

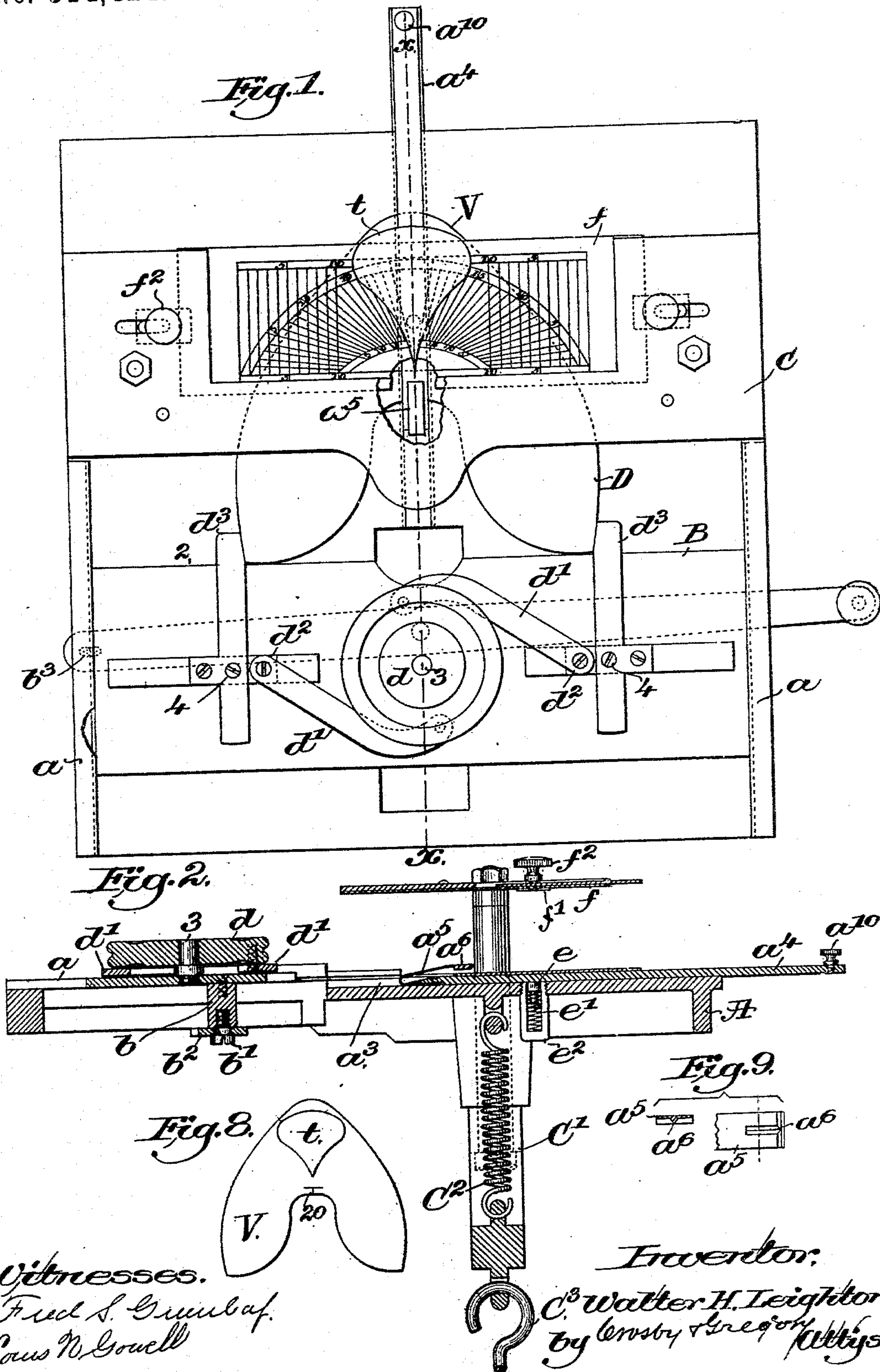
(No Model.)

2 Sheets—Sheet 1.

W. H. LEIGHTON.  
MACHINE FOR APPLYING TOE TIPS.

No. 514,424.

Patented Feb. 6, 1894.



Witnesses.

Fred S. Grunbaf.  
Louis N. Gouell

Inventor.

C. Walter H. Leighton  
by Crosby & Gregory Attys.

(No Model.)

