

No. 616,179.

Patented Dec. 20, 1898.

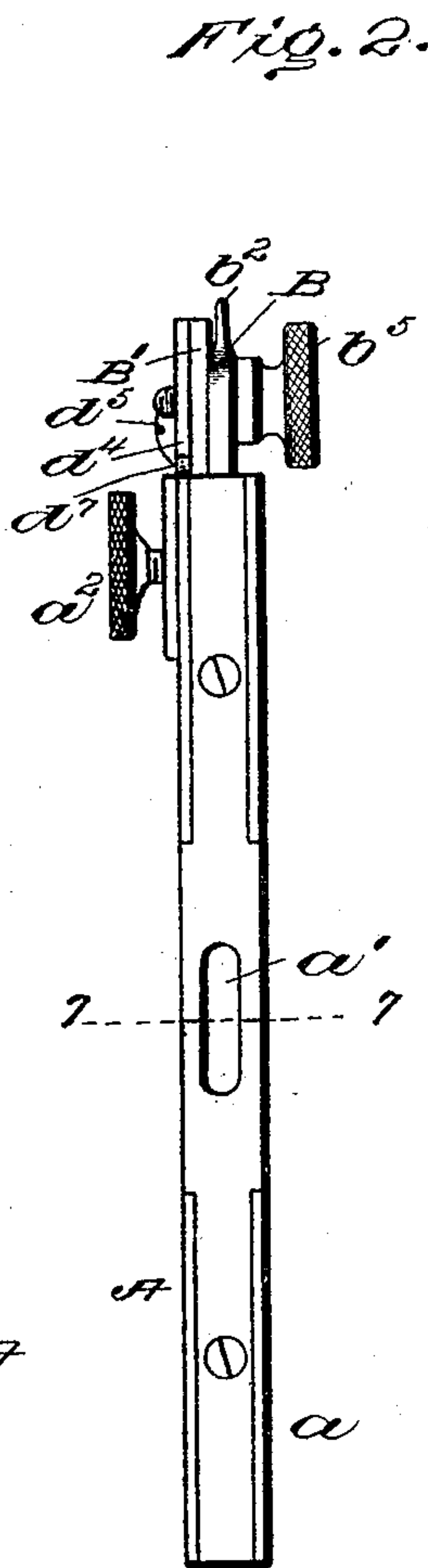
