than the diameter of the bolt.

7. In combination with a base for printing plates consisting of a metal skeleton having cells for receiving base blocks, the plate hook comprising a block adapted to be entered in a cell and of less size in one dimension than the cell, such block being cut away at the upper part at one side to a sloping shoulder; a clamping member adapted to occupy the space cut away and having its lower end sloping to fit the sloping shoulder, and a shoulder bolt extending through said member screwed into the shoulder of the block, said member having the aperture through which the screw takes elongated in a vertical plane at right angles to said oblique shoulder.

8. In combination with a base for printing plates consisting of a metal skeleton having cells for receiving base blocks, the plate hook comprising a block adapted to be entered in a cell and of less size in one dimension than the cell, such block being cut away at the upper part at one side to a sloping shoulder; a clamping member adapted to occupy the space cut away and having its lower end sloping to fit the sloping shoulder, and a shoulder bolt extending through said member screwed into the shoulder of the block, said member having the aperture through which the screw takes elongated in a vertical plane at right angles to said oblique shoulder, said oblique shoulder of the block and oblique end of the cooperating member having their abutting oblique faces tongued and grooved for sliding on each other along the slope.

9. A base for printing plates comprising a metal skeleton frame consisting of intersecting septa oblique to the sides and ends of such frame, and inclosing cells which extend entirely through the skeleton from top to bottom, such skeleton frame being provided at one side with shallow channels intersecting the septa and parallel to the sides of the frame adapted to receive plate-clamping devices.

10. A base for printing plates comprising, in combination with a metal skeleton frame consisting of intersecting septa oblique to the sides and ends of such frame, and inclosing cells which extend entirely through the skeleton from top to bottom, blocks of penetrable material occupying the cells, such frame and blocks having on one side shallow channels parallel to the sides of the frame and intersecting the septa and adapted to receive plate-clamping devices.

11. A base for printing plates comprising a metal skeleton frame consisting of intersecting septa oblique to the sides and ends
of such frame and inclosing cells which extend entirely through the skeleton from top to bottom, and having at one side shallow channels parallel to the sides intersecting the septa at their intersections with each other and adapted to receive plate-clamping devices.

In testimony whereof, we have hereunto set our hands at Chicago, Ill., in the presence of two witnesses, February 5, 1909,

MAX HOGE.
PAUL C. RIEBE.

In the presence of—
M. GERTRUDE ADY,
JULIA S. ABBOTT.