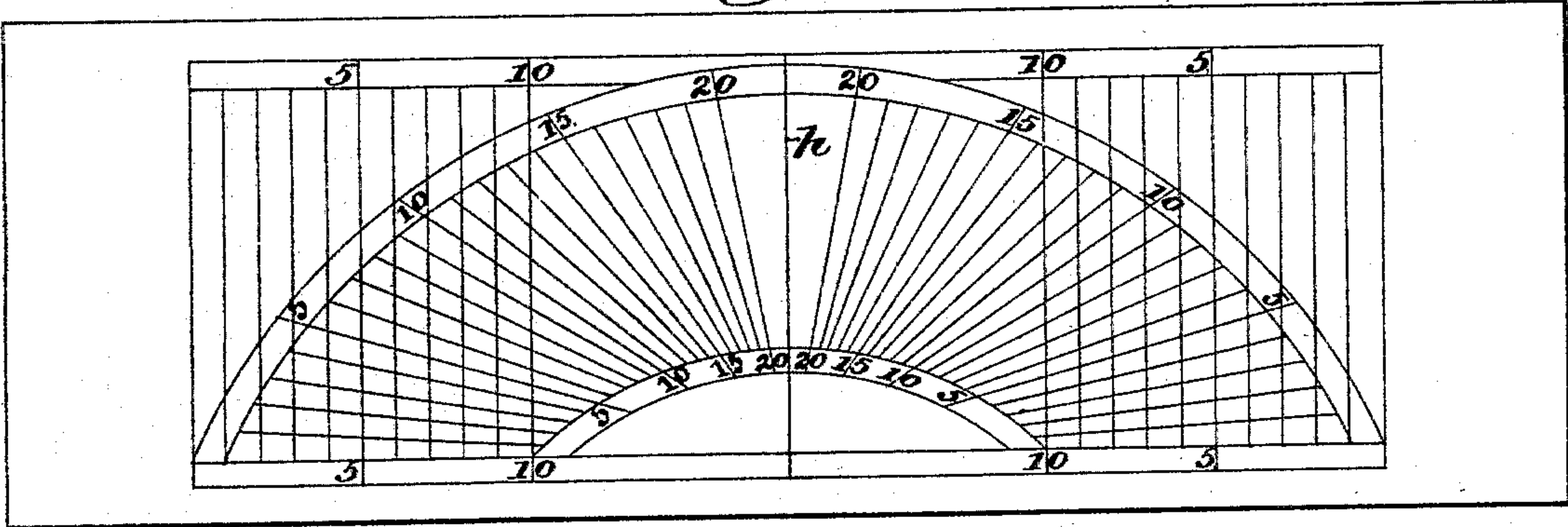
2 Sheets—Sheet 2.