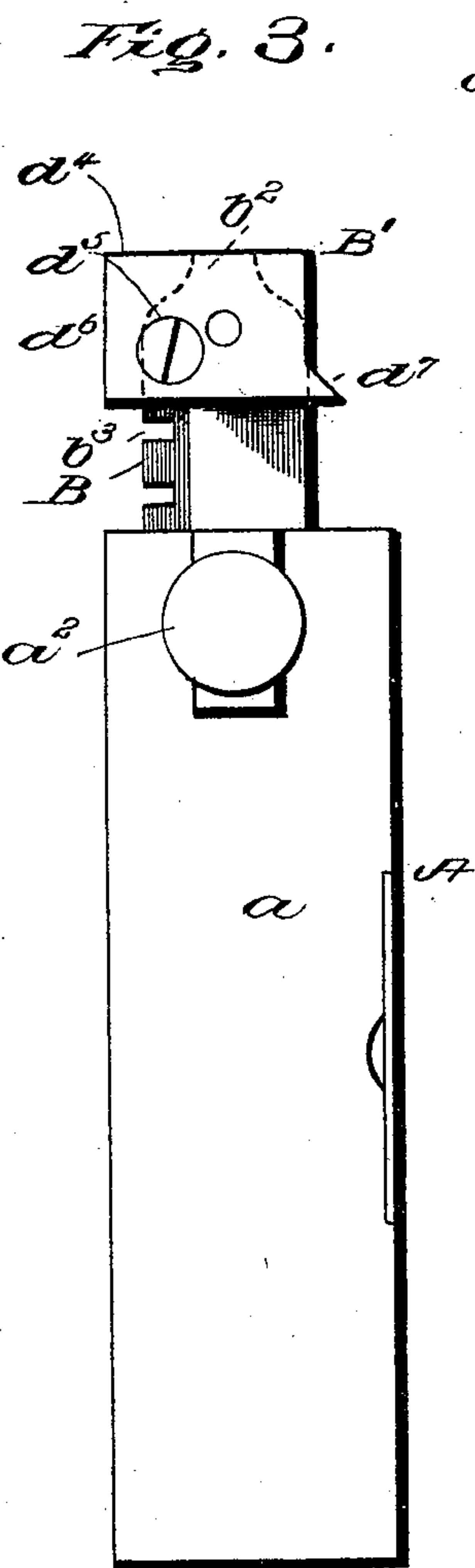
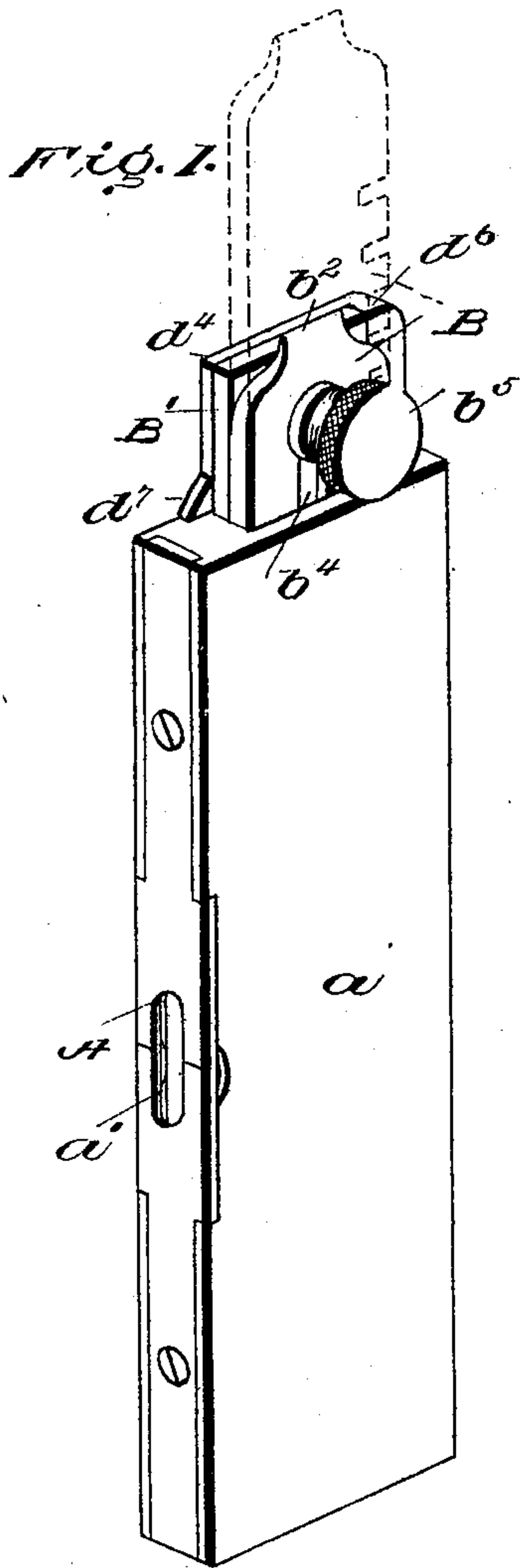
H. K. BEALER & H. G. SCHELDEN.

