

E. MÜLLER.
LOCK SCREW.

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928,997.

Patented July 27, 1909.

Fig. 1.

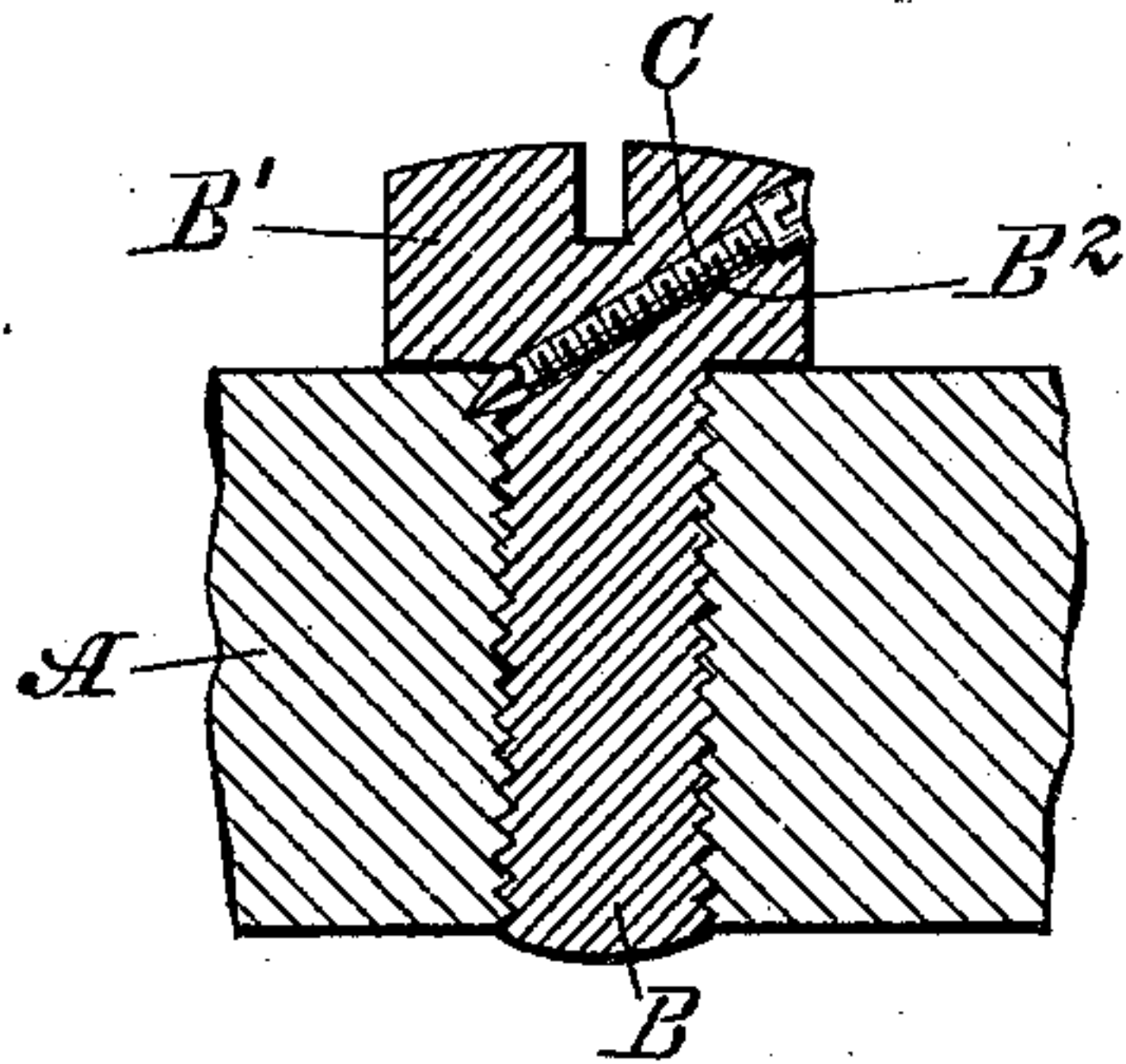


Fig. 2.

