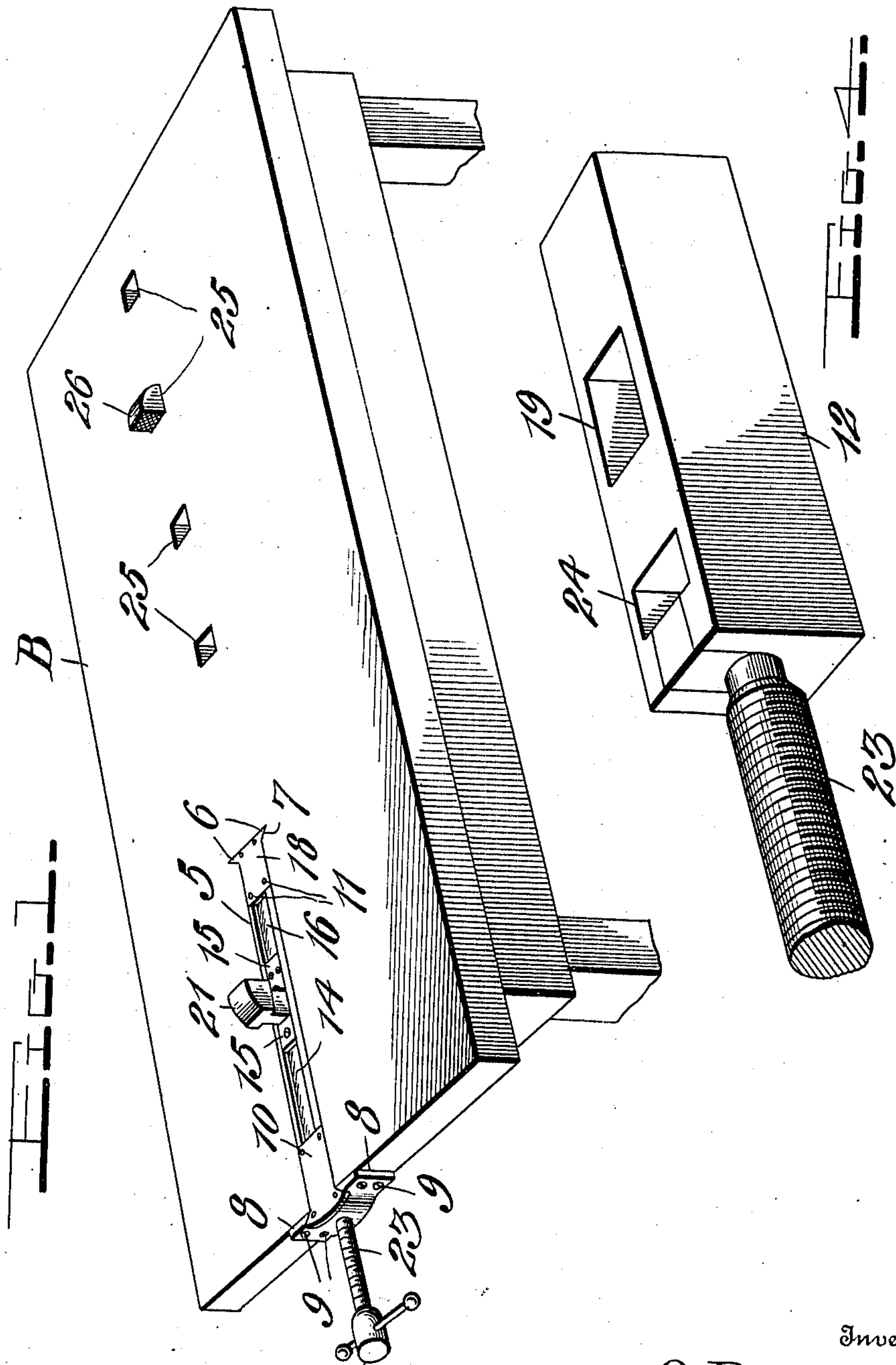


990,186.

O. BERG.  
BENCH CLAMP.  
APPLICATION FILED NOV. 23, 1910.

Patented Apr. 18, 1911.  
2 SHEETS—SHEET 1.



