

No. 667,914.

Patented Feb. 12, 1901.

F. W. KLEVER, JR.
TOOL SCISSORS.

(Application filed Sept. 14, 1899.)

2 Sheets—Sheet 1.

(No Model.)

Fig. 1,

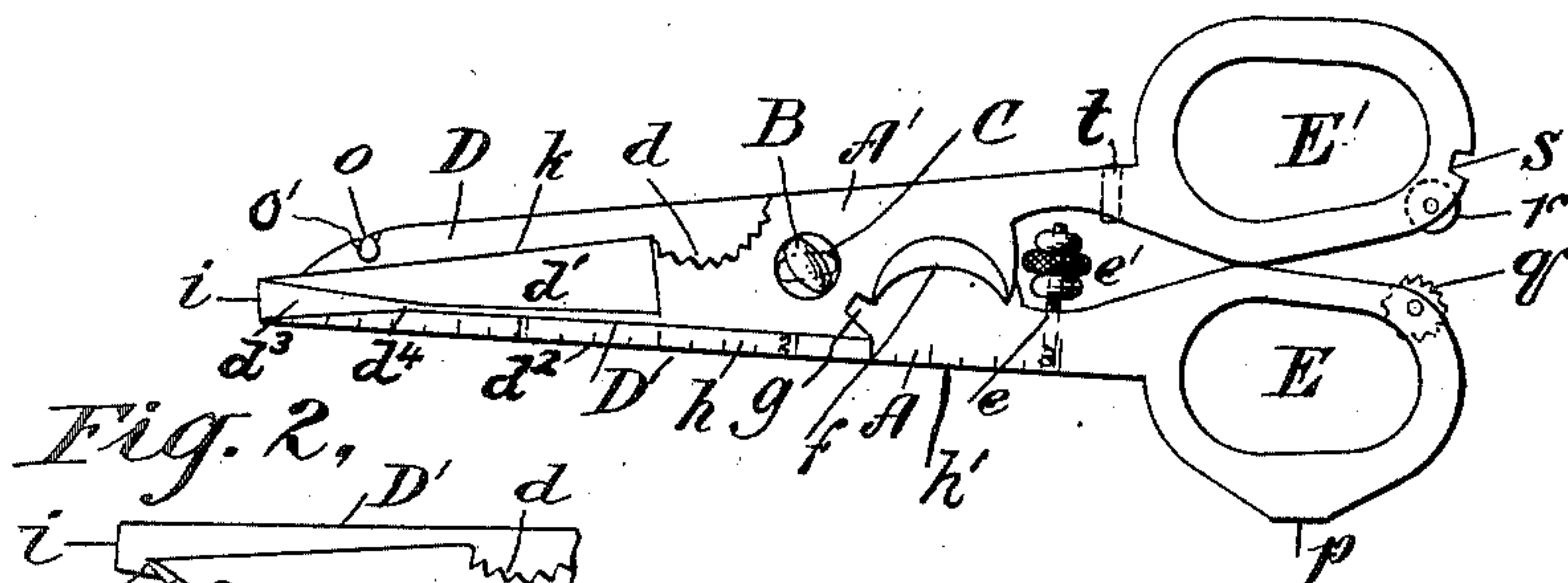


Fig. 2,