COMBINATION TOOL.

(Application filed Sept. 17, 1897.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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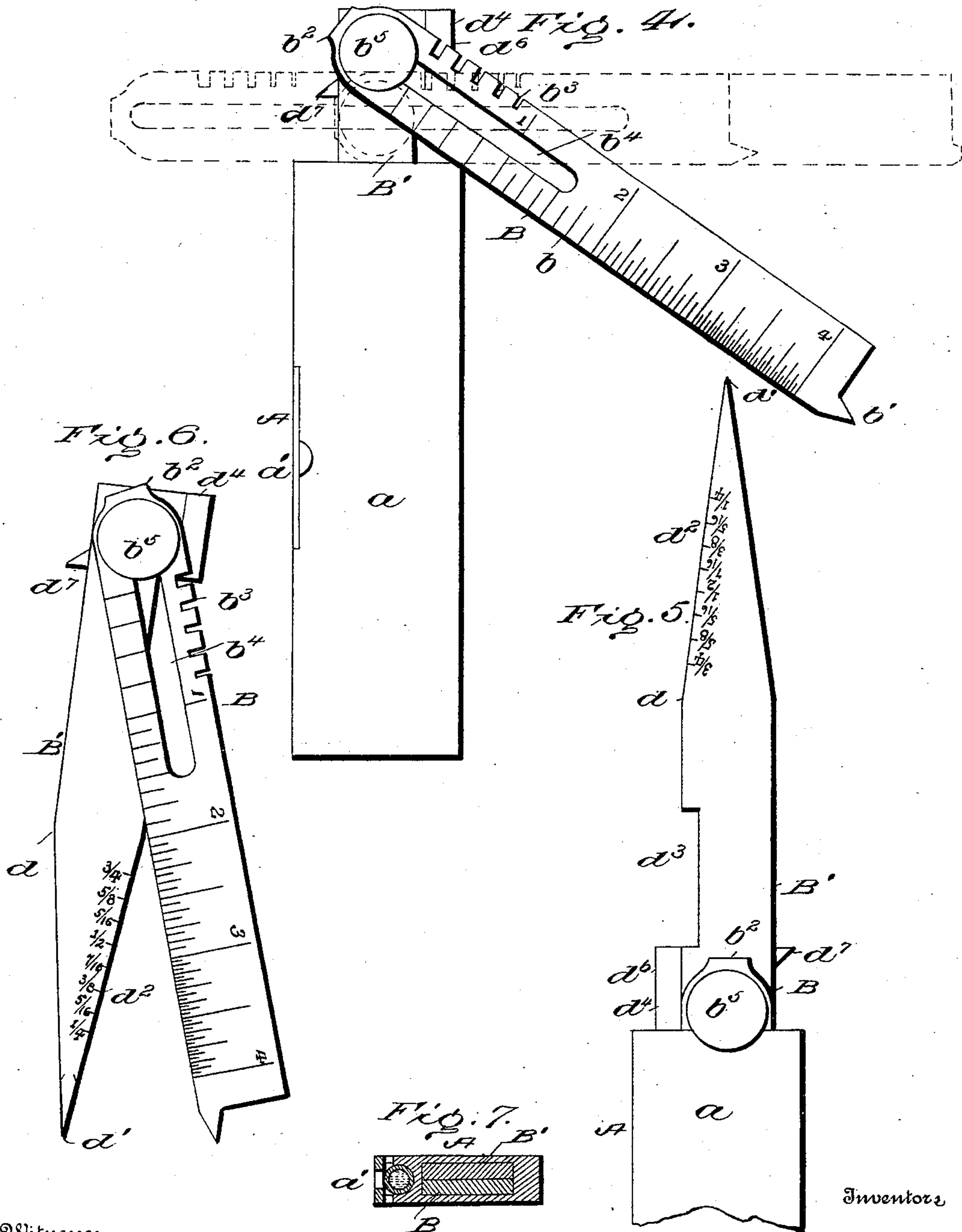
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(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

HARRISON K. BEALER AND HARRY G. SCHELDEN, OF ALLENTOWN,  
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## COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 616,179, dated December 20, 1898.

Application filed September 17, 1897. Serial No. 651,965. (No model.)

*To all whom it may concern:*

Be it known that we, HARRISON K. BEALER and HARRY G. SCHELDEN, of Allentown, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Combination-Tools; and we 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 contemplates certain new and useful improvements in pocket combination-tools for the use of carpenters, architects, builders, and artisans in general.

The object of the invention is to provide a simple and highly-efficient device which will combine a spirit-level, a scratch-gage, a saw-set, a screw-driver, a bevel-gage, a square, a T-square, a gimlet, a washer-gage, and a pair of dividers.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation with parts in dotted lines. Fig. 2 is an edge view. Fig. 3 is a side view with parts extended. Fig. 4 is a view showing the device used as a bevel-gage, the position occupied by the parts when used as a square and a T-square being indicated in dotted lines. Fig. 5 is a view showing the device used as a gimlet. Fig. 6 shows a pair of dividers. Fig. 7 is a cross-sectional view on line 7 7, Fig. 2.

Referring to the drawings, A designates a spirit-level the case  $\alpha$  of which is made hollow and open at one end. The sight-opening  $\alpha'$  is on one edge of this case. In a threaded opening in one side of this case, near the open end thereof, works a headed screw  $\alpha^2$ .