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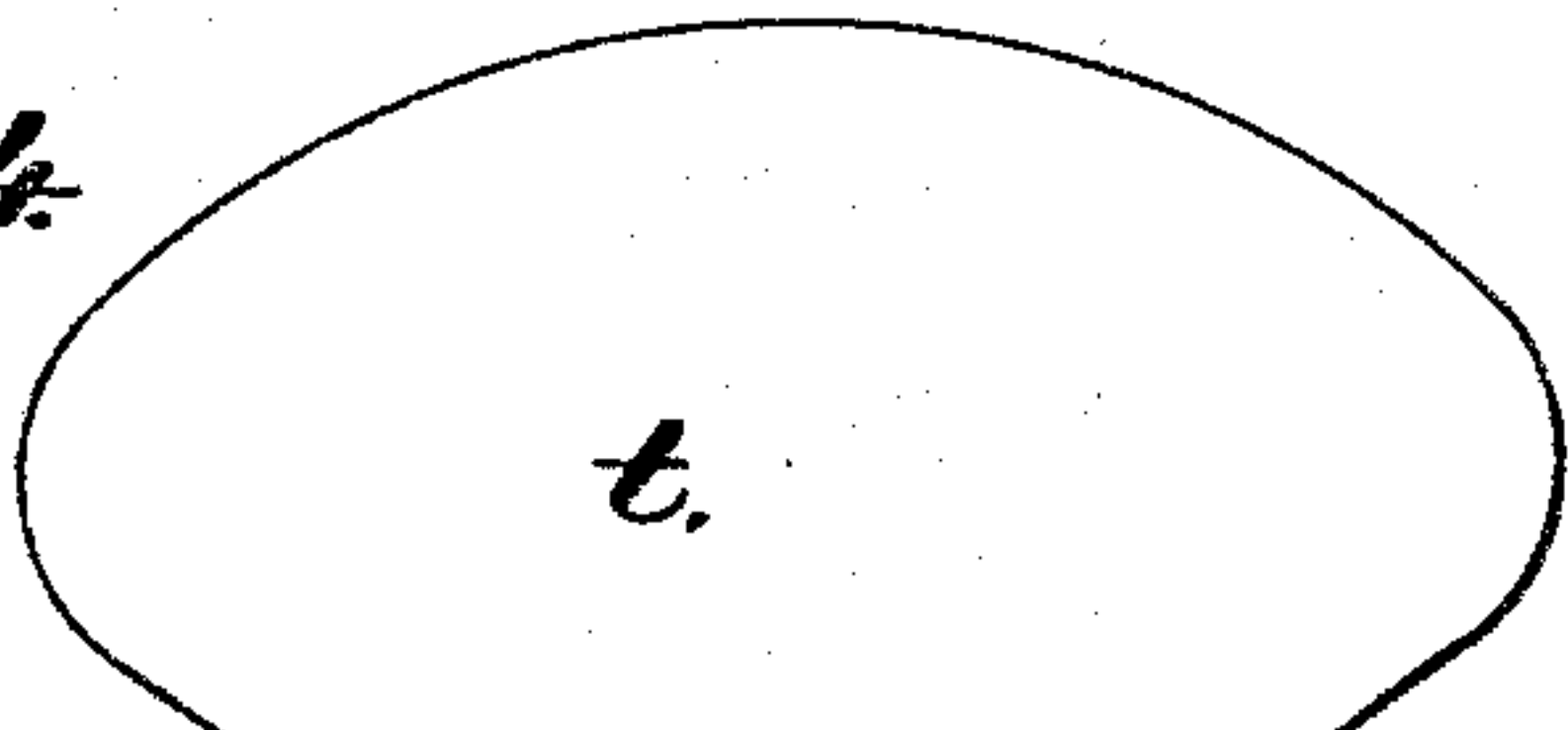
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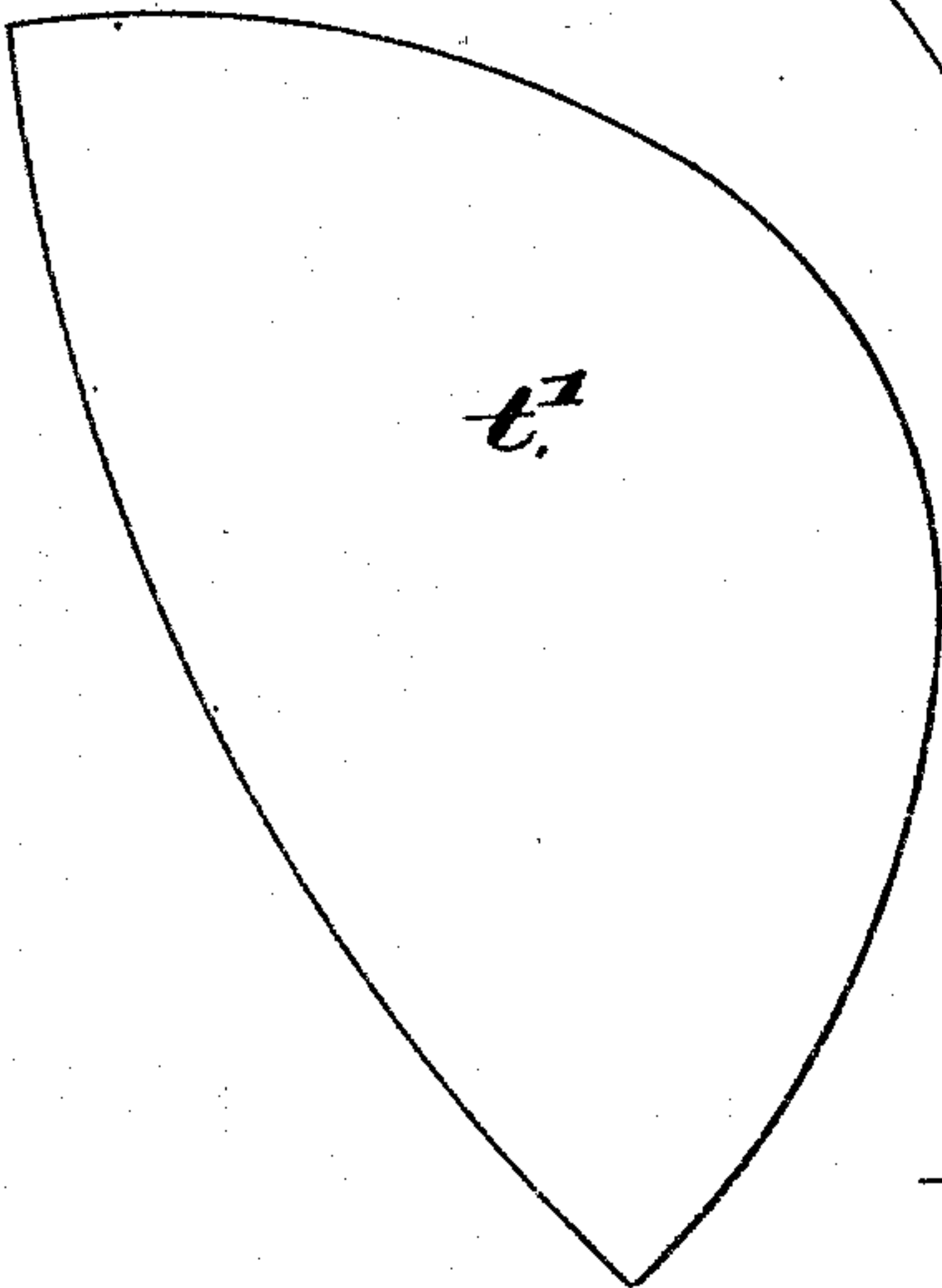
*Fig. 3.*



