

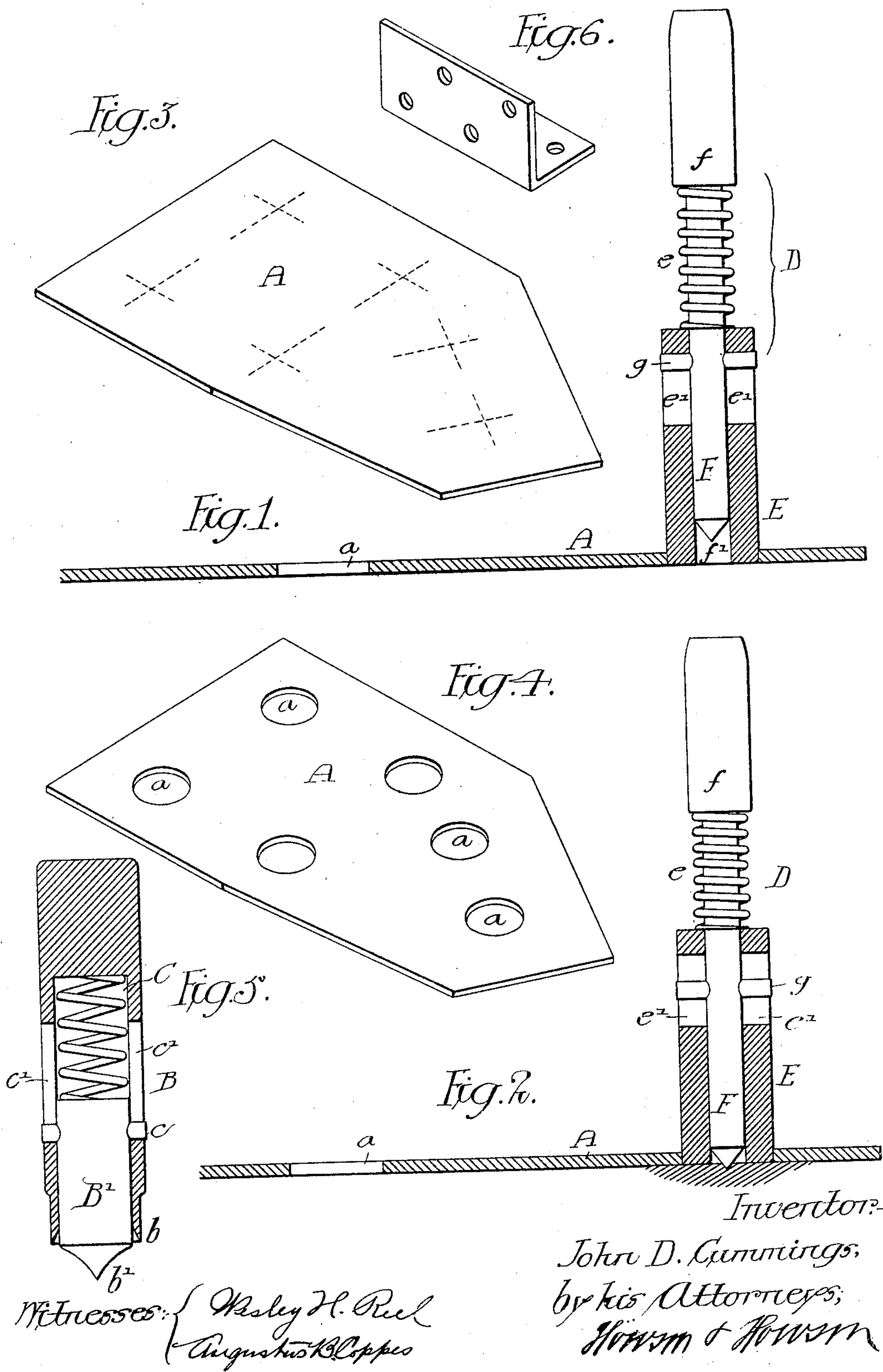
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PATENTED NOV. 14, 1905.

J. D. CUMMINGS.

TEMPLET AND PUNCH FOR MARKING CENTERS IN METAL WORK.

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UNITED STATES PATENT OFFICE.

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TEMPLATE AND PUNCH FOR MARKING CENTERS IN METAL-WORK.

No. 804,795.

Specification of Letters Patent.

Patented Nov. 14, 1905.

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To all whom it may concern:

Be it known that I, JOHN D. CUMMINGS, a citizen of the United States, residing at Wilmington, Delaware, have invented certain
5 Improvements in Templates and Punches for Marking Centers in Metal-Work, of which the following is a specification.