B and B' designate two flat bars, which when placed face to face are designed to fit within case  $\alpha$ , in which they are securely held by screw  $\alpha^2$ . The bar B is in general outline oblong in shape and on its outer face has a scale of graduation  $b$ . From one corner of one end projects a pointed tooth  $b'$ , while the other end is reduced to form a lug  $b^2$ , the latter being employed as a screw-driver. In one edge of this bar B are formed

several open-end slots  $b^3$  of varying widths, the same being designed for use in saw-setting. In this bar is a longitudinal slot  $b^4$ , through which projects a headed screw  $b^5$ , by which the bars B and B' are united. By loosening and tightening this screw the two bars may be adjusted and held in any desired relative position.

The bar B' is tapered from the point  $d$  to its outer end, the latter terminating in a rounded point  $d'$ , which can be used as a gimlet. (See Fig. 5.) On one edge of this tapered portion is a fractional scale  $d^2$ , which serves as a washer-gage. In one edge of this bar is a cut-out or recess  $d^3$ , and to its outer face a plate  $d^4$  is secured by a screw  $d^5$ . The thickened end  $d^6$  of this plate fits against one of the side edges of bar B'. This projecting end of the plate acts, in conjunction with the end of the case  $\alpha$ , as a nut-wrench. (See Fig. 3.) One corner of this plate is formed with a point  $d^7$ , which is intended to be used as a scratcher.

In practice the case is ever ready for use as a spirit-level. Ordinarily the two bars B and B' are securely held within the case by the screw  $\alpha^2$ . To adapt the parts to their various uses, the operator first loosens said screw and then again tightens it if the bars are to be held firm in the case. For instance, when a screw-driver is required, the bars being loosened, the bar B is moved outward a short distance, as indicated in dotted lines, Fig. 1, and then screw  $\alpha^2$  is tightened. Likewise when the instrument is to be used as a scratch-gage, saw-set, or wrench both bars are moved outward a short distance. (See Fig. 3.) To obtain a bevel-gage, the bar B' is projected a short distance and the bar B is entirely removed from the case and one edge thereof rests on a corner of said case, said bar B being moved as far as its slot will permit. The screw  $b^5$  holds the bar B in its angular position. To obtain an L-square, the bar B' is moved inward and one edge of bar B rests flat on the end edge of the case, and for a T-square said bar B is moved to one side as far as its slot will allow. Both of these arrangements are indicated in dotted lines, Fig. 4. When employed as a gimlet, the bar B' is positioned in a direct line with the case, (see



Fig. 5,) while when a pair of dividers are desired the two bars B B' are removed from the case, and they may be held in any desired relation to each other by their pivot-screw  $b^5$ . (See Fig. 6.)

The advantages of our invention are apparent. It will be seen that we have provided a combination-tool that is extremely simple in construction and one that will permit of various uses, having in one combination of elements the benefits of various independent tools or instruments. If desired, additional scale-bars can be employed for obtaining larger bevel-gages and squares, the same being held in place by the pivot-screw  $b^5$ ; but we have found that the two bars constructed as herein described are capable of so many different uses that it is seldom additional attachments are required.

We claim as our invention—

1. The combination with a case open at one end, of a sliding bar in said case having a longitudinal slot, a series of differential grooves in one edge; and a reduced end forming a screw-driver, a set-screw projected through said slot, a second slidable bar in said case in which the said set-screw works, and means

for holding said last-mentioned bar as against movement within said case, substantially as set forth.

2. The combination with the case, of a bar adjustably secured therein and designed to project beyond one end thereof, and a scale-bar secured to the outer end of said former bar and designed to have one edge rest against said case, whereby squares and bevel-gages can be obtained, substantially as set forth.

3. The combination with the case open at one end and having a flat edge, of a bar adjustably held in said case and projecting beyond the end thereof, a second bar having a scale thereon, and a longitudinal slot, and a screw extended through said slot and engaging said first-mentioned bar, said scale-bar being designed to engage said edge of said case, substantially as set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

HARRISON K. BEALER.  
HARRY G. SCHELDEN.

Witnesses:

WM. H. SOWDEN,  
A. E. SWARTZ.