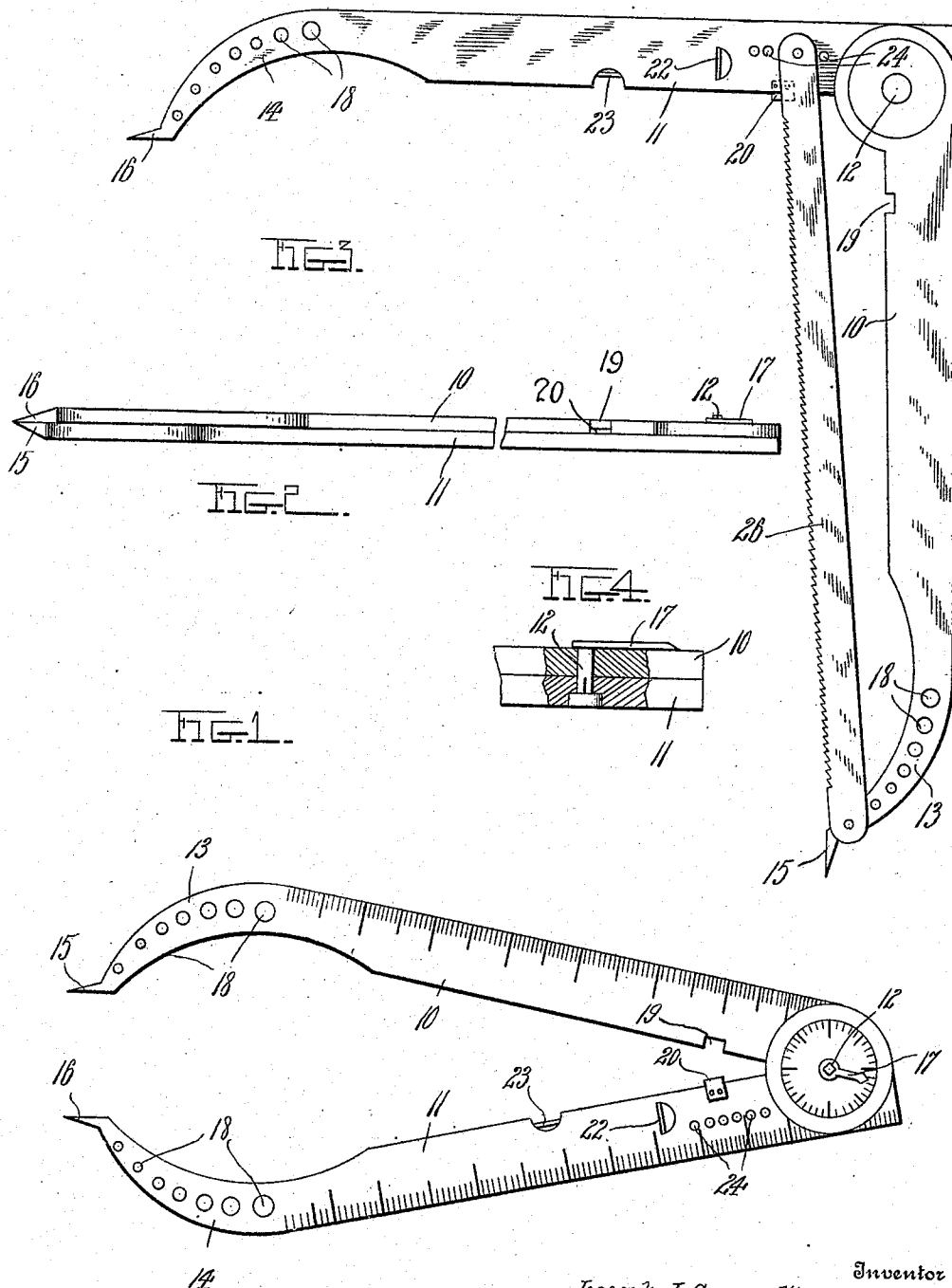


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 COMBINED BEVEL, SQUARE, AND CALIPERS.
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Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH JOHN SZYMANSKI, OF TOLEDO, OHIO.

COMBINED BEVEL, SQUARE, AND CALIPERS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH JOHN SZYMANSKI, a citizen of the United States, residing at Toledo, in the county of Lucas, State of Ohio, have invented certain new and useful Improvements in Combined Bevels, Squares, and Calipers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to combination instruments, and has for its object to produce a simply constructed device which may be employed for a variety of purposes, but more particularly as a combined square, bevel and calipers.

With these and other objects in view the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claims, and in the drawings illustrating the preferred embodiment of the invention, Figure 1 is a side elevation of the improved device arranged for use as a bevel and as a pair of calipers. Fig. 2 is an edge view of the same. Fig. 3 is a view of the improved implement from the side opposite to that shown in Fig. 1 and adapted for use as a hack saw frame. Fig. 4 is an enlarged sectional detail illustrating the construction of the joint between the leg members.