Witnesses

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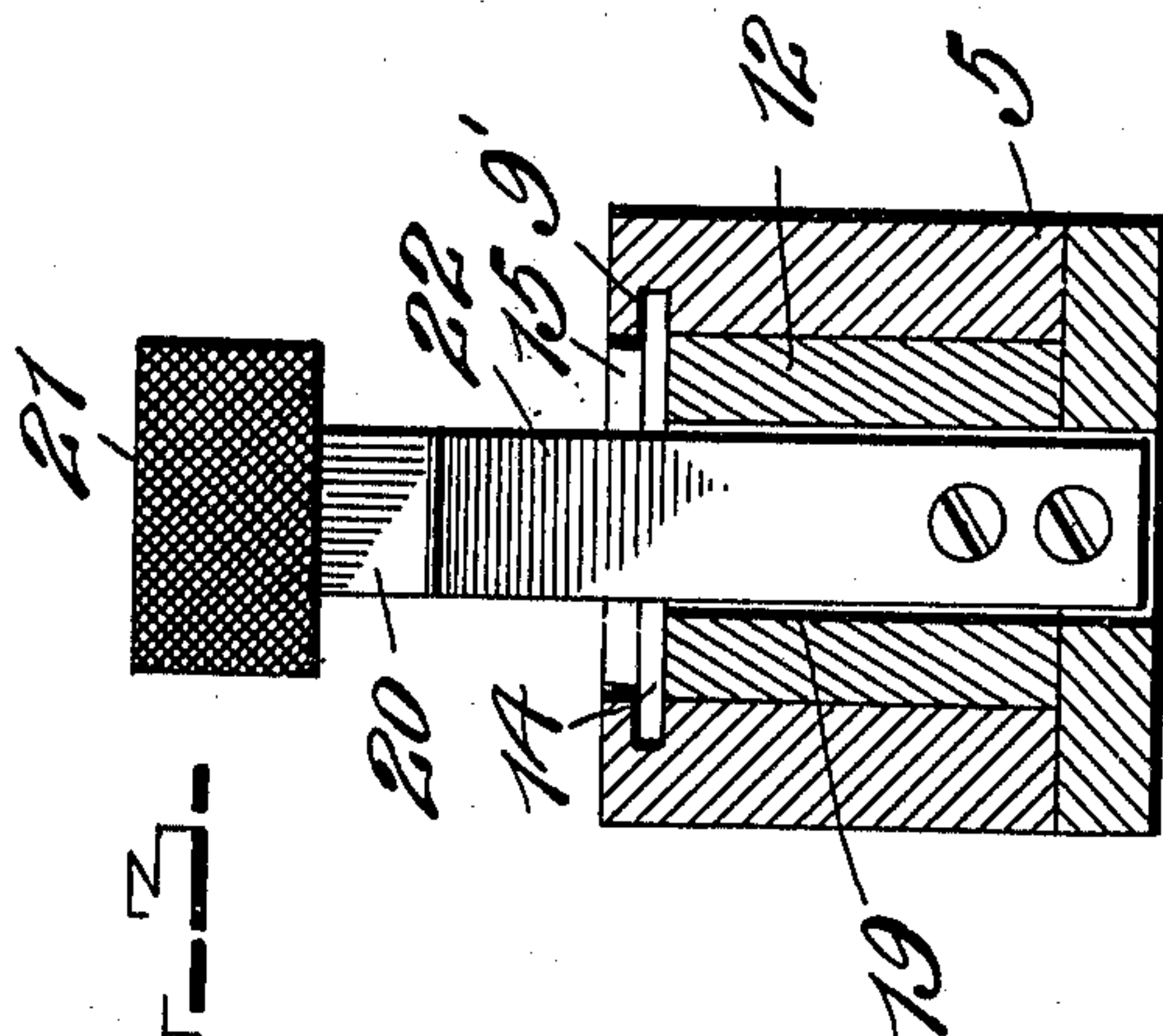
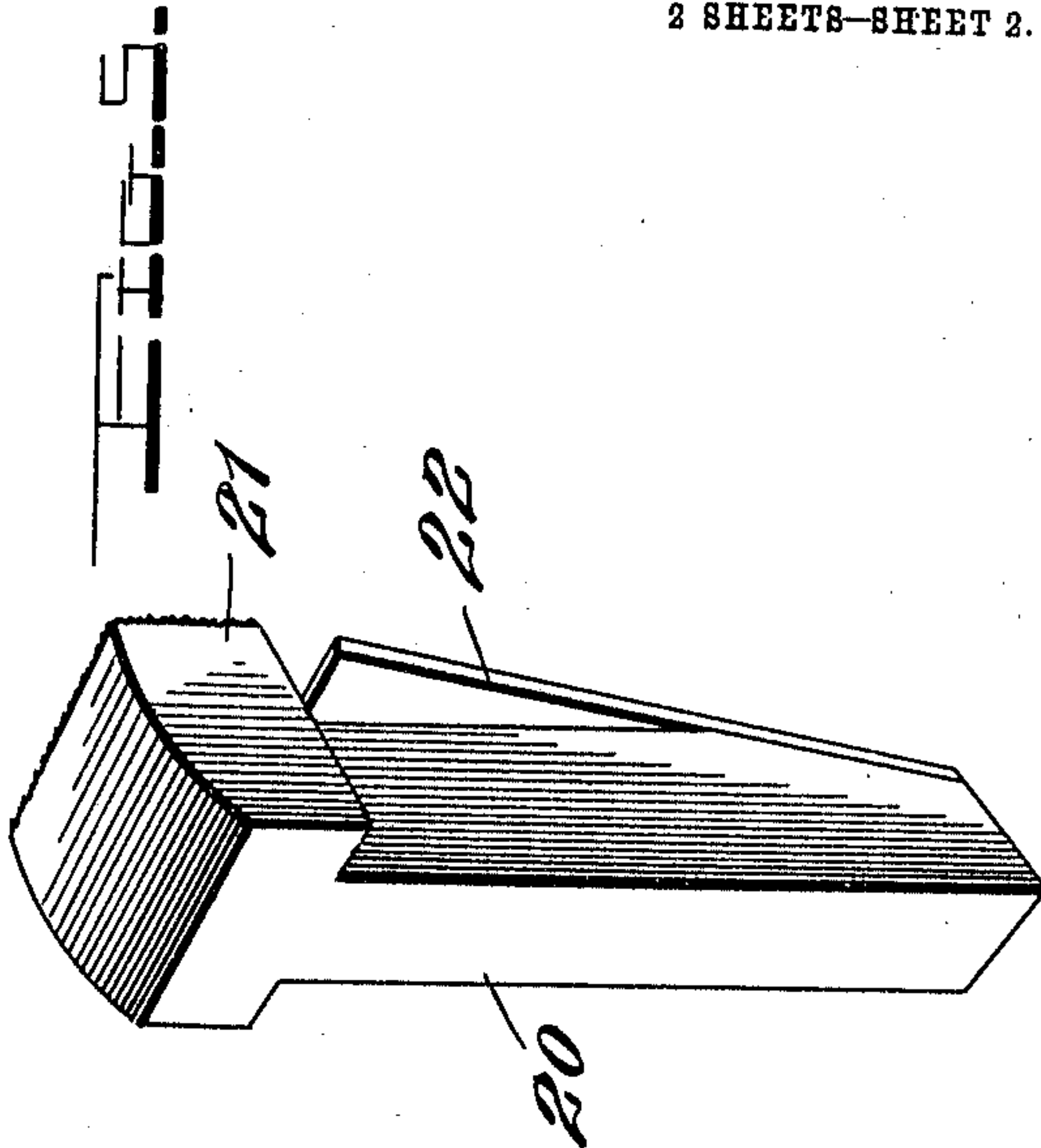
