(No Model.)

W. LITTLEY.

GAGE.

No. 431,702. Patented July 8, 1890.

Fig. 1.

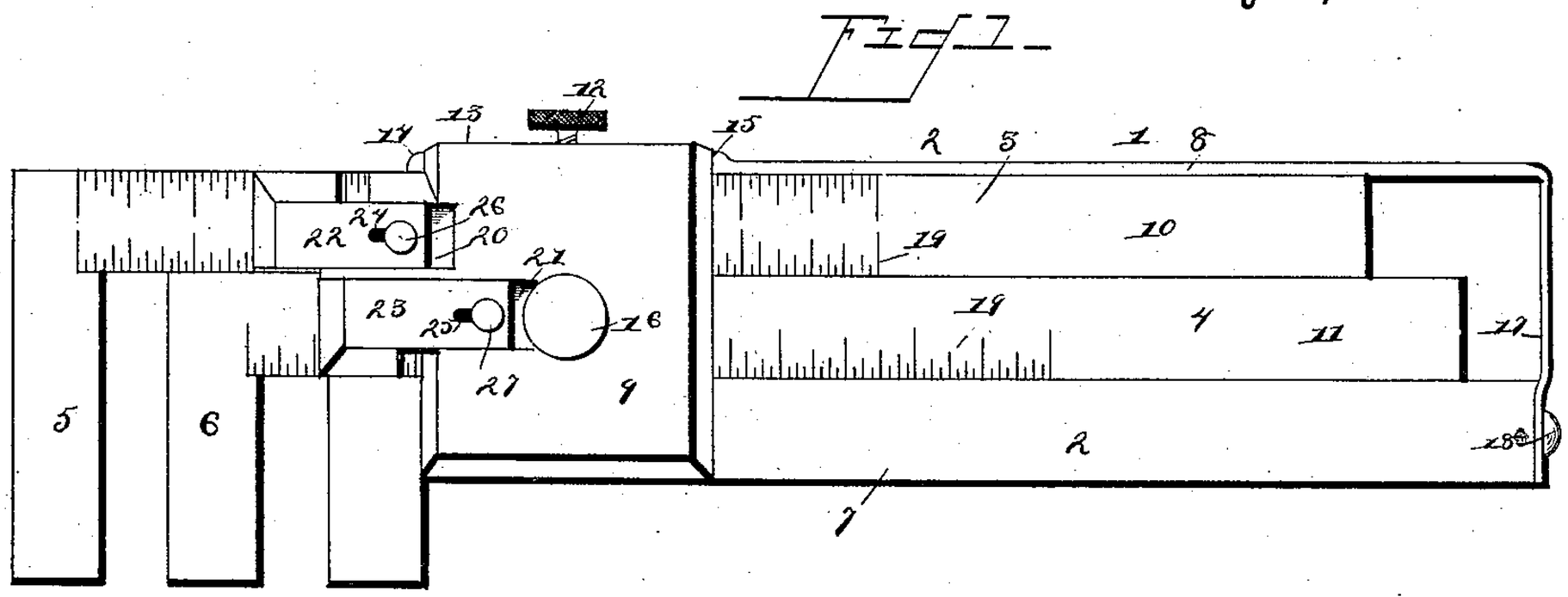


Fig. 2.