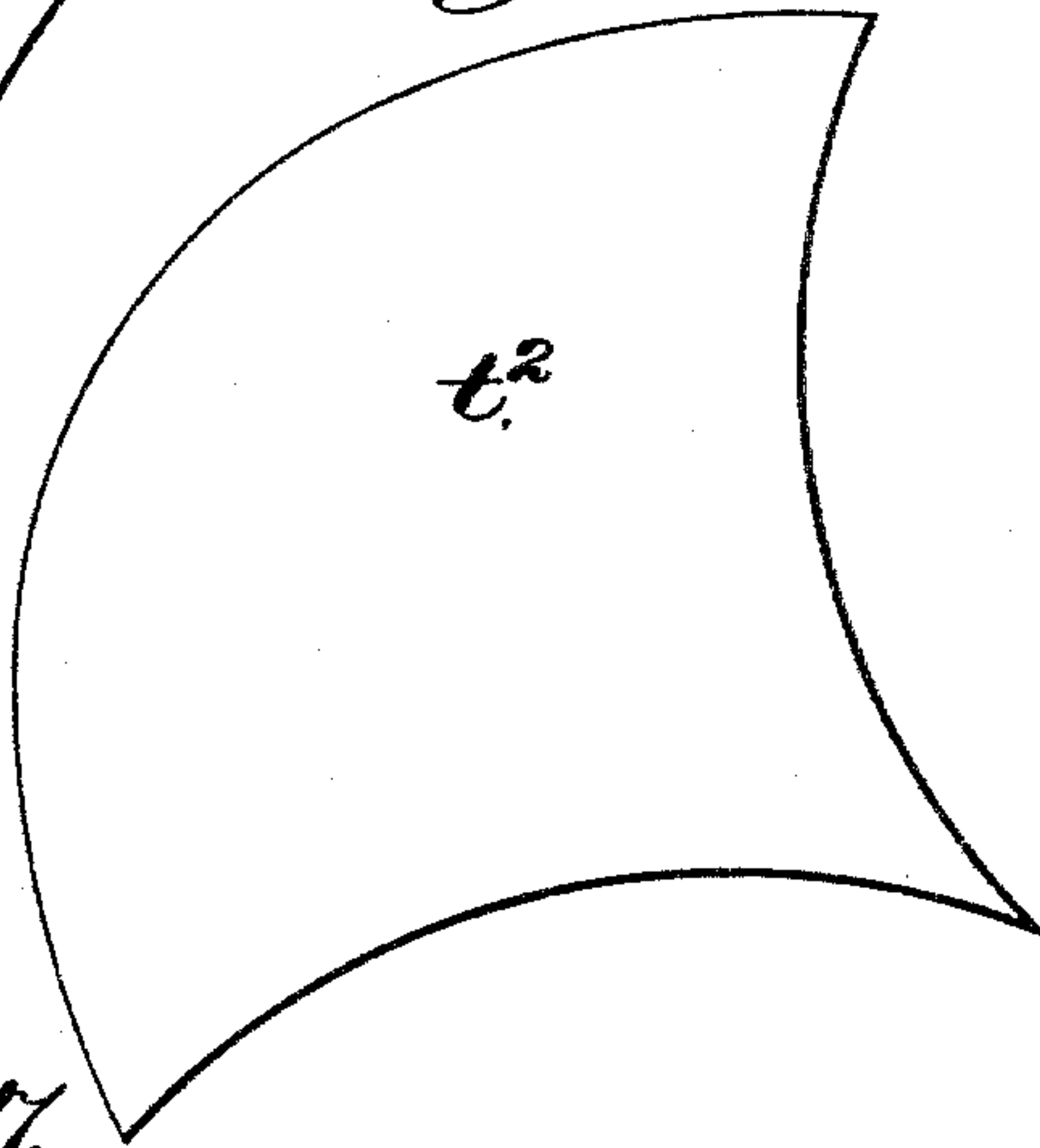
*Fig. 4.*



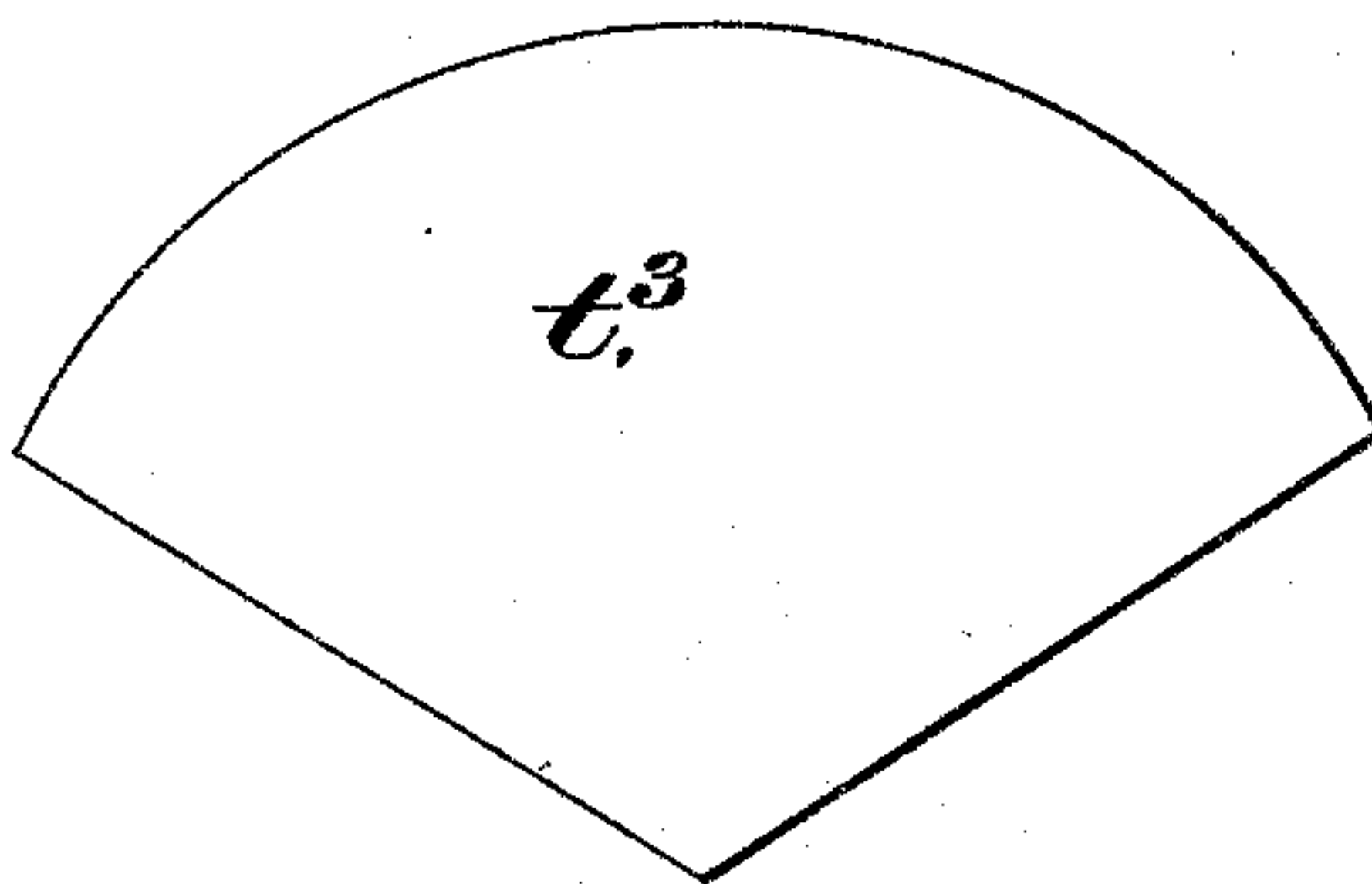
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



