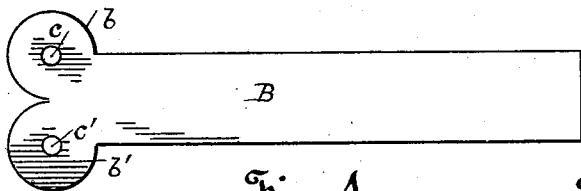
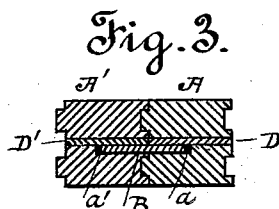
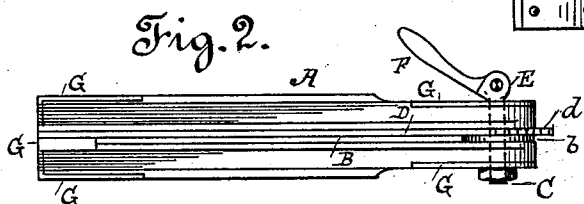
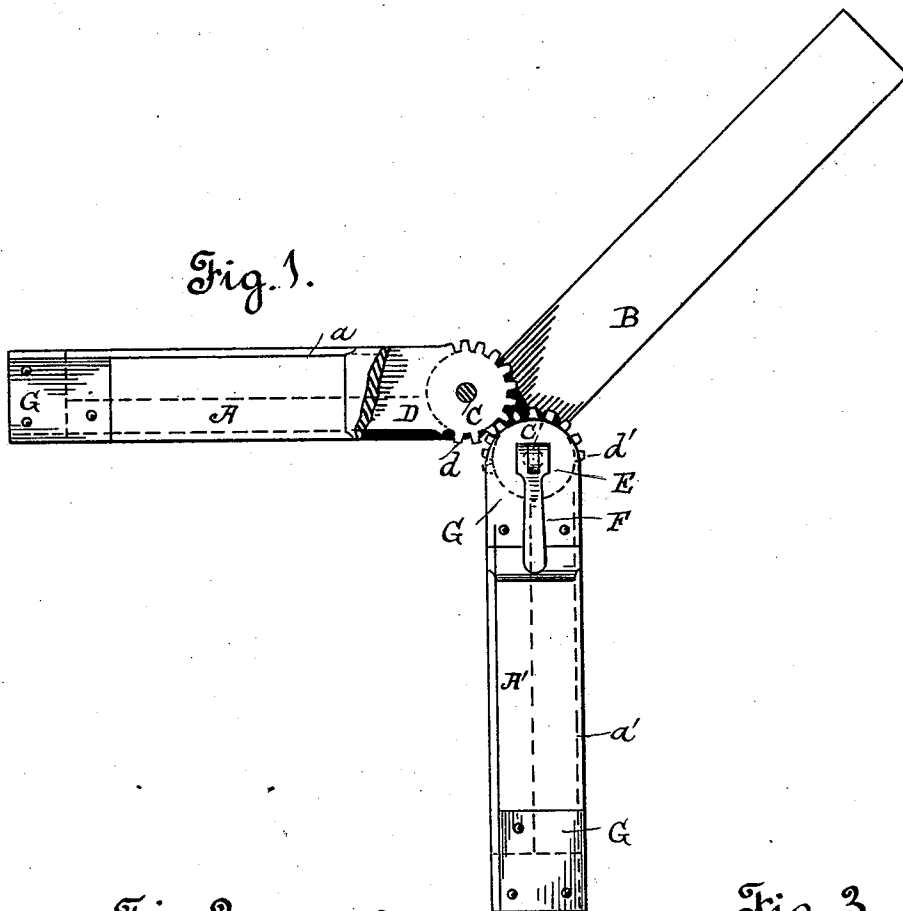


(No Model.)

J. T. LANGLAIS.
BEVEL.

No. 521,414.

Patented June 12, 1894.



Witnesses.

H. Monteverde.
A. B. Bate.

Fig. 4.

Inventor.

J. T. Langlais
by *A. H. St. Marie*
att'y

UNITED STATES PATENT OFFICE.

JOSEPH T. LANGLAIS, OF BERKELEY, CALIFORNIA.

BEVEL.

SPECIFICATION forming part of Letters Patent No. 521,414, dated June 12, 1894.

