No. 731,916. PATENTED JUNE 23, 1903.

J. KOEGEL.

COMBINATION TOOL.

APPLICATION FILED FEB. 26, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

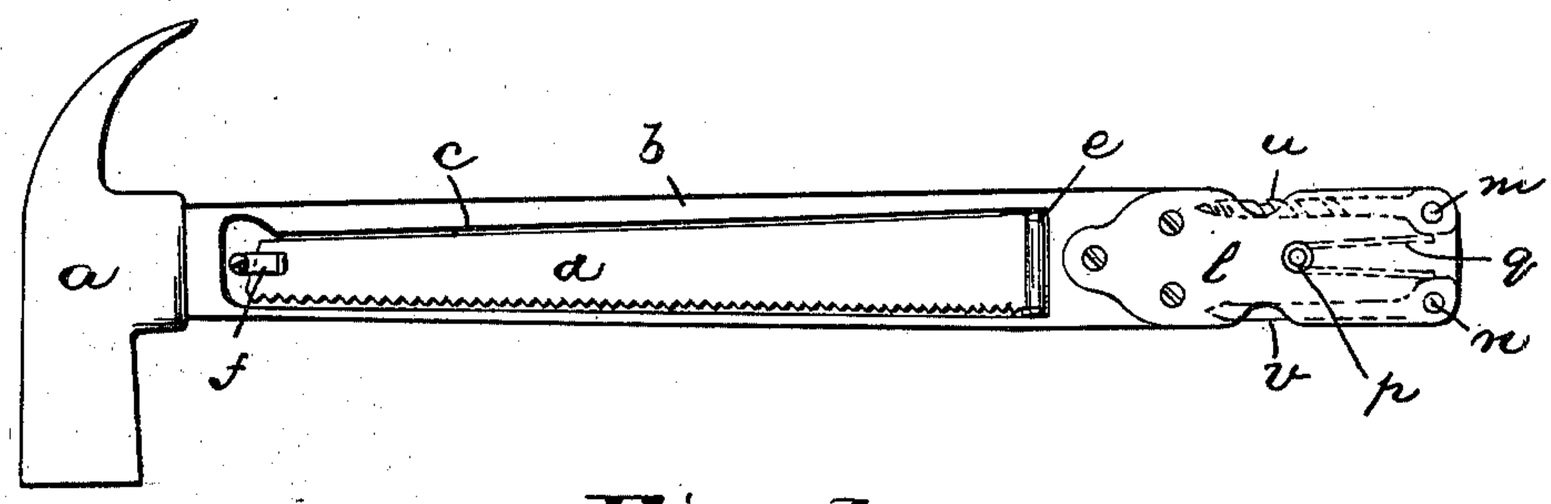

Fig. 1.