*Witnesses.*

*Fred S. Gumbaf.*  
*Louis W. Knell*

*Inventor.*

*Walter H. Leighton,*  
*by Lemby & Gregory Attys.*



# UNITED STATES PATENT OFFICE.

WALTER H. LEIGHTON, OF MANCHESTER, NEW HAMPSHIRE, ASSIGNOR OF  
ONE-HALF TO JOHN H. TATTERSALL, OF SAME PLACE.

## MACHINE FOR APPLYING TOE-TIPS.

SPECIFICATION forming part of Letters Patent No. 514,424, dated February 6, 1894.

Application filed June 5, 1893. Serial No. 476,668. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER H. LEIGHTON, of Manchester, county of Hillsborough, State of New Hampshire, have invented an Improvement in Machines for Applying Toe-Tips, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

10 This invention has for its object the production of a novel machine whereby a vamp may be correctly put into position with relation to a toe-tip pattern plate, and the vamp be clamped in place and the toe-tip applied, 15 the apparatus also preferably marking the vamp to show the true point at which it should be joined with the top of the shoe.

My improved machine contains a vamp gage made as carriage on which are mounted 20 corner gages for the outer corners of the vamp, the said corner gages being simultaneously adjustable toward and from each other on the said carriage.

The machine also contains a vamp clamp, 25 controlled preferably by a suitable treadle, and the said clamp is so constructed as to receive a toe-tip pattern plate in which the toe-tip will be put after the clamp descends on the vamp previously adjusted to its proper 30 position. The toe-tip pattern plate is removable so that another plate having a cut-away portion of proper shape for another form of toe-tip may be substituted.

Figure 1 is a top or plan view of a machine 35 containing my invention; Fig. 2, a section in the line  $x$ ; Fig. 3, a detail showing the central part of the non-metallic pattern plate before it was cut out, as shown in Fig. 1. Figs. 4 to 7, show different shapes of tips which 40 are applied each with its own pattern plate. Fig. 8, shows part of the vamp with its center mark and toe tip, and Fig. 9 is an enlarged detail showing the acting face of the vamp marker.

45 The bed A has suitable guideways  $a$  to receive a vamp gage B, made as a carriage having a lug  $b$ , shown as provided with a stud screw  $b'$ , see Fig. 2, which is also passed through a hole in an adjusting device  $b^2$ , shown as a 50 lever pivoted at  $b^3$  under the bed, and having its end  $b^4$  extended beyond the bed, the

movement of said lever sliding the carriage backward and forward to thus put its edge 2 more or less distant from the clamp C, to be described. The carriage B has a stud screw 55 3 on which is mounted a hand wheel  $d$  having pivoted to it suitable links  $d'$  jointed to block  $d^2$  to which, by screws 4, are connected suitable corner gages  $d^3$  to act against the outer corners of the inner end of the vamp D, 60 as shown in Fig. 1.