My invention relates to certain improvements in means for marking centers on bridge,
10 ship, and structural metal-work.

The object of my invention is to provide a comparatively cheap templet which will not break or warp and also to provide a punch which will accurately mark the center punches
15 as indicated on the templet.

In the accompanying drawings, Figure 1 is a sectional view of a templet with a punch in position. Fig. 2 is a similar view showing the punch depressed and forming the centering hole for the final punching or drilling of the plate. Fig. 3 is a perspective view showing the templet marked out ready to be punched. Fig. 4 is a view of the punched templet. Fig. 5 is a view of one form of cutting-punch for cutting the holes in the templet, and Fig. 6 is a view of an angle templet.

It has been the common practice in bridge and structural iron work to use templates of wood, which are usually about an inch thick
30 and having holes bored to fit the punch, which is a plain cylindrical punch. The templet must be thick in order to properly guide the punch when it is struck to make the indentation or center punch in the metal. Templates of this character are very expensive,
35 owing to the fact that the best seasoned lumber must be used and great care must be exercised in drilling holes, as they must be absolutely at right angles to the surface of the templet, and care must be taken after the
40 templet is made; otherwise it is liable to warp or crack.

I overcome the above objection by making a templet A of pasteboard or other material made from pulp. The board I prefer to use is about one-sixteenth of an inch thick, although the thickness may vary as desired. The board can be used in sheets and cut after the center lines have been drawn thereon.
50 Consequently an additional drawing is dispensed with, as the original drawing becomes the templet. After the proper lines have been drawn the templet is cut to the desired

shape, as shown in Fig. 3, then the holes *a* are punched at the intersecting centering lines, 55 as shown in Fig. 4.

The cutter I prefer to use is illustrated in Fig. 5, although it will be understood that any suitable cutter may be used for cutting the holes in the templet. This cutter B has
60 an annular cutting edge *b* and is open at the center. Mounted in this opening is a plunger B', having a point *b'*, which is placed at the intersection of the two centering lines. Between the base of the opening in the cutter and the plunger is a spring C, which holds the cutter away from the blank, so that the center will project a given distance. A pin
65 *c* on the center passes through slots *c'* in the cutter, so as to limit the movement of the
70 cutter.

The cutter is placed with its center directly over the intersecting lines and then the operator strikes the cutter with a hammer, forcing the cutter down onto and through the
75 blank, making a hole exactly the size of the sleeve E of the punch D, Fig. 1. When the entire templet is cut, as shown in Fig. 4, it is preferably waterproofed by any suitable method and is ready for use. 80

The punch D, which I prefer to use, is clearly shown in Figs. 1 and 2, and consists of a guiding-sleeve E, which fits the opening in the templet and acts as a centering-guide for the punch proper, F, which is mounted within
85 the sleeve and is held some distance from the end of the sleeve by a spring *e*, which is mounted between the end of the sleeve E and the head *f* of the punch proper. The opposite end *f'* of the punch F is pointed, so as to
90 make a center punch in the plate over which the templet is placed. A pin *g* on the punch extends through slots *e'* in the sleeve, so as to limit the movement of the punch within the sleeve. Therefore the templet acts simply as
95 a means of placing the guiding-sleeve of the punch in proper position over the plate or beam, and the sleeve itself is the guide for the punch, as it preferably rests directly upon the plate or beam and is simply prevented
100 from moving laterally by the templet, thus insuring accurate punching of the center depressions in the plate or beam.

In Fig. 6 I have shown a templet formed for marking out angle-work. 105

One important feature of this invention is

that the templet is flexible, so that it can be bent to fit angles, curves, or uneven surfaces—such, for instance, as round boiler-shells or drums—and the punch, with its
5 guide, can be readily mounted in the openings in the templet even when the templet is bent.

I claim as my invention—

1. The combination of a templet, a hole therein, a punch, and a guiding-sleeve for the
10 punch, said guiding-sleeve fitting the opening in the templet and the punch fitting the sleeve, substantially as described.

2. The combination of a templet having an opening therein, a punch having a sleeve
15 arranged to fit the opening in the templet, and a spring mounted between the punch and the sleeve, substantially as described.

3. The combination of a templet made of pasteboard or other fiber having an opening therein larger than the hole to be punched, a
20 two-part punch, a sleeve forming one of the parts and arranged to fit the opening in the templet, the other part having a limited movement in respect to the sleeve and pointed to form the center-punch depression in the
25 plate to be marked, substantially as described.

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

JOHN D. CUMMINGS.

Witnesses:

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WM. B. PRITCHETT.