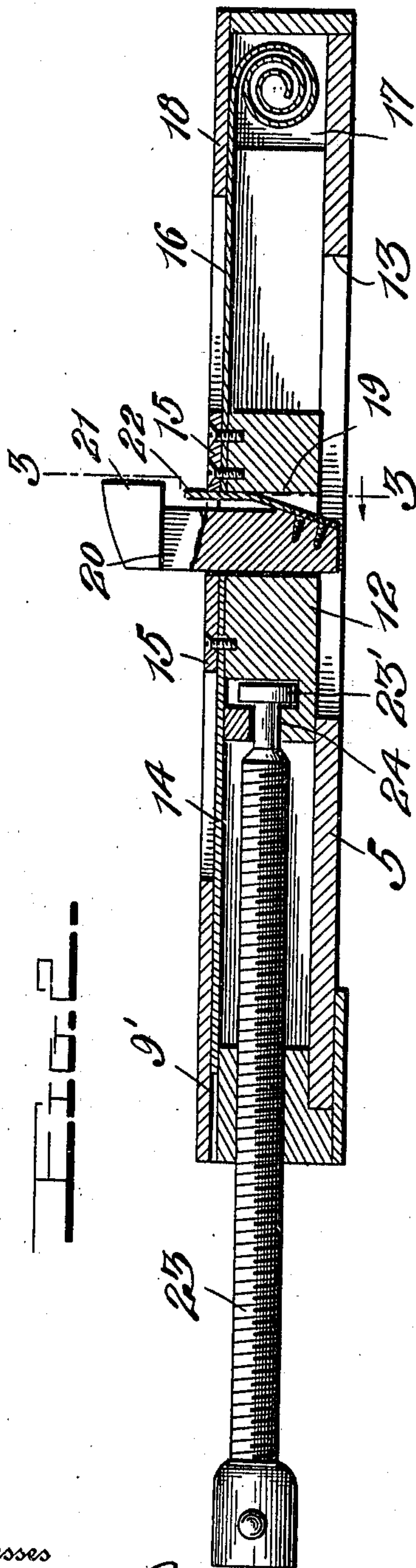
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# UNITED STATES PATENT OFFICE.