The hand-wheel and links constitute adjusting devices for the corner gages, but instead of the particular adjusting devices shown for the carriage and corner gages I 65 may use any other well known equivalent devices, as prior to my invention I am not aware that such an adjustable carriage having corner gages adjustable on it was ever known. 70

The clamp C consists preferably of a steel or metal plate connected to a suitable yoke or carrier as  $C'$ , normally held up by a strong spring  $C^2$ , and having suitably connected to it a treadle rod  $C^3$ , which in practice will be 75 connected in usual manner to some suitable treadle located at the floor. The bed A is grooved at  $a^3$  to receive the bar  $a^4$  carrying a vamp marker composed of a spring tongue  $a^5$ , having a thin but blunt spur  $a^6$  which is 80 pressed down on the edge of the throat of the vamp  $v$ , the edge of the throat of the vamp, when in place, as in Fig. 1, lying under said spur, so that as the clamp descends it will strike the spring tongue and depress it 85 marking the vamp as at 20 to show the point which will be put in line with the seam uniting the button flap with the top of the shoe. The bar  $a^4$  may be adjusted longitudinally in the bed A engaging the screw  $a^{10}$ , and it is 90 held in adjusted position by a suitable device, as a plunger  $e$  and spring  $e'$  in a tubular nut  $e^2$ .

The clamp C is shaped to receive a toe-tip pattern plate  $f$ , it, in this instance of my in- 95 vention, being held in place by fingers  $f'$  controlled by screws  $f^2$ , so that said plate may be held securely in adjusted position, or be substituted for another one of proper shape, each plate having its central portion cut-away 100 to conform to the particular shape of tip  $t$  to be used, so that the tip, of whatever form,



when the clamp has been depressed on the vamp, the latter having been previously adjusted with relation to the clamp and marker, previously provided with suitable paste, 5 may be laid in the recess in the tip pattern plate and be applied to the vamp exactly in the proper place. The tip-pattern plate is a non-metallic plate, preferably so marked off with such dividing lines that the tip, of 10 whatever form, may be centered on the plate and then the plate be cut out about the tip leaving an opening of just the outline of the tip, and to just receive it and all others like it and position them with relation to the 15 vamp held by the clamp C. The central part of the pattern plate, cut away in Fig. 1, is shown at Fig. 3, *h* being the median line, or the line indicating the longitudinal center of the tip. The plate *f* will be so adjusted in 20 the clamp that the line *h*, will coincide with the marking edge or blade *a*<sup>6</sup>. The plate *f* in Fig. 1 was cut away to receive a tip of the outline represented in Fig. 4, but this plate, a tip of whatever form, see Figs. 5 to 7, hav- 25 ing been laid on it with its longitudinal center just over the line *h*, may be cut away so as to exactly receive the tip which it is desired to apply to the vamp.

The vamp-marker makes a T-shaped mark, 30 see Fig. 8, the stem of the T indicating, as stated, the position for the vamp with relation to the seam in the top, the top bar of the T-shaped mark indicating the over-top of the vamp on the top.

35 Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine for applying toe tips, the following instrumentalities, viz;—a bed, a 40 vamp clamp, a tip pattern-plate carried by said clamp, and a suitable gage for locating the position of the vamp, substantially as described.

2. In a machine for applying toe tips, the 45 following instrumentalities, viz;—a bed, a vamp clamp, a tip pattern-plate carried by said clamp, a suitable gage for locating the

position of the vamp, and a vamp marker actuated by said clamp, substantially as described. 50

3. In a machine for applying toe tips, the following instrumentalities, viz;—a bed, a vamp clamp, a tip pattern-plate carried by said clamp, a suitable gage for locating the 55 position of the vamp, and an adjustable vamp marker actuated by said clamp, substantially as described.

4. In a machine for applying toe tips, a vamp clamp; and an adjustable vamp gage 60 B, combined with independent vamp corner gages *d*<sup>3</sup> mounted thereon and adapted to act on the outer corners of the vamp; and adjusting mechanism connected with said corner gages to simultaneously adjust them to- 65 ward and from each other for vamps of different sizes, substantially as described.

5. In a machine for applying toe tips, the combination with a bed, and a vamp clamp, and vamp gages, of a tip pattern-plate cut out 70 to conform to the shape of the tip, substantially as described.

6. The bed, the longitudinally adjustable bar provided with the spring marking arm having a marking edge, the edges of the 75 vamps about the center of the throat of the vamp being adapted to be placed between said bar and its spring arm, combined with a vamp clamp, a gage for the inner ends of the vamp, and with means to adjust said gage, 80 substantially as described.

7. The bed, and the vamp clamp, combined with a non-metallic tip pattern plate adapted to be cut away centrally to leave a space of 85 the exact outline of the tip which it is desired to place on the vamp, substantially as described.

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

WALTER H. LEIGHTON.

Witnesses:

JOHN H. RIEDELL,

JOHN H. TATTERSALL.