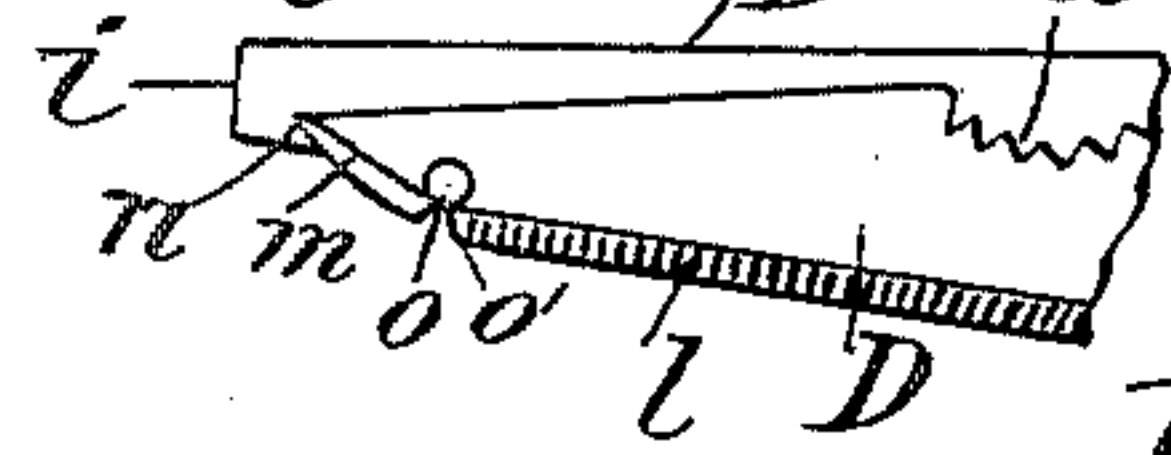


Fig. 3,

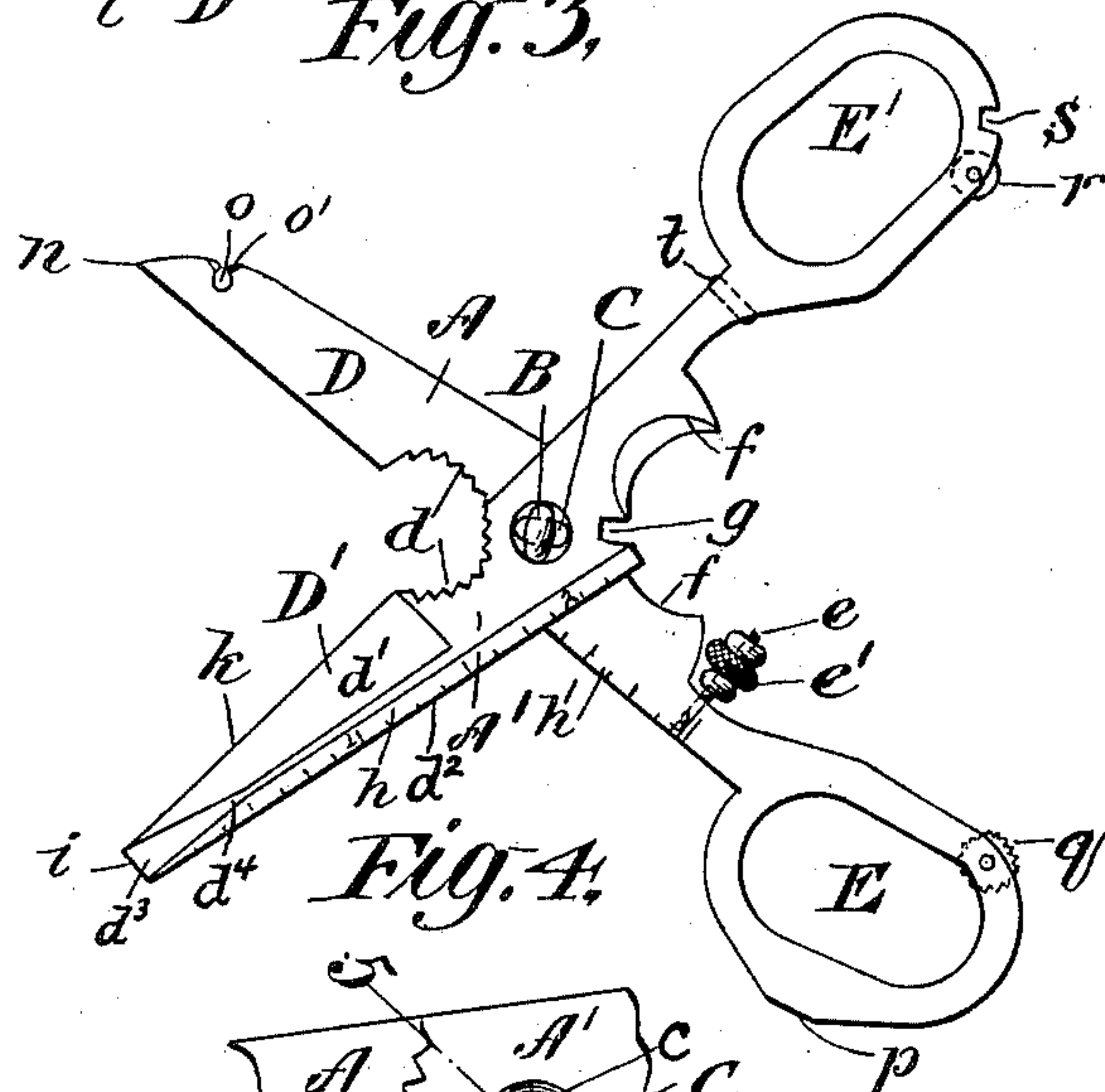


Fig. 4,

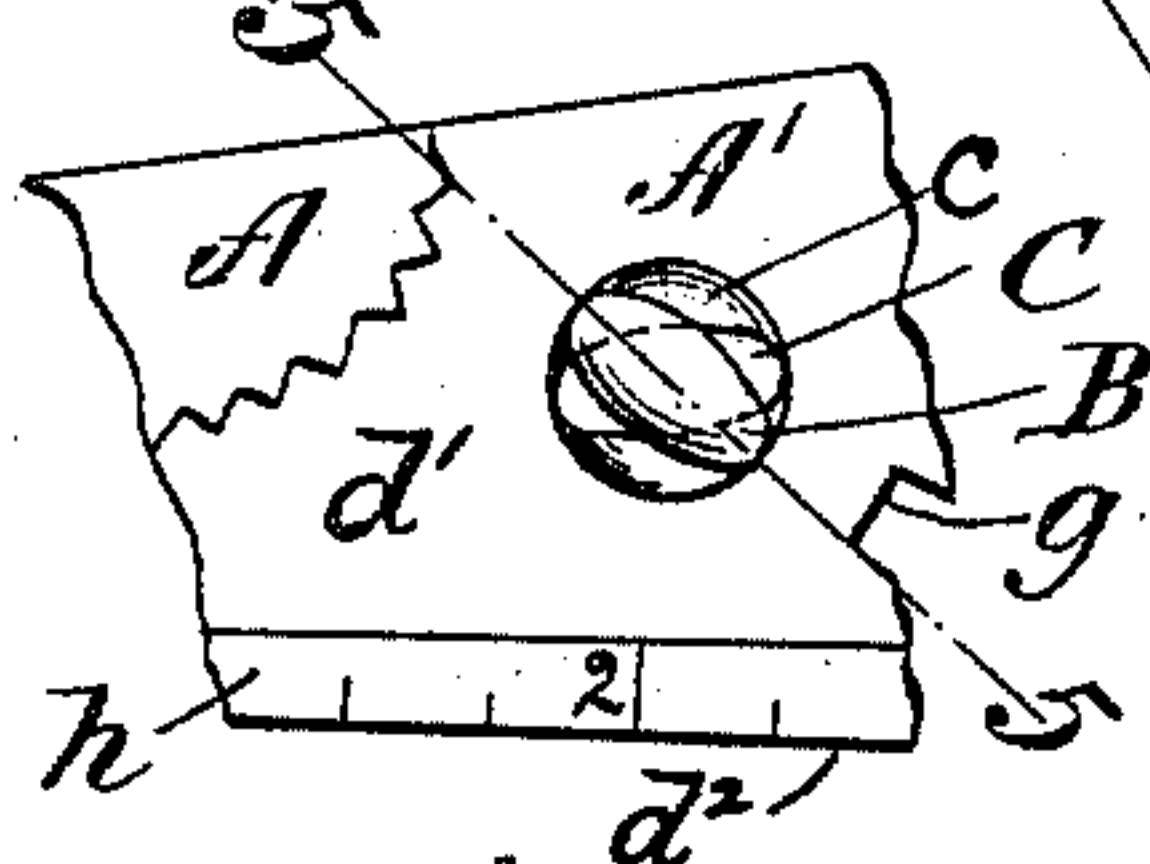