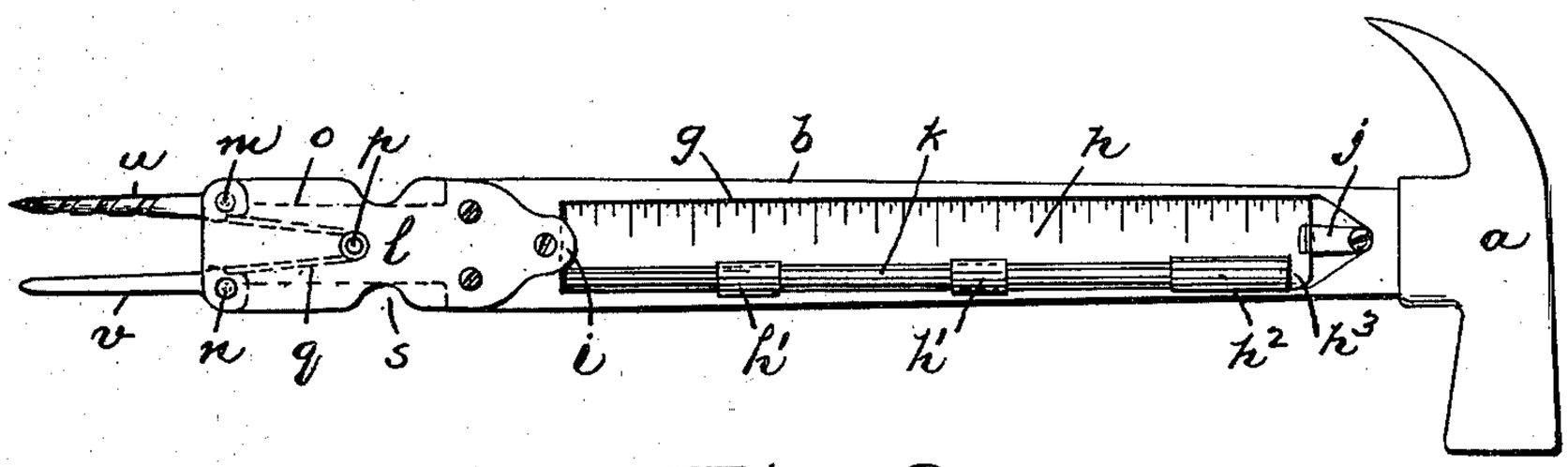

Fig. 2.

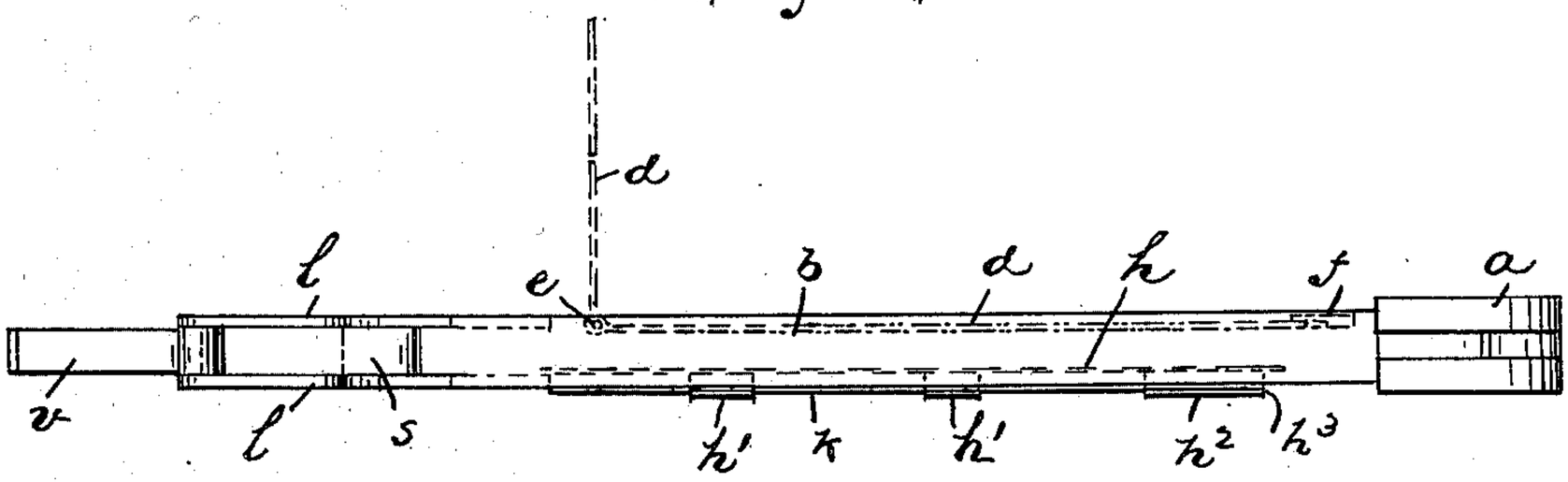

Fig. 3.