The improved implement comprises two leg members 10—11 pivotally united by a bolt 12, the free ends of the legs 10—11 curving inwardly at 13—14 and thence extending outwardly and terminating in points 15—16.

The leg member 11 is extended beyond the pivotal point 12 and with the terminal of the leg 11 at the pivot end thereof square with the outer edge of the leg 11 or at right angles thereto, so that when the leg 10 is disposed at right angles to the leg 11 the outer edge of the leg 10 will align with the square end of the leg 11 and form a complete square as shown in Fig. 3.

The legs 10—11 will preferably be graduated in inches and fractions of inches as shown, and the leg 10 also provided with a circular outline at the pivot end concentric to the pivot and graduated in degrees and fractions of degrees with the pivot 12 provided with an indicator 17 operating over the degree graduations and thus denoting

the angularity of the leg 10 relative to the leg 11. The pivot 12 is rigidly connected to the leg member 11 so as to turn therewith. By this means it will be obvious that the legs 10—11 may be disposed at any required angle relative to each other and that this angularity will be accurately disclosed by the pointer 17 operating over the graduations.

By this means a complete combination bevel and square is produced which may be readily adjusted to denote any degree of angularity, and when the leg 10 is set with the pointer 17 opposite 90, the operator will know that the legs 10—11 are at right angles to each other or form a square.

The points 15—16 provide a convenient compass device, which may be employed in describing circles of any radius within the range of the movable legs, while the confronting faces of the points 15—16 enable the device to be employed as an efficient pair of calipers.

Formed through the curved portions 13—14 of the legs 10—11 are a plurality of spaced apertures 18 increasing in size toward the pivoted ends of the legs, the apertures being accurately sized to correspond with the different gages of wire, the improved device thus constituting a wire gage as well as a bevel and square, as will be obvious.

Formed in the leg 10 near the joint 12 is a recess 19, and projecting from the leg 11 opposite the recess 19 is a plate 20 projecting from the member 11 and secured thereto by riveting or other fastening devices, as shown. The leg 10 is adapted to pass over the leg 11 when the device is to be closed, and thus causes the projection or plate 20 to cross the recess 19, and thus produces an effectual wire cutting action.

A semi-circular aperture is formed through the leg 11 and in the straight side of this aperture is disposed a level bubble 22 while a similar level bubble is disposed in the edge of the leg 11 at 23, the level bubble 23 being parallel to the longitudinal plane of the outer edge of the leg and the bubble 22 being disposed at right angles to the longitudinal plane of the said outer edge, so that the implement may be employed as a level either horizontally or perpendicularly.

Formed through the leg 11 adjacent to the pivot 12 are a plurality of small spaced apertures 24, and formed through the leg 10

near the outer end of the curved portion 13 and likewise near the point 15 are a plurality of small apertures 18. The apertures 18 are graduated in diameter to form wire gages, and the outermost aperture 18 is utilized to pivotally unite the brace member 26 at one end to the leg 10, while the opposite end of the brace is secured by a suitable pin to one of the apertures 24.

10 The brace member may be formed with saw teeth upon one edge to enable the brace to be employed as a hack saw when connected in position upon the legs.

By providing a plurality of the apertures 15 24 the brace may be adjusted to hold the legs 10—11 at different angles relative to each other. By this arrangement an implement is produced which may be employed for a variety of purposes.

20 The legs 10—11 and the other parts may be of any required size and weight to adapt it to the purposes for which it is designed.

The graduated circle in coaction with the pointer permits the terminals 15—16 to be 25 spaced at any required distance, and thus enables the "caliper" feature of the device to be employed. The amount of the spread of the calipers may be known or read upon the graduated circle without the necessity 30 for measuring the distance between the calipering surfaces. The graduated circle

also enables the operator to set the legs 10—11 at any required bevel, or to set the two legs square with each other as required.

What is claimed, is:—

1. An implement of the class described 35 comprising two leg members, one of the leg members having a plurality of spaced apertures, a pivot carried by one of said leg members and engaging through the other leg member, a graduated circle upon one of said leg members concentric to said pivot, a pointer carried by said pivot and movable over said graduated circle, a brace connected to swing from one of said leg members, and 45 means for detachably connecting said brace at its other end in one of the apertures in the other leg member.

2. An implement of the class described comprising two leg members, one of said 50 leg members having a plurality of spaced apertures, means for pivotally uniting said leg members, a brace connected to swing from one of said leg members, and means for detachably connecting said brace in one 55 of the apertures of the other leg member.

In testimony whereof, I affix my signature, in presence of two witnesses.

JOSEPH JOHN SZYMANSKI.

Witnesses:

MART SWBLESKI,

THOS. F. DAWSON.