Fig. 5,

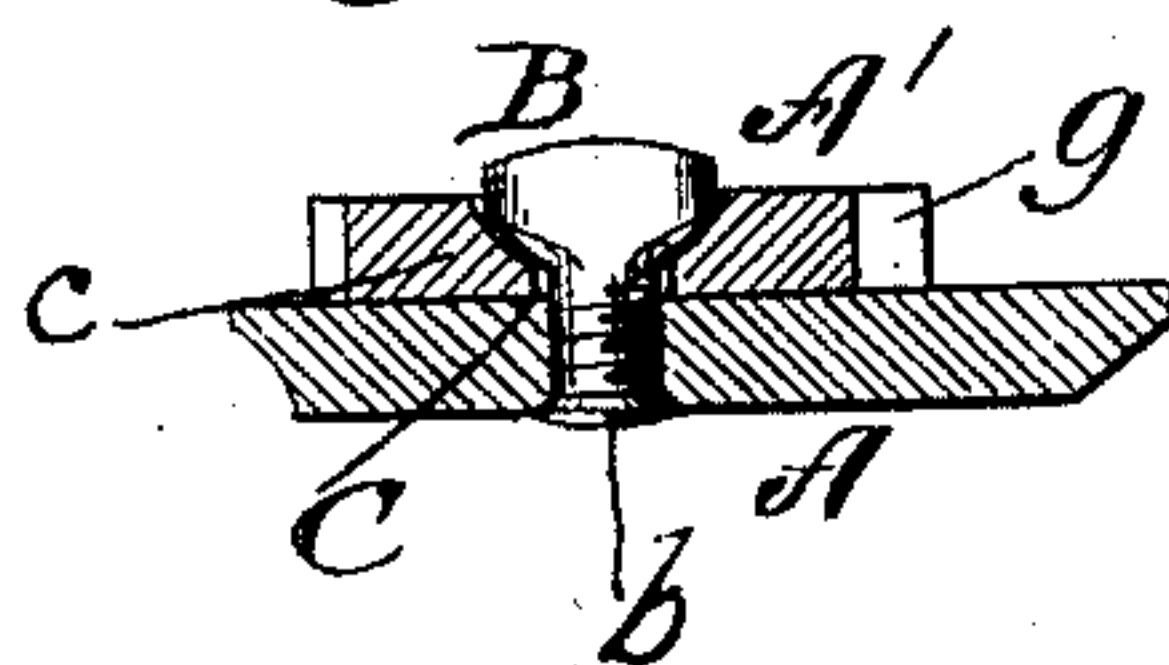
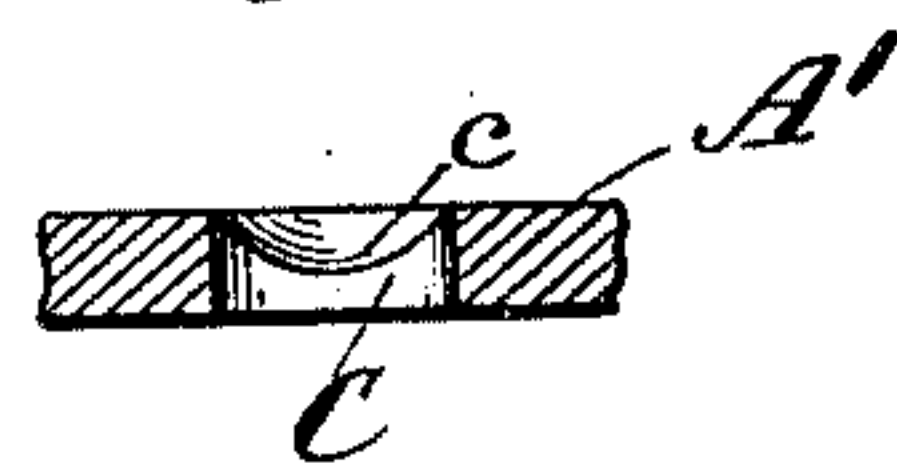