OLAF BERG, OF SEATTLE, WASHINGTON.

## BENCH-CLAMP.

990,186.

Specification of Letters Patent. Patented Apr. 18, 1911.

Application filed November 23, 1910. Serial No. 593,942.

*To all whom it may concern:*

Be it known that I, OLAF BERG, a citizen of Norway, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Bench-Clamps, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in bench clamps and has for its object to provide a simple, efficient, durable and convenient device of this character whereby the work may be rigidly clamped upon a carpenter's bench.

A further object of the invention resides in the provision of new and novel means for mounting the adjustable clamping dog and moving the same with relation to a stationary dog secured in the bench.

With these and other objects in view the invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved bench clamp, showing the same arranged on a bench; Fig. 2 is an enlarged longitudinal section; Fig. 3 is a section taken on the line 3—3 of Fig. 2; Fig. 4 is a detail perspective view of the end of the adjusting screw and the movable dog carrying block; and Fig. 5 is a detail perspective view of the adjustable clamping dog.

Referring more particularly to the drawings 5 indicates a substantially rectangular U-shaped guide case. This case is preferably constructed of steel and at one end is formed with the oppositely disposed flanges 6 which are adapted to engage in the ends of a recess 7 provided in one end of the work bench B. At its other end the case 5 is formed with the fastening arms 8 by means of which the device may be securely fastened to the end of the bench as by screws or other fastening devices 9. The opposite sides of the case 5 have formed in their opposite faces adjacent to their upper

edges the longitudinal grooves 9'. The upper edges of the sides of the case at their ends are cut away or recessed to receive the removable plates 10 which are adapted to be secured thereon and close the ends of the case by means of the screws 11. A sliding block 12 is arranged within the case and moves between the sides thereof. The bottom of the case is formed with a longitudinally extending slot 13 which provides shoulders upon which the movable block rests. A spring blade 14 is secured to one end of the block 12 between said block and a plate 15, suitable screws extending through said plate and blade to securely fasten the latter to the block. The free end of this blade extends beneath the plate 10 and the edges thereof are disposed in the longitudinal grooves 9' in the sides of the case 5. This spring blade is freely movable between the plate and the sides of the case and is adapted to be extended beyond the outer end of the case in the adjustment of the sliding block 12. A second spring blade 16 is secured to said block at its other end and in a similar manner to the blade 14. This latter spring blade is, however, of considerably greater length than the former and is adapted to be coiled and uncoiled in the movement of the block 12. The end of the spring is disposed in a compartment 17 formed in one end of the case by cutting away the sides thereof to give ample room for the spring to move as the blade itself is moved in the grooves 9' in the sides of the case. This compartment is also closed by securing the plate 18 upon the upper edges of the sides of the case. It will therefore be obvious that as the spring blade 16 is moved into this end of the case, the contact of the same with the outside of the closure plate will force the same down into the compartment 17 causing the blade to coil upon itself.

The sliding dog 12 is provided with an opening 19 to receive the clamping dog 20. This clamping dog is shown in detail in Fig. 5 and comprises a shank having a head 21 formed on one end. To the shank a leaf



spring 22 is secured and when said shank is inserted in the opening 19 of the movable block 12, it will be obvious that the block will be held in its adjusted position in said opening by the resilient clamping action of said spring against the end wall of the opening so that considerable pressure upon the dog will be required to force the same farther into or remove it from the opening of the block 12. One edge of the head 21 of the clamping dog is knurled to prevent the work from slipping between the same and a stationary dog as will be later set forth.