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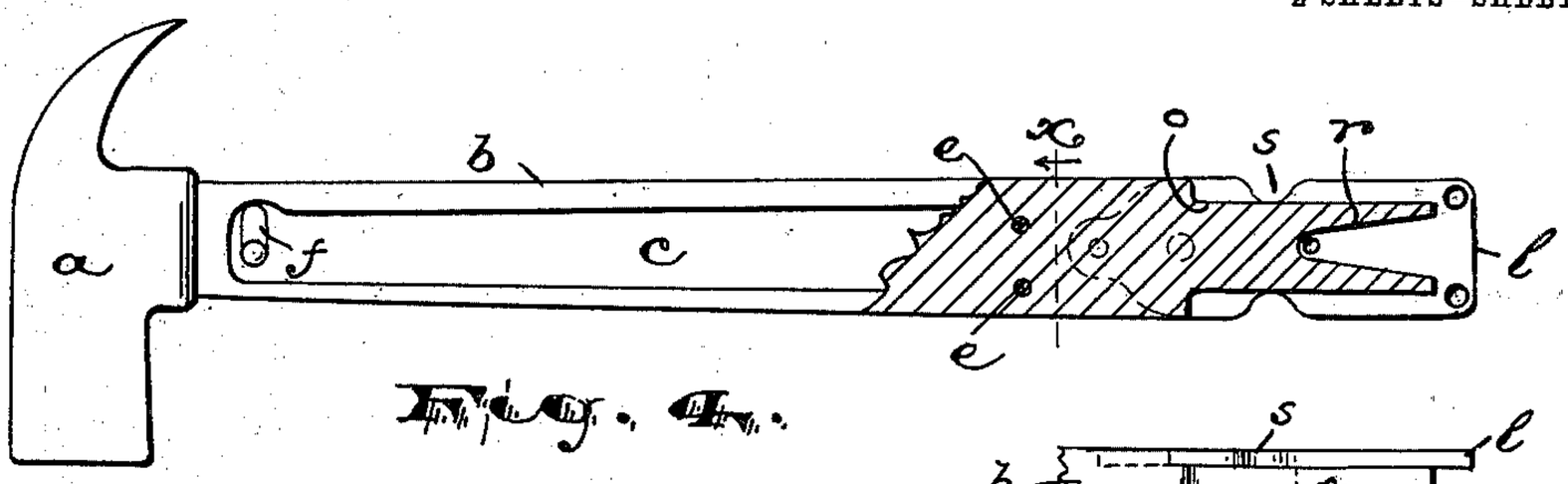
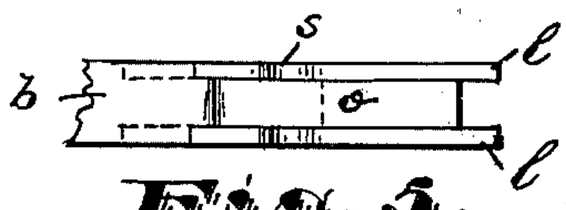


Fig. 4.



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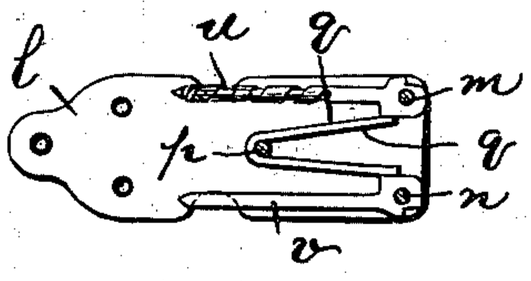

Fig. 8.

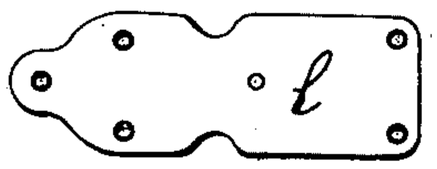

Fig. 6.

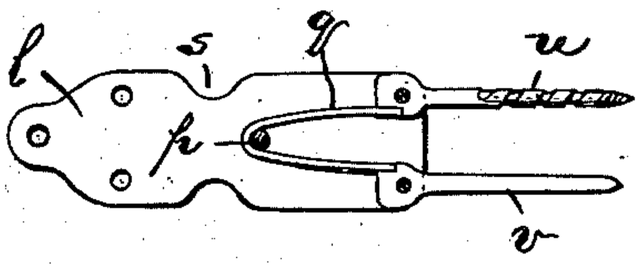

Fig. 9.