Fig. 6,



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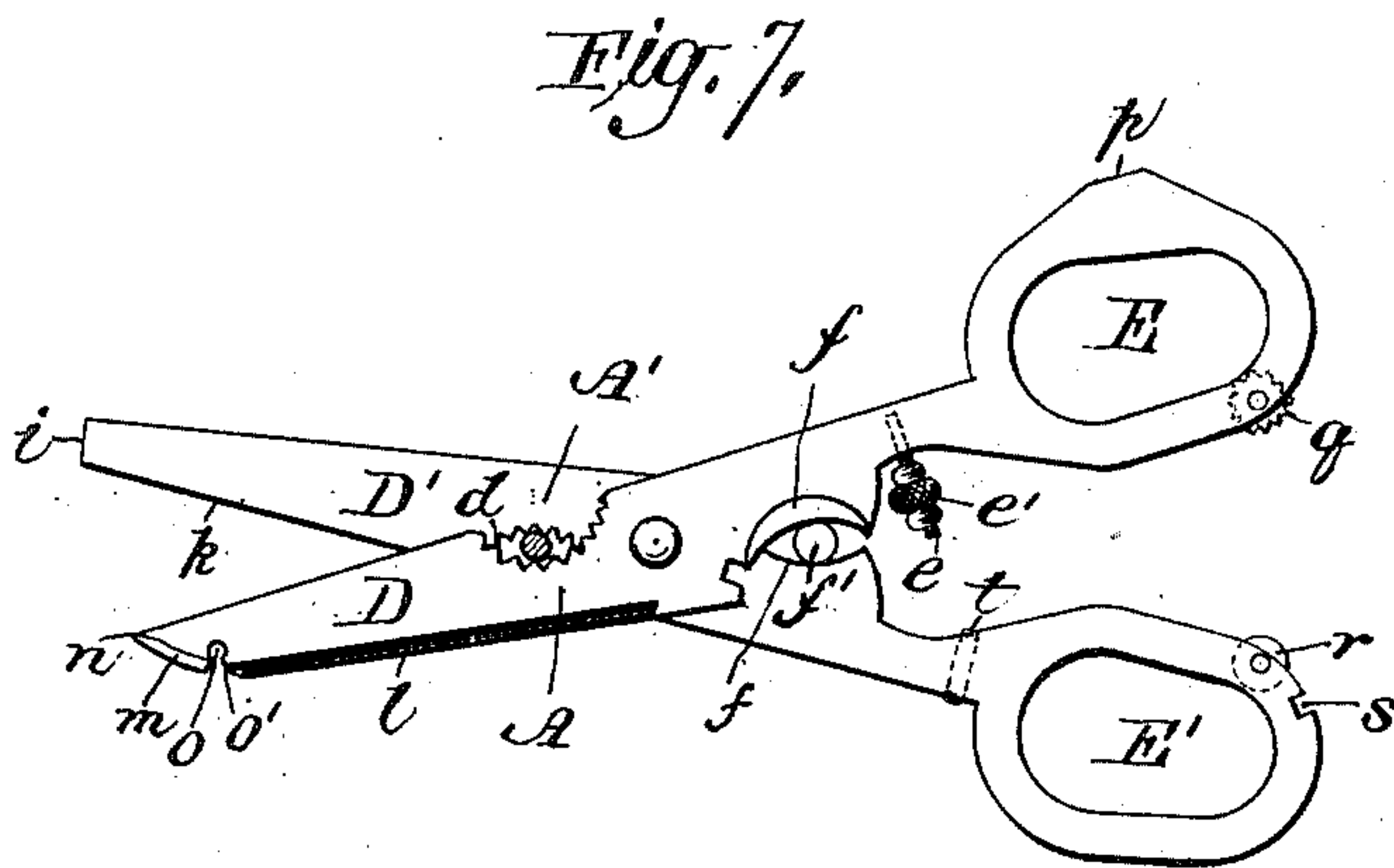
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2 Sheets—Sheet 2.



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TO HENRY NEWMAN, OF NEW YORK, N. Y.

TOOL-SCISSORS.

SPECIFICATION forming part of Letters Patent No. 667,914, dated February 12, 1901.

Application filed September 14, 1899. Serial No. 730,396. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH WILHELM KLEVER, Jr., a subject of the Emperor of Germany, and a resident of Solingen, in the
5 Empire of Germany, have invented certain new and useful Improvements in Tool-Scissors, of which the following is a specification.

My invention relates generally to a combination-tool; and it consists in devices and
10 combinations of devices herein described.

In the accompanying drawings, Figure 1 illustrates a plan view of one side of my improved combination-tool with the legs closed upon each other. Fig. 2 is a similar view,
15 but partly broken away, of the other side of the tool. Fig. 3 is a similar view, but showing the tool open. Fig. 4 is a plan of a detail, enlarged, showing the pivoted connection between the two legs. Fig. 5 is a cross-
20 section through the line 5 5 of Fig. 4. Fig. 6 is a section of the slotted leg, taken on the line longitudinally with the slot. Fig. 7 is a plan view of the tool, but showing the two jaws d and curved blades f overlapping, said
25 jaws grasping a small rod and the blades in the position about to cut off the end of a cigar.

Similar letters represent like parts in all the figures.