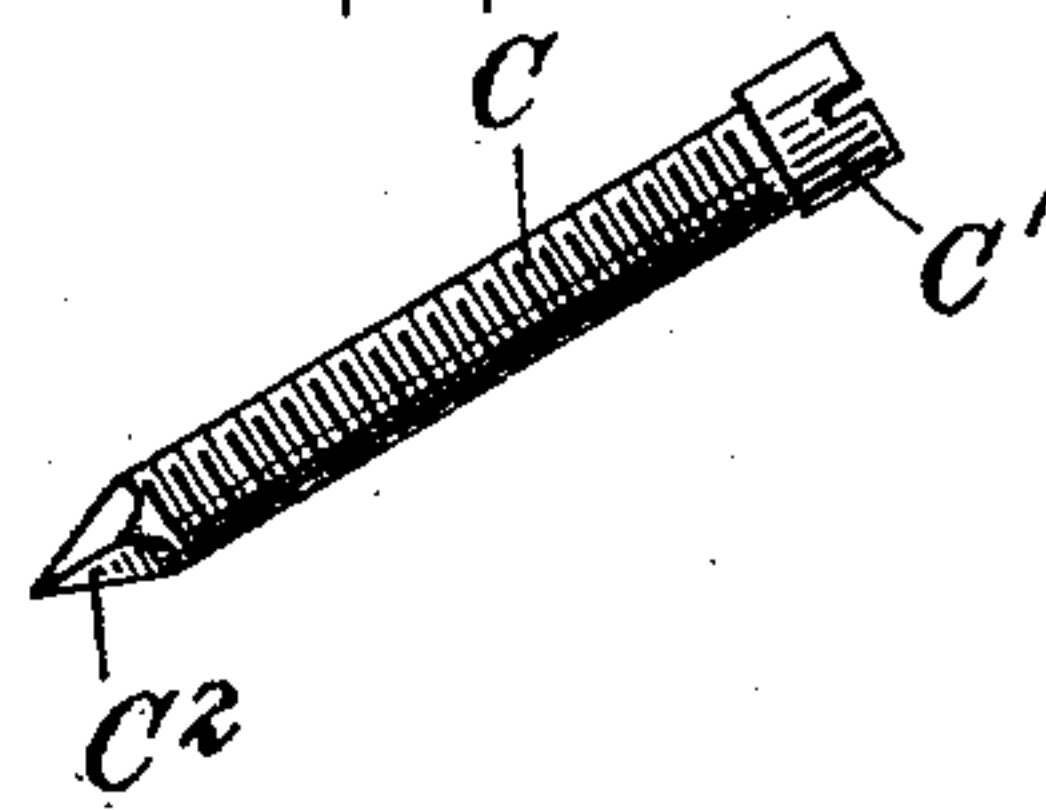


Fig. 3.