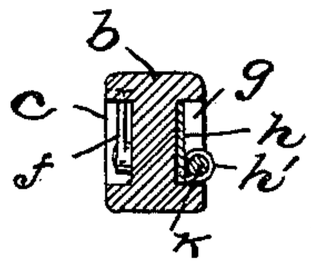

Fig. 7

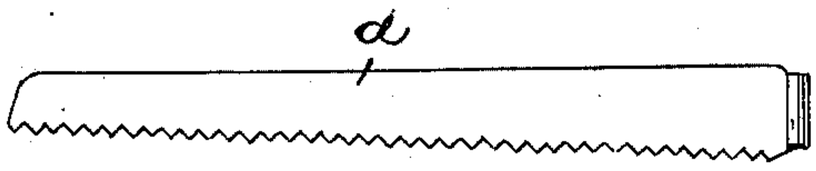

Fig. 10.

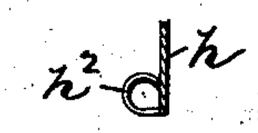

Fig. 12.

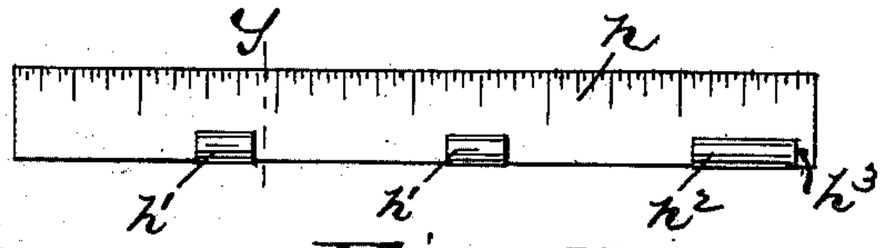

Fig. 11.

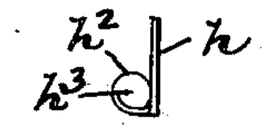

Fig. 13.

WITNESSES:

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ATTORNEYS.

No. 731,916.

Patented June 23, 1903.

UNITED STATES PATENT OFFICE.

JULIUS KOEGEL, OF NEWARK, NEW JERSEY.

COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 731,916, dated June 23, 1903.

Application filed February 26, 1902. Serial No. 95,676. (No model.)

To all whom it may concern:

Be it known that I, JULIUS KOEGEL, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Combination-Tools; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The objects of this invention are to provide in combination with a handled tool a number of other small tools or implements which are likely to be wanted by the user or operator, to thus enable emergencies or temporary requirements for such secondary tools to be met without delaying the work, to obtain a simple and strong construction, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved combination-tool and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a side view of my improved tool, and Fig. 2 is a similar view of the opposite side of the tool with a certain screw-driver and gimlet open for use. Fig. 3 is a plan of the tool, showing in dotted lines the position in which the saw opens. Fig. 4 is a side view, partly in section, and Fig. 5 is an edge view showing more clearly the attachment of certain plates to the handle. Fig. 6 is a detail view of one of said plates. Fig. 7 is a cross-section on line *x*, Fig. 4. Fig. 8 shows one of the plates adapted to be screwed to the hammer-handle to support the gimlet and screw-driver, the last-mentioned parts being shown in closed position; and Fig. 9 is a similar view with the screw-driver and gimlet open for use. Fig. 10 is a detail view of the saw-blade. Fig. 11 illustrates the measuring-rule employed in my tool. Fig. 12 is a cross-section of the same on line *y*, and Fig. 13 is an end view.