A A' are the two halves or legs of the combination-tool, and the pivot by which said
30 legs are united is secured to one of the legs—say A—and is provided with an elongated head B, extending in a direction transversely with the leg to which it is attached, and said
35 head is beveled inwardly, as at b , toward the shank of the pivot. In the opposite leg to which the pivot is attached—say A'—is an elongated hole or slot C, corresponding with the head B and slightly larger than said head
40 and having a circular beveled countersink, as at c . The slot C extends longitudinally with its leg.

If the tool be in operation for use as scissors, with the two legs united, they may be
45 disconnected by separating the blades D D' from each other until the head B is in line with the slot C, when the legs A A' can be lifted apart, the head B passing out through the slot C. The reverse operation is per-
50 formed when it is desired to unite the two legs. The leg A' is turned so that the slot C

is in line with the head B, when the leg A' is dropped onto the leg A, the slot C falling over the head B. The two blades D and D' are then brought toward each other, as in the
55 operation of using the scissors, and the countersink will ride under the head B and be wedged against the bevels b of the pivot-head B, drawing the two legs and the blades D D' close together.

The following tools and devices are united in my improved scissors-wrench, buttonhole-scissors, cigar-cutter, and wire-cutter:

First. The wrench and buttonhole-scissors.—The inner edge of each of the blades
60 D D', near its pivotal connection, is hollowed out in the form of an arch and corrugated or roughened, forming jaws d , and said two jaws constituting a wrench. By separating the
65 legs, so as to separate the jaws d , as shown in Fig. 3, a pipe or other article may be inserted between said jaws. Then upon bringing the two legs toward each other the jaws will grip and bind said pipe or other article. The jaws
70 d are thus made to separate and be brought together into coöperative relation to each other by the separating and closing of the legs. Moreover, the wedging pivotal connection between the two cross-legs A and A' coöperates with the two jaws d to improve
80 the action of those jaws when used as a wrench. When the legs A and A' are turned upon their pivotal connections, so as to open the jaws d , these jaws are to some extent separated from each other in a direction parallel with the shank of the pivot; but when
85 the legs A A' are moved in the opposite direction upon the pivot, so as to close the jaws d , these jaws are forced toward each other and made to press against each other firmly.
90 The result of this is that the jaws of the wrench will grasp and hold any article placed between them more securely and more firmly and with less liability of the article slipping or moving between the jaws. The jaws are thus guided
95 in accurate coöperative relation and at the same time are made to overlap each other and are adapted to properly grip and hold even the smallest article that may be placed between them. The proper overlapping of the
100 jaws d is an important feature, as will be seen by Fig. 7, inasmuch as it would be im-

possible with the jaws of an ordinary wrench, which can meet, but not overlap, to hold anything between their jaws that is thinner than the distance between the said jaws. By cutting away each of the legs near the pivot in the manner explained not only are arched jaws formed which are adapted to coact as arranged, but at the same time the cutting edges of the scissors are shortened, so that the scissors are adapted to be used as buttonhole-scissors. Secured to the leg A, between the handle E and the pivotal connection and extending in a direction toward the leg A', is a screw-threaded pin *e*, upon which a nut *e'* engages. By screwing this nut outward or inward upon the pin *e* it acts as an adjustable stop when the legs A A' are drawn toward each other by coming in contact with the leg A' and preventing the two legs and the blades D D' from coming nearer together. The buttonhole is cut from the outer ends of the recesses *d* to the outer point of contact of the cutting edges of the blades D D'. The length of the buttonhole to be cut is regulated by the adjustability of the nut *e'* upon the pin *e*. The farther outward the nut is on the pin the less will be the distance from the recesses *d* to the outer point of contact of the cutting edges of the blades, and consequently the shorter will be the buttonhole that is cut by said blades, and the further inward said nut is on the pin the greater will be the distance from the recesses *d* to the outer point of contact of the cutting edges of the blades, and consequently the longer will be the buttonhole to be cut.

Second. The cigar-cutter.—The two legs A A', between the handles E E' and the pivot, are provided with curved recesses *f*, having beveled edges which overlap each other when the two legs come together, so as to form curved-edge shears, constituting an excellent device for cutting off the ends of cigars. The wedging and tightening together of the two legs A A' will operate as effectually to bring and tighten the two curved blades *f* into coöperative relation with each other, as with the jaws *d* of the wrench, and will insure a clean cut of the cigar end *f'* and prevent the blades from spreading apart laterally. By cutting out the legs A A' in the manner just described to form the cigar-cutter the construction and operation of both the scissors and the wrench are improved, in that less metal is employed in the device than would otherwise be, and, furthermore, the bearing-surfaces of the two legs are thereby decreased in extent and the friction is consequently decreased.