The sliding block 12 is moved by means of the adjusting screw 23. This adjusting screw is threaded through the end of the case and upon its end is formed with a head 23' which is adapted to move in a socket 24 formed in one end of the block 12. The end of the screw adjacent to the head is reduced in thickness to permit of the insertion of the head through a communicating opening in the block with the central opening 24 in which the same is moved.

The bench B is provided with a plurality of spaced sockets 25 into any one of which a stationary dog 26 is adapted to be placed. This dog is provided with a roughened edge which is disposed in opposed relation to the corresponding edge of the movable dog 20. The work is adapted to be placed upon the bench between the dogs 20 and 26 in the operation of my improved clamp and the adjusting screw turned to move the dog 20 into contact with one edge of the work to bind the same between itself and the stationary dog 26. This may be very quickly and easily accomplished and the work held rigidly in position while it is being planed or otherwise operated upon. The springs 14 and 16 serve to retain the movable block 12 in position between the sides of the case 5 and when releasing the work it will be obvious that as the tendency of the spring 16 is to uncoil and expand, that the work may be very quickly removed from between the clamping dogs by a few turns of the adjusting screw.

From the foregoing it is believed that the construction and operation of my improved bench clamp will be readily understood without requiring any further description.

The device is extremely simple, practical and efficient in operation and highly durable in construction.

While I have shown and described the preferred construction and arrangement of the various parts, it will be understood that the device is susceptible of many minor modifications without departing from the essential features or sacrificing any of the advantages of my invention.

Having thus described the invention what is claimed is:—

1. A bench clamp comprising a casing adapted to be secured in a bench, said casing having a longitudinal opening in its top, a block longitudinally movable between the sides of the casing, springs secured to the ends of the block upon the top thereof, one of said springs being movable beyond the end of the casing, said casing being provided with a chamber in its inner end to receive the other of said springs, a dog removably mounted in said block, and means for moving the block in the casing, said springs retaining the block between the sides of the casing, and a dog adjustable in the bench in alinement with said movable dog.

2. A bench clamp comprising a casing adapted to be secured in a bench, said casing comprising parallel side plates and a bottom plate connecting the same, each end of said casing being closed, plates arranged upon the upper edges of said side plates at each end thereof, a block longitudinally movable between said side plates having an opening therein, a dog removably held in said opening, a spring blade secured to each end of the block upon the top thereof, said blades extending in opposite directions, one of the blades being movable between one of the top plates and one end of the casing in the longitudinal movement of the block, and means for moving said block, the other of said spring blades being movable beneath the other top plate and adapted to be coiled upon itself in the end of the casing, said blades retaining the block in position between the sides of the casing.

3. In a bench clamp, the combination with a bench, of a substantially U-shaped casing secured in one end of the bench, the free edges of the sides of said casing being flush with the surface of the bench, a block longitudinally movable between the sides of the casing, the sides of said casing having longitudinal grooves formed therein, springs secured to the ends of the block movable in said grooves, a clamping dog adjustable in the block, an adjusting screw threaded into one end of the casing and engaged in said block to move the same, and a stationary dog adjustable on the bench in alinement with the dog carried by the block.

4. In a bench clamp, the combination with a bench, of a substantially U-shaped casing having flanges formed on one end thereof, said bench having a longitudinal recess therein to receive the casing, the inner end of the recesses being cut to receive the flanges on the casing, a block movable between the sides of the casing, the sides of said casing having opposed grooves in its inner faces, a spring blade secured to one end of the block movable in said grooves and adapted to extend beyond the ends of the casing, a spring blade secured to the other end of the block movable in said grooves, the inner ends



of the side walls of the casing being cut  
away to receive said spring, an adjusting  
screw threaded through the outer end of the  
casing and engaged in the end of the block  
5 to move the same, said last named spring  
being coiled and uncoiled between the sides  
of the casing in the movement of the block,  
a clamping dog carried by the block, and

a stationary dog arranged on the bench in  
alinement with the clamping dog.

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In testimony whereof I hereunto affix my  
signature in the presence of two witnesses.  
OLAF BERG.

Witnesses:

MARTHA OBERKOTTER,  
FRANCES B. LOVELESS.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
Washington, D. C."

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