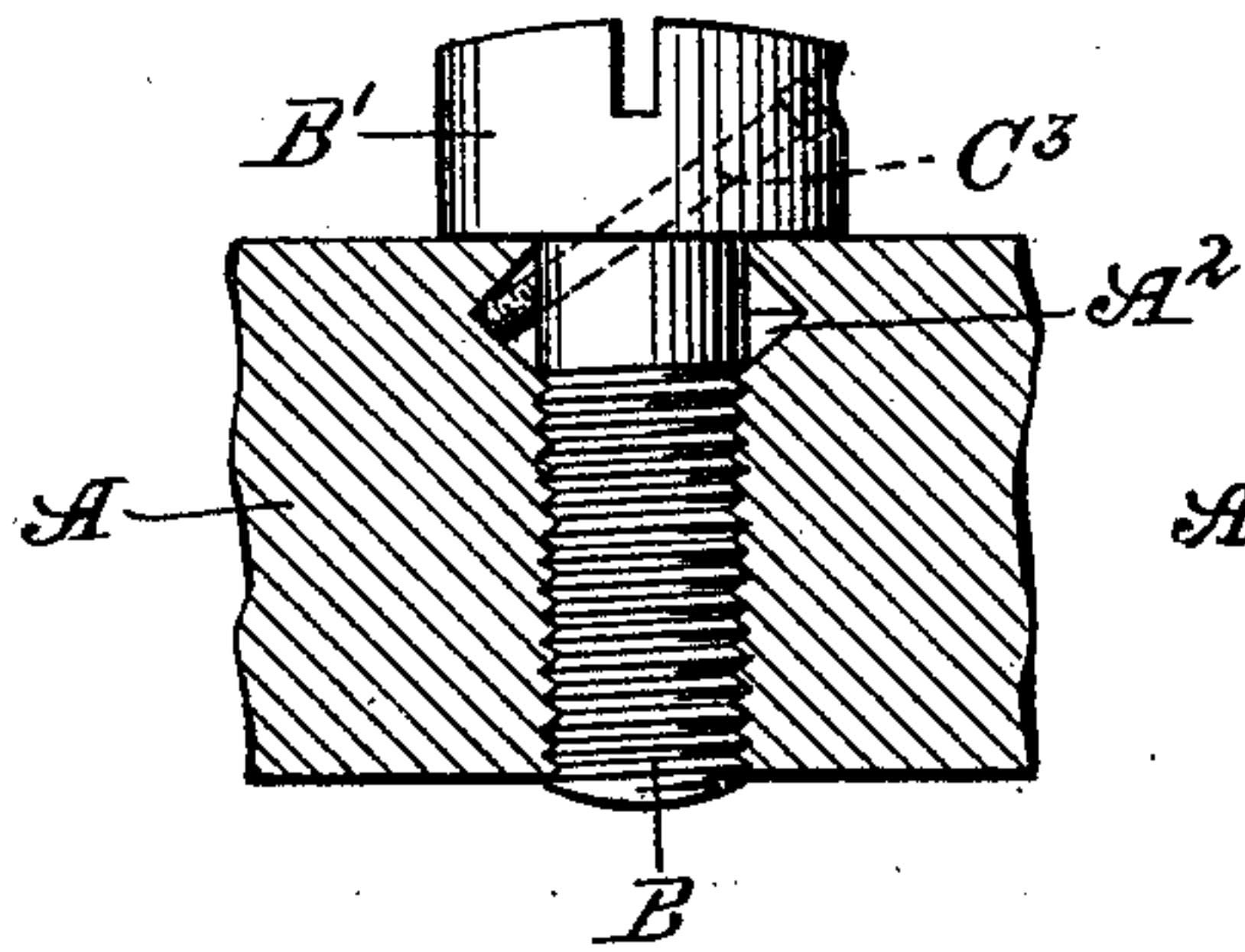
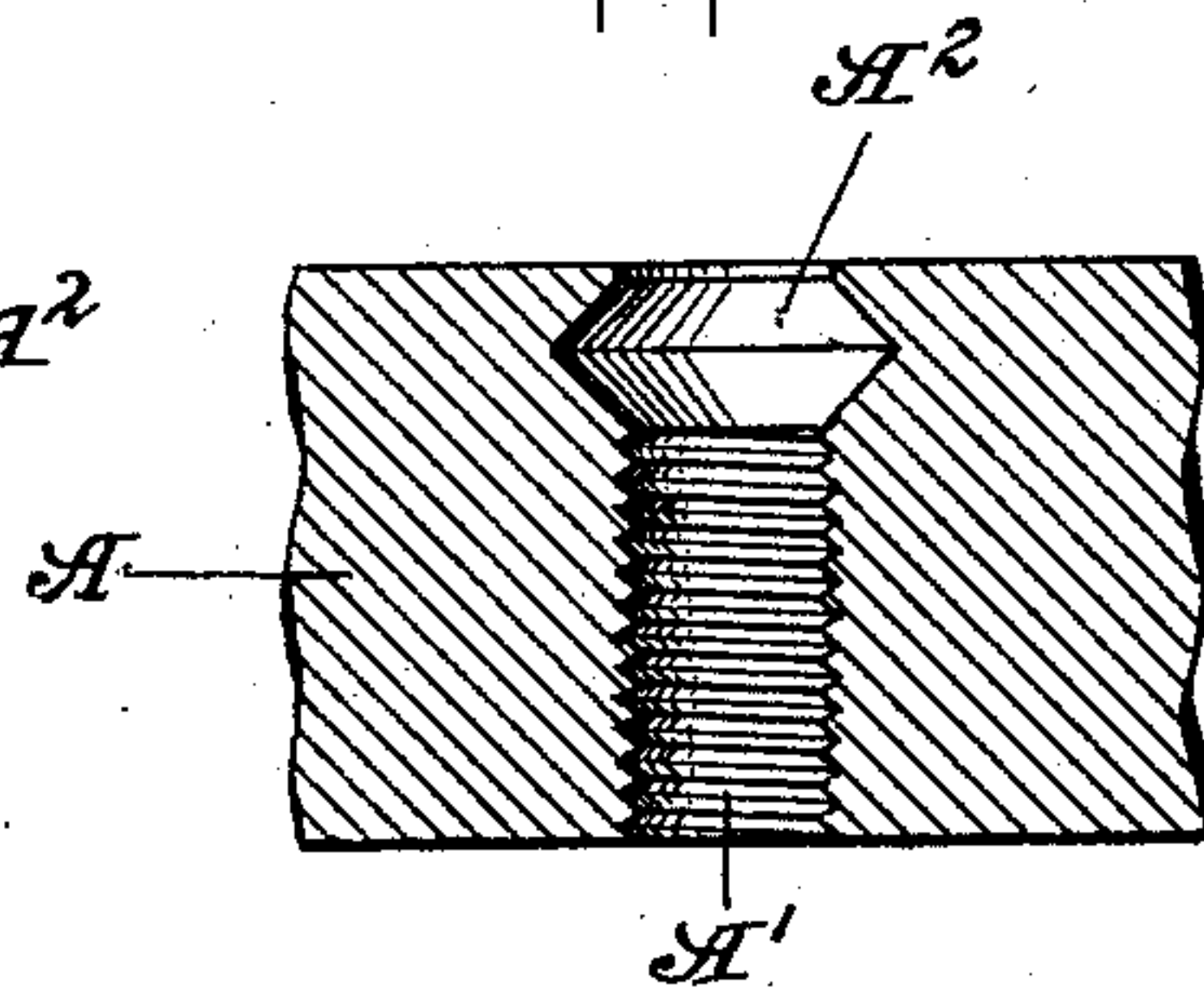