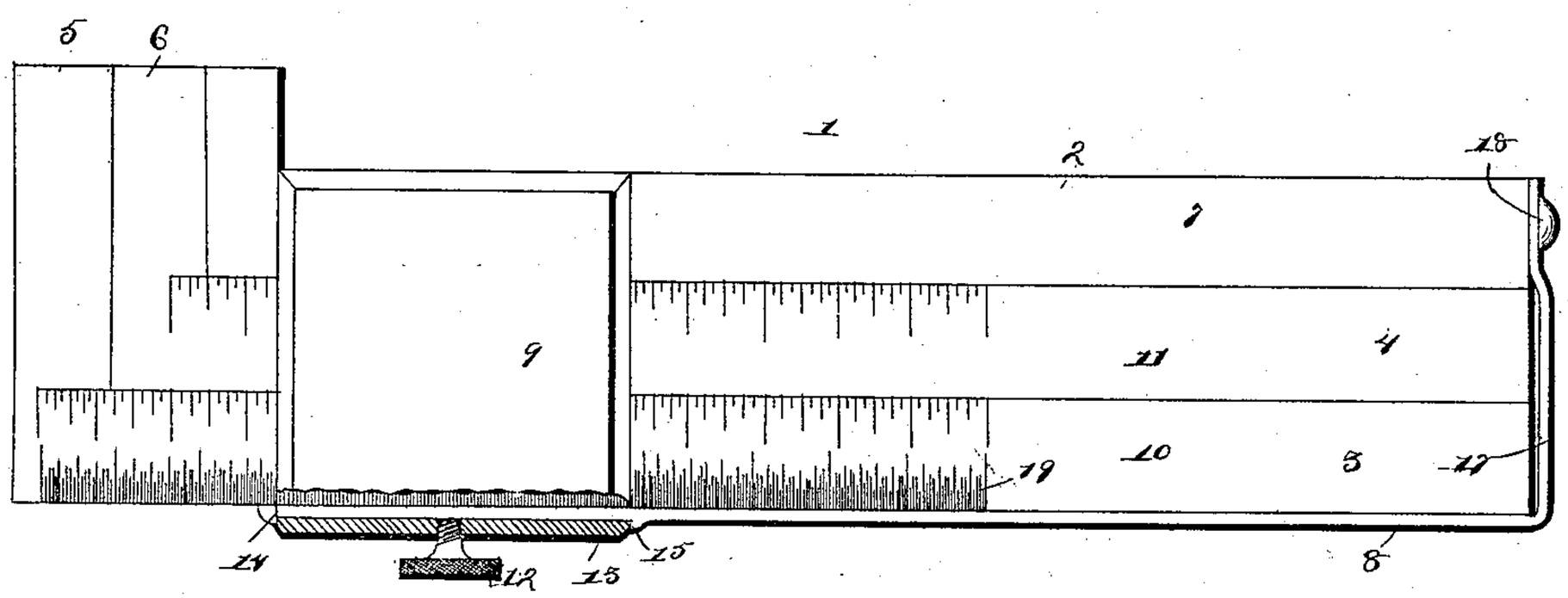


Fig. 3.

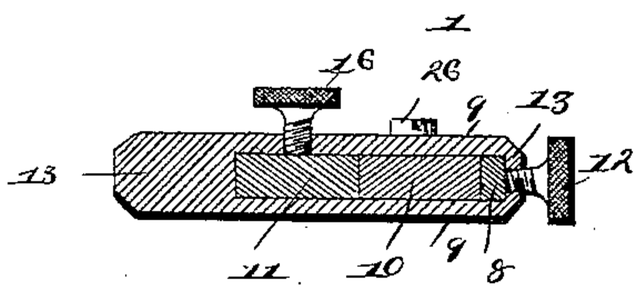
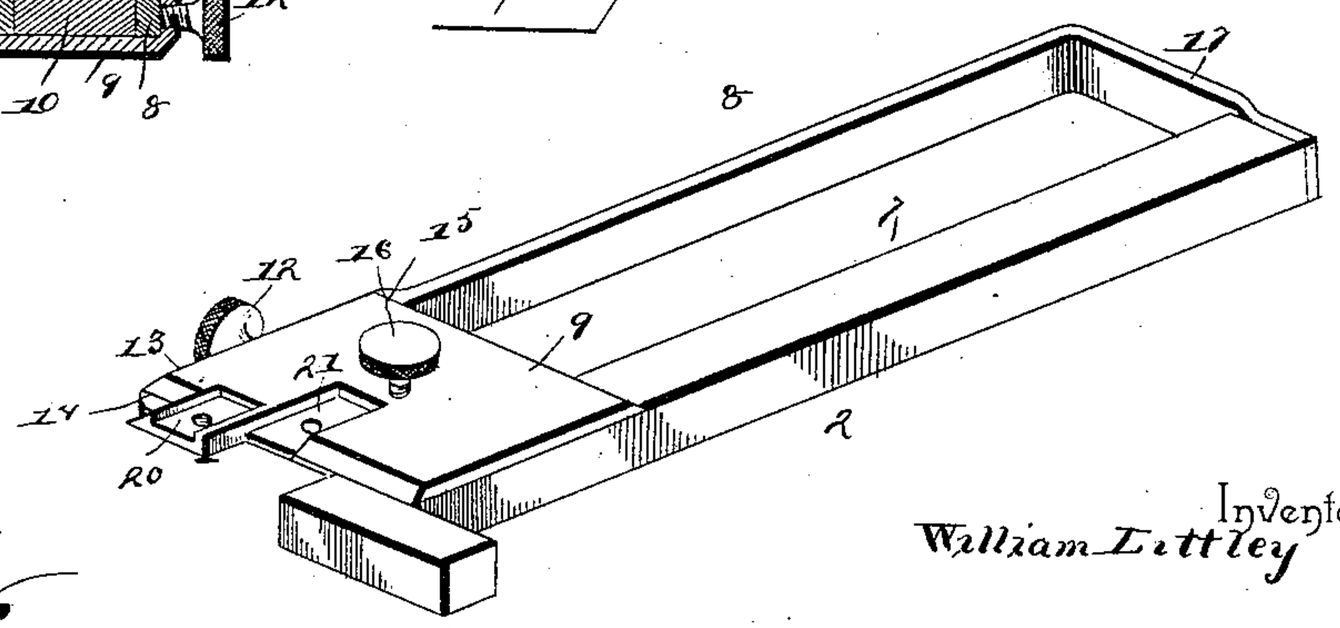


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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GAGE.