Third. Wire-cutter.—On each of the legs A A', between their pivotal connections and the curved recess forming the cigar-cutter, is a notch *g*, extending in a direction toward such pivotal connection and across the thickness of the scissors. The two notches *g g* in the two legs A A' are in proper positions to be in line with each other when the scissors are open a certain distance, so that a wire may

pass through both and be cut by a shearing cut by the sharp edges of said notches passing each other on closing the scissors. The wedging and tightening together of the two legs A A' will bring and tighten the two notches *g g* together during their cutting operation, so as to make a clean cut without the danger of the strain on the edges of said notches causing them to spread apart laterally.

In addition to the parts and features already enumerated, certain other features can be embodied in my improvement as adjuncts thereto and for the purpose of further increasing its usefulness. The additional parts which I have thus made use of are a screw-driver, a cigar-box opener, a nail-file, a cartridge-extractor and tack-lifter, a glass-cutting wheel, a glass-breaker, and a marking-wheel. These additional parts are constructed as follows:

Fourth. Screw-driver and cigar-box opener.—The blade D' extends beyond the end of the blade D. The outer side of the blade D', beyond the recess *d*, is beveled off, as at *d'*, from its thickest part to its inner cutting edge, and the outer edge of said blade is beveled off, as at *d''*, from the top of the bevel *d'* to the under side of the blade D'. The outer end of the blade D' is made square, as at *i*, and beveled off, forming a wedge *d'''* from the angle *d''*, where the two bevels *d'* and *d''* meet to said end. The beveled end forms a wedge which constitutes an excellent cigar-box opener, so that when the blade D' has been forced between the box and the lid to the angle formed by the two bevels *d'* and *d''* the blade may be still further and more readily forced forward and also very readily withdrawn, as on one side the blade D' has only a bearing-angle instead of a bearing-surface, and this wedge *d'''*, having the square end *i*, forming a screw-driver. These tools may be used when the two legs of the scissors are united, but they can be used more conveniently when the leg A' is disconnected from the leg A. By having the blade *d'* extending beyond the blade *d* when the implement is to be used as a pair of scissors said extended end by being placed under the article to be cut can better support said article and guide it, so that it may be more accurately cut. This is an important advantage in a pair of scissors, and this feature, in connection with the wedging feature of the two blades, materially improves the cutting quality of the scissors. When the legs A A' are separated and the screw-driver or cigar-box opener just described is used, the concave portions or recesses *d* and *f* serve as convenient means for holding the said tool or tools in the hand and for manipulating the tool. For example, in using the device as a cigar-box opener, by placing the thumb and forefinger in these respective recesses the device can be more easily forced between the box and the lid or drawn out from the same.

Fifth. Nail-file.—Along the outer edge of the blade D is a grooved file *l*, constituting an excellent nail-file, the groove serving to

guide the file and prevent its slipping over the edge of the nail. It will be readily seen that when the nail-file is used the recessed portions *d* and *f* enable the leg A to be very conveniently and easily grasped and manipulated.

Sixth. Cartridge-extractor and tack-lifter.—On the outer edge of the blade D and near the point *n* is a nearly-circular notch *o*, having the edges of said notch extending toward each other. The mouth of said notch is beveled from the outer to the inner side of the blade D, as shown at *o'*. By passing the edges of said notch *o* over the lateral flange of a cartridge that is in a gun or pistol and pulling on the leg A the corner of said notch on the outside of the blade will catch on the cartridge-flange until the cartridge is pulled out. By resting the outside of the blade D on anything in which a tack has been driven and by inserting the wider opening of the notch *o* on the inner side of the blade D under the head of said tack the latter may be pried up and extracted, if the beveled edge *m* be pressed inward, as the notch *o* will surround the shank of the tack and be under the head of the same. In the use of the cartridge-extractor and tack-lifter the recessed portions *d* and *f* of the leg A, and also the handle E, are very serviceable in enabling the said tools to be pulled or pushed and otherwise manipulated in accomplishing the purposes for which they are designed.