Application filed May 19, 1893. Serial No. 474,807. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH T. LANGLAIS, a citizen of the United States, residing at Berkeley, in the county of Alameda and State of California, have invented a new and useful Improvement in Angle-Indicators; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in that class of measuring instruments that are used by carpenters, joiners, wood-workers, and mechanics generally, for setting off angles from straight lines and for adjusting the abutting surfaces of work to the same inclination.

The object of my said improvement is to provide a cheap and handy tool or instrument of the class above referred to that will be especially serviceable in drawing angles, laying off lines to which material has to be sawed or cut, and marking out joints so that pieces to be fitted together may be matched with accuracy and the work done with convenience and dispatch.

Essentially my improved angle-indicator consists of a single blade having end-lobes mounted in and pivotally connected with one end of two laterally-swinging handles that are geared together and tongued and grooved as well as recessed or slitted so as to fold over the blade, the whole constructed, combined and arranged as hereinafter more fully set forth and pointed out in the claim.

Referring to the drawings, for a detailed description,—Figure 1 is a top view of my improved tool, the same being in an open position and partly broken away to show one of the central plates comprised therein. Fig. 2 is an edge view of the instrument closed. Fig. 3 is a sectional end elevation. Fig. 4 is a detailed view of the blade.

Corresponding letters of reference are used to indicate corresponding parts throughout the several views.

A A' represent two arms or handles, of about the same size, having tongued and grooved edges that fit one into the other. By

preference, each arm or handle is composed of two wooden pieces suitably held apart or cut away in their inner side to form recesses or slits *a a'* in and out of which a blade B may be moved.

B, the blade referred to, may be made of any suitable material, steel preferred. It is rectangular at one end, and rounded at the other where it branches out into two lobes or ears *b b'* centrally perforated at *c c'*. The rectangular or square end of the blade is left free, whereas the rounded end is inserted into the recesses or slits of both handles where its lobes are respectively secured to the component parts thereof by pivot-pins C C'. The handles may thus be swung forward or backward so as to partly or wholly cover or uncover the blade.

In each of the handles A A', and centrally located therein, are plates D D' that extend about their full length and are provided with teeth *d d'* reaching out beyond their pivoted ends. These plates are rigidly secured to the handles and the toothed ends thereof adapted to engage with each other. The result is the handles are always in identical positions relatively to the blade, that is they bear the same angular relation to the edges of the blade though moving in opposite directions. The handles being tongued and grooved, as shown, they are enabled to clear the teeth of the plates and true angles may therefore be formed.

The means employed for setting the handles, after they have been adjusted in the desired position about the blade, consist of an eccentric E, and lever F, that are pivotally connected with an eye formed in the upper end of the pin C'. Upon pushing the lever down, as shown at Fig. 1, the eccentric draws up the pivot-pin to which it is attached and presses the connected parts together so as to give the indicator the particular set wanted. The reverse movement, exemplified at Fig. 2, loosens the parts and allows the handles to turn freely about their pivots.

Metallic tips or supplemental plates G may be used, if desired, for ornamentation or to strengthen certain parts of the instrument, but these, it will be understood, do not constitute essential features of my invention.

It will be seen from the foregoing descrip-

tion and by reference to the drawings here-
unto annexed that if one of the handles of
the above-described tool is brought up square
against a line or surface from which an an-
5 gle is to be set off the other handle may be
adjusted either backward or forward to the
desired inclination. The handles being piv-
oted to each side of the blade and movable
toward and away from the same in equal de-
10 grees or ratios they may both be laid upon
the sides of any angle and the edges of the
blade will indicate lines dividing such angle
into parts of corresponding shape. Match-
ing pieces may then be outlined, sawed or cut,
15 and fitted in a workmanlike manner. The
tool also may well take the place, in many in-
stances, of the common square, the T-square,
the bevel-square, and similar implements, as
any skillful mechanic or artificer will know
20 how to take advantage of the several avail-
able combinations of the two handles, of one

handle and the blade, and of the one blade
and the two handles.

Having now described my invention, what
I claim, and desire to secure by Letters Pat- 25
ent of the United States, is—

An angle indicator consisting of a single
blade, handles pivoted to one end of said
blade and provided around their pivots with
intermeshing segmental gears, said handles 30
being further provided with longitudinal slits
or recesses in their inner sides whereby they
are adapted to fit over and cover the blade,
and a clamping device on one of the pivots
to hold the blade and handles at any desired 35
angle.

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

JOSEPH T. LANGLAIS.

Witnesses:

A. A. BAXTER,
R. R. STRAIN.