SPECIFICATION forming part of Letters Patent No. 431,702, dated July 8, 1890.

Application filed April 9, 1890. Serial No. 347,183. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LITTLEY, a citizen of the United States, residing at Philadelphia, (Tacony,) in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Gage, of which the following is a specification.

The invention relates to improvements in gages.

The object of the present invention is to provide a simple and comparatively inexpensive compound gage which will not get out of true and in which the wear of the moving parts can be readily taken up, and which, when its jaws have become worn with use, can be readily reground, and which after grinding will be as accurate as it was before becoming worn.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a plan view of a gage constructed in accordance with this invention. Fig. 2 is a reverse plan view, partly in section. Fig. 3 is a transverse sectional view. Fig. 4 is a detail view of the frame, the markers being removed.

Referring to the accompanying drawings, 1 designates a compound gage consisting of a stationary frame 2 and sliding squares 3 and 4, which are adapted to slide longitudinally and be separated and have their short arms 5 and 6 form jaws. The frame 2 is composed of a stationary square 7, a guard-spring 8, and integral plates 9, that are arranged parallel with each other and have their ends secured to the stationary square 7, and form a casing in which the sliding squares 3 and 4 slide. The sliding squares 3 and 4 have their long arms 10 and 11 sufficiently wide to fill the space in the casing between the spring-guard and the stationary square, and they are adapted to slide longitudinally on each other, and are thereby provided with a bearing-surface their entire length, whereby they are prevented becoming out of true, and should they become worn with use the wear can be readily taken up by a set-screw 12, which passes through an end piece 13 and engages the free end of the spring-guard 8 and forces the same against the arm 10 of the square 3. The end piece 13 is formed integral with the side plates 9 and connects them at that side of the square, and the spring-guard is provided with shoulders 14 and 15, engaging the end plate, and the said guard 8 completes the frame when the sliding squares are withdrawn, and it serves as a handle to enable the square to be conveniently manipulated. The set-screw 12 also serves to clamp the sliding square 3 at any desired point of adjustment, and in order to similarly hold the sliding square 4 a set-screw 16 is provided, which passes through the plate 9 of the casing and engages the arm 11 of the said square 4. The spring-guard 8 is L-shaped and has its end 17 secured to the long arm of the stationary square 7 by a screw 18, and it may be readily removed when it is desired to separate the parts. Both faces of the long arms 10 and 11 are provided with graduations 19, and the said graduations are extended beyond the inner edges of the short arms 5 and 6, whereby when the edges of the short arms become worn they may be ground and the square be made as accurate as it was before becoming worn, and the long arm 10 is provided at each edge with graduations, which are preferably divided into sixty-fourths and hundredths of an inch to render the square more convenient. The plate 9 of the casing is provided with recesses 20 and 21, in which are secured adjustable markers 22 and 23, that are provided with slots 24 and 25, and are secured in the said recesses 20 and 21 by set-screws 26 and 27, that render the markers capable of adjustment, and the said markers are provided with beveled edges.

From the foregoing description and the accompanying drawings the construction, operation, and advantages of the invention will be readily understood.

What I claim is—

1. A gage comprising the frame, consisting of the stationary square, the casing, and the spring-guard, and the sliding squares arranged in the casing and interposed between the spring-guard and the stationary square, substantially as described.

2. A gage comprising the frame, consisting of the stationary square, the casing, and the L-shaped spring-guard completing the frame

and forming a handle, and having one end secured to the stationary square and the other end arranged in the casing, the sliding squares interposed between the stationary square and the spring-guard, and the set-screw 12, arranged to engage the spring-guard, substantially as described.

3. A gage comprising the frame, the stationary square, the parallel integral plates forming a casing and having their ends secured to the stationary square, and the spring-guard completing the frame and having its free end arranged in the casing, the sliding squares interposed between the spring-guard and the stationary square, and the set-screws 12 and 16, adapted to clamp the sliding squares at any desired point of adjustment, substantially as described.

4. A gage comprising the frame, consisting of the casing, the stationary square, and the spring-guard secured to the stationary square and having its free end arranged in the casing, the sliding squares, and the adjustable markers provided with slots and secured in recesses of the casing by set-screws, substantially as described.

5. A gage comprising the frame, and the squares sliding in the frame and provided with graduations 19, extended beyond the inner edges of their short arms, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM LITTLEY.

Witnesses:

CHRISTOPHER FUHRMAN,

GEORGE W. STAHL.