Fig. 4.



WITNESSES

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LOCK-SCREW.

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To all whom it may concern:

Be it known that I, EMANUEL MÜLLER, citizen of the United States, and resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Lock-Screws, of which the following is a specification.

My invention relates to lock screws and has for its object to provide a simple yet efficient construction whereby a screw may be firmly locked in the material which receives it and by which an unlocking of the screw may be readily accomplished whenever desired. For this purpose I employ in conjunction with a screw of ordinary or approved construction, a locking screw of a peculiar novel arrangement as will be fully described hereinafter and specifically pointed out in the appended claims.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a longitudinal section showing one form of my invention; Fig. 2 is a separate view of the locking screw employed in Fig. 1; Fig. 3 is a sectional view showing another form of my invention; and Fig. 4 illustrates the form of the hole for receiving the screw shown in Fig. 3.

In Fig. 1 A indicates the metal or other material into which the screw B is inserted, for which purpose the material A has a screw threaded hole as usual. The head B' of the screw is provided with an oblique perforation B² adapted to receive the lock screw C. The perforation B² terminates preferably at the side surface of the head at one end, the other end of the perforation being on the opposite side of the screw, upon the shank thereof, that is below the head B'. The perforation is preferably somewhat enlarged at its upper end so that the head C' of the locking screw may be counter-sunk therein, as shown in Fig. 1. The point C² of the locking screw has the shape of a three-edge bit point, so that it will have a boring action. The perforation B² may be screw-threaded, but with some materials this will be unnecessary, as the locking screw C may cut its own thread.

The operation will be understood readily. The locking screw is at first turned so that the bit point C² will be retracted and will not project from the shank B; then the screw B

is turned to the desired position and thereupon the locking screw is turned so as to cause its bit-shaped lower end C² to bore and embed itself in the side wall of the hole which receives the shank B. This is the position shown in Fig. 1. It will be understood that as the lock screw C is turned, its threaded engagement with the perforation B² of the head B' will cause the lock screw to be fed lengthwise, thus giving it the proper pressure to cut into the side wall of the hole in the material. It will be obvious that the screw B is now firmly locked and cannot be unscrewed even with the application of great force. The only way to unlock the screw is to withdraw the point C² of the lock screw from the material A, and this can be done readily, since the head C' of the locking screw is easily accessible. By my construction, I therefore provide a screw which can be absolutely locked against accidental movement, yet instantly released when desired.

In Figs. 3 and 4 I have shown a construction in which the hole A' for the reception of the shank B, is provided at its upper end with an annular enlargement or groove A² having its greatest width at its center. This groove A² is adapted to receive the end of the locking screw C³, which end, in this case, need not have any boring or drilling action. The locking of the main screw B, B' is due in this case not so much to any boring action of the point of the locking screw, as to the engagement of the side of said screw with the upper wall of the groove A². It will be obvious that if an attempt is made to unscrew the screw B, this will press the locking screw C³ against the upper wall of the groove A². This groove may be located a short distance below the surface of the material A, or it may be flush with said surface.

I claim:

1. The combination of a screw having a threaded aperture at an angle to its axis with another screw held by its thread in said threaded aperture.

2. The combination of a screw having a threaded aperture extending diagonally downward from the head with another screw held by its thread in said threaded aperture.

3. The combination of a screw having a threaded aperture extending diagonally downward from its head, said aperture hav-

ing a countersink or enlargement at its upper
end, with another screw held by its thread in
said threaded aperture and having a head
which sinks into the enlargement or counter-
5 sink of said threaded aperture, as described.

4. The combination with a screw having a
head and a threaded shank and provided with
a threaded aperture extending obliquely
downward from a point on the head to a
10 point on the opposite side of the shank, and

another screw held by its thread in said
threaded aperture.

In testimony whereof I have hereunto set
my hand in the presence of two subscribing
witnesses.

EMANUEL MÜLLER.

Witnesses:

JOHN LOTKA,

JOHN A. KEHLENBECK.