In said drawings, *a* indicates a hammer-head of any ordinary form or style, and *b* a wooden handle applied thereto in the usual manner. Said handle is provided at one of its sides with a shallow recess *c*, deep enough to receive below the surface of the handle a small saw-blade *d*, said saw-blade being at its end farthest from the hammer-head bent pivotally around a staple *e*, driven into the handle. Normally the saw lies in its said recess, its free tip or extremity being confined by a catch *f*; but in use the said saw is swung outward at right angles to the hammer-handle, as indicated in outline in Fig. 3, and the operator grasps said hammer-handle, with his middle and fore fingers lying on opposite sides of the saw-blade and steadying the same against swinging laterally on its pivot. The opposite side of the hammer-handle is provided with a second shallow recess *g*, adapted to receive a measuring-rule *h*, preferably formed of sheet metal. The said measuring-rule at its end farthest from the hammer-head slips under the extremity *i* of a certain plate, hereinafter described, and at its other end next the hammer-head is adapted to be temporarily held by a catch *j*. The rule which I employ is preferably provided at its edge opposite that on which the scale is marked with loops *h'*, through which a lead-pencil *k* can be slipped, the end loop h^2 being somewhat longer than the others and closed at its end h^3, so as to protect the pencil-point. The extremity of the hammer-handle farthest from the hammer-head is recessed at its opposite sides to receive opposite metal plates *l l*, each of which is screwed or riveted to the hammer-handle and at its outer end projects somewhat beyond said handle. At the corner portions of the outer ends of said parallel plates pivotal pins *m n* extend from plate to plate, and upon said pins are pivoted, respectively, a gimlet *u* and screw-driver blade *v*, each of which is adapted to be folded backward toward the hammer-head and lie between the plates *l l* in a recess *o*, cut in the edge of the hammer-handle. Between the said gimlet and screw-driver blade and back from the

outer end of the parallel plates is a pin p, passed through the said plates l l, and around this pin is bent a leaf-spring q, the two arms or extremities of which extend outwardly toward the extremities of the plates and press apart against the bases of the gimlet and screw-driver. This V-shaped spring lies in a correspondingly-shaped recess r, cut in the end of the hammer-handle, and serves not only to hold the screw-driver and gimlet in closed position, as shown in Figs. 1 and 8, but also to steady the same in open position, as in Figs. 2 and 9, after the manner of ordinary penknife-blades. The plates l l are notched, as at s, at their opposite edges to permit access of the fingers in opening the gimlet and screw-driver to extended position. When all the auxiliary tools thus described are folded, the hammer can be used with ordinary comfort and facility, and at the same time the operator or workman has at his disposal for emergency use a saw, rule, pencil, gimlet, and screw-driver, as will be understood, any one of which can be used without interfering with the others.

Obviously the parallel plates l l and gimlet and screw-driver between can be sold separately, if desired, and applied by the purchaser to his own hammer-handle at pleasure. Furthermore, the auxiliary tools described are adapted to be inserted in the handles of tools other than hammers, such as hatchets, mallets, and the like.

Having thus described the invention, what I claim as new is—

1. The combination with a handle recessed at one side and bifurcated at its end at right angles to said recessed side, of plates l, l fixed in parallel relation to opposite sides of the said bifurcated end of the handle and projecting therefrom, one of said plates overlapping at its inner end the lateral recess of the handle, tool members pivoted between said plates at their outer corners, a stud between said plates and lying at the inner end of the bifurcation, and a V-shaped spring bent around said stud and lying in the bifurcation to engage at its outer ends the said tool members.

2. In a tool, the combination with a handle recessed at its opposite edges adjacent to its end and having a V-shaped recess in its extremity, of parallel plates l, l secured at one end in said recesses at the sides of the end portion of said handle, a gimlet and a screw-driver each pivoted at one end between said plates and adapted to project in alinement with the handle or be folded backward to lie in the edge recesses of the handle, and a V-shaped spring lying in the said V-shaped recess in the end of the handle and being adapted to press at its ends oppositely apart against the said gimlet and screw-driver.

In testimony that I claim the foregoing I have hereunto set my hand this 21st day of February, 1902.

JULIUS KOEGEL.

Witnesses:
CHARLES H. PELL,
RUSSELL M. EVERETT.