Seventh, eighth, and ninth.—Pivoted to the lower inner corners of the two handles E and E', and so as not to interfere with the proper operation of the same nor to get into the way of the fingers, are the toothed marking-wheel *q* and the sharp bevel-edged glass-cutting wheel *r*. A rectangular notch *s*, back of the wheel *r*, is adapted to be slipped over the edge of the glass plate after the glass has been cut and to break off the part to be removed. The marking-wheel and the glass-cutter are adapted to be used when the legs A and A' are separated. The marking-wheel *q* and the cutting-wheel *r* being in the positions above named enables each leg of the scissors to be used as a handle when using either of the said wheels for its intended purpose and at the same time enables one to use the outside of the open handle for a bearing thumb-piece and the shoulder under one of the cigar-cutter recesses or the nut *e'* as a rest for the forefinger of the operator. At the same time the recesses *d* and *f* of the legs A and A' form excellent bearing-surfaces or places for the fingers in grasping and manipulating any one of these tools.

From the above it will be seen that my improved scissors, with the other implements combined with it, constitutes a most useful device, having nearly all of the tools which are most needed and used for ordinary occasions combined and forming part of the two legs. It will be seen that these different tools and implements coact with one another

and mutually contribute to the successful manipulation and operation of each tool.

What I claim as new, and desire to secure by Letters Patent, is—

1. A combination-tool comprising two legs connected together by a wedging-pivot and adapted to form scissors, each leg being cut away near the pivot so as to form arched jaws adapted to coact as a wrench, and so as to shorten the cutting edges of the scissors and form buttonhole-scissors, substantially as described.

2. A combination-tool comprising two legs connected together by a wedging-pivot and adapted to form scissors, each leg being cut away near the pivot so as to form arched jaws adapted to coact as a wrench, and so as to shorten the cutting edges of the scissors and form buttonhole-scissors, and an adjustable stop carried by one of the legs for adjusting the length of the cut made by the scissors, substantially as described.

3. A combination-tool comprising two legs connected together by a wedging-pivot and adapted to form scissors, each leg being cut away near the pivot so as to form arched jaws adapted to coact as a wrench, and so as to shorten the cutting edges of the scissors and form buttonhole-scissors, and each leg being cut away on the other side of the pivot so as to form a curved recess with a shearing edge, the said shearing edges being adapted to coact as a cigar-cutter, substantially as described.

4. A combination-tool comprising two legs connected together by a wedging-pivot and adapted to form scissors, each leg being cut away near the pivot so as to form arched jaws adapted to coact as a wrench, and so as to shorten the cutting edges of the scissors and form buttonhole-scissors, and an adjustable stop carried by one of the legs for adjusting the length of the cut made by the scissors, and each leg being cut away on the other side of the pivot so as to form a curved recess with a shearing edge, the said shearing edges being adapted to coact as a cigar-cutter, substantially as described.

5. A combination-tool comprising two legs connected together by a wedging-pivot and adapted to form scissors, each leg being cut away near the pivot so as to form arched jaws adapted to coact as a wrench, and so as to shorten the cutting edges of the scissors and form buttonhole-scissors, and an adjustable stop carried by one of the legs for adjusting the length of the cut made by the scissors, and each leg being cut away on the other side of the pivot so as to form a curved recess with a shearing edge, the said shearing edges being adapted to coact as a cigar-cutter, and each leg being notched between the pivot and the shearing edge of the cigar-cutter, the said notches being adapted to coact as a wire-cutter, substantially as described.

6. A combination-tool comprising two legs connected together by a wedging-pivot and

4
adapted to form scissors, each leg being cut
away near the pivot so as to form arched jaws
adapted to coact as a wrench, and so as to
shorten the cutting edges of the scissors and
5 form buttonhole-scissors, and an adjustable
stop carried by one of the legs for adjusting
the length of the cut made by the scissors,
and each leg being cut away on the other side
of the pivot so as to form a curved recess with
10 a shearing edge, the said shearing edges be-
ing adapted to coact as a cigar-cutter, and

each leg being notched between the pivot and
the shearing edge of the cigar-cutter, the said
notches being adapted to coact as a wire-cut-
ter, substantially as described. 15

In testimony whereof I have signed my
name to this specification in the presence of
two subscribing witnesses.

FRIEDRICH WILHELM KLEVER, JR.

Witnesses:

A. HOFFMANN,
ERNST KATZ.