(No Model.) 2 Sheets—Sheet 1.

W. P. THOMPSON.

DRAWING AND TRACING APPARATUS.

No. 388,158. Patented Aug. 21, 1888.

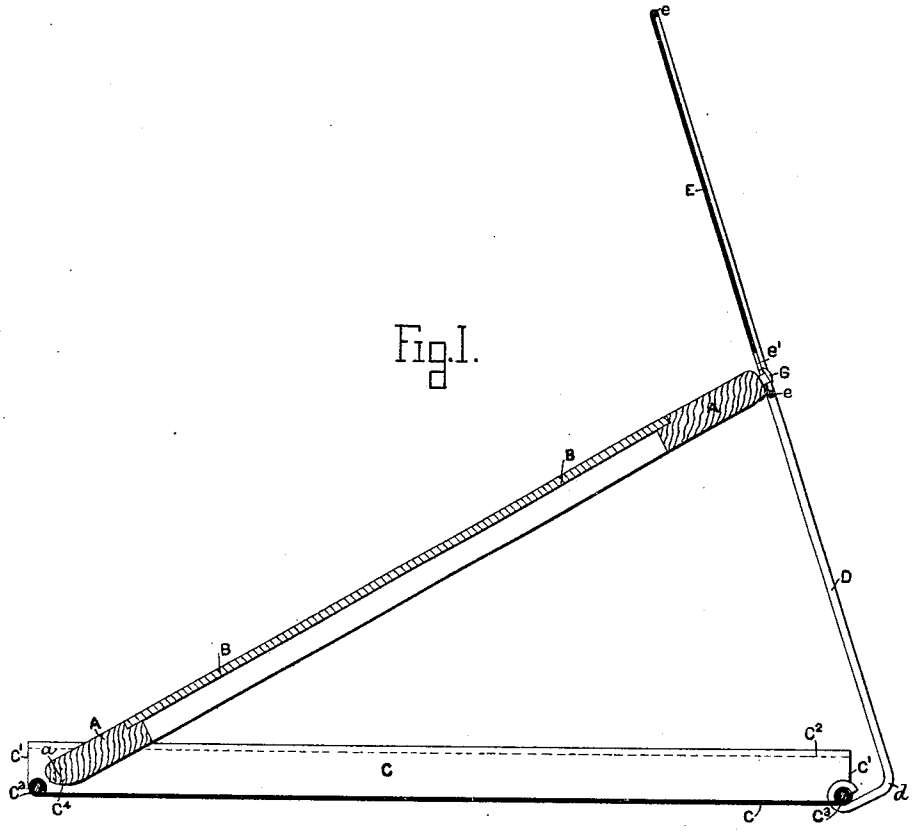


Fig. 1.

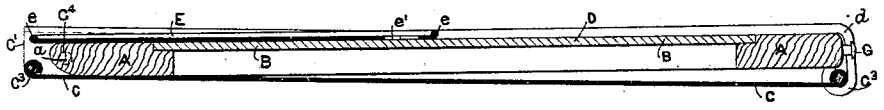


Fig. 2.

Witnesses
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James F. DuHamel

Inventor:
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by Dodger Lowe,
his Attys.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

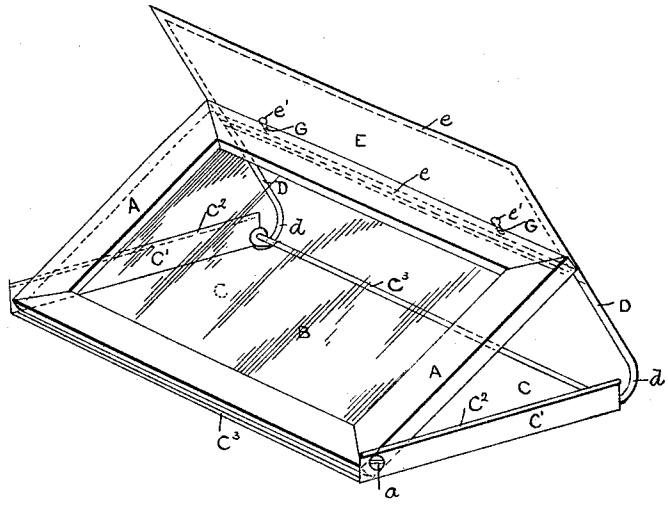
2 Sheets—Sheet 2.

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Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM P. THOMPSON, OF LIVERPOOL, COUNTY OF LANCASTER, ENGLAND.

DRAWING AND TRACING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 388,158, dated August 21, 1888.

Application filed October 29, 1887. Serial No. 253,793. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PHILLIPS THOMPSON, a subject of the Queen of Great Britain, residing in Liverpool, in the county of Lancaster, in the Kingdom of England, civil engineer, have invented certain new and useful Improvements in Drawing and Tracing Apparatus, which I term "Reflectographs," of which the following is a specification.

This invention has for its object the improvement of the apparatus for which a patent was granted to F. McIlvenna and myself, No. 218,893, and has for its object the cheapening of the apparatus and its manufacture in metal instead of wood.

Referring to the drawings, Figure 1 is a transverse section showing the apparatus open; Fig. 2, a similar view showing it closed, and Fig. 3 a perspective view of the same.

A is a frame, of wood or other material, carrying a transparent glass, B, embedded therein, as in my prior patent.

C is a tinned-iron tray, preferably bright and shining on the upper surface, but japanned or covered with cloth glued to it on the lower surface. Its edges are turned up at the sides C′ C′, and again turned back at top with a turn, C^2, to prevent it scratching the hands, and present a smooth top. At the front and back sides it is turned round a strengthening-wire, C^3 C^3. Frame A is pivoted to sides C′ C′ by a screw, nail, or other pivot, *a a*, at each end passing through a hole, C^4 C^4, in sides C′ C′, so as to be free to turn. Hooked in and curled round back wire, C^3, are the legs D, having a bend, *d*, at right angles, so as to fall over and fit close to the frame A on closing the apparatus.

E is a rectangular piece of tin curled at the edges round legs D and at top and bottom round two wires, *e e*. *e′ e′* are two button-holes in same, being circular holes with slots below. Into these fit buttons G, which are merely the heads of nails or screws driven into frame A and projecting a little therefrom.

The mode of action is the same as in my former patent; but I will again describe it. The shield E, with its legs, being raised on its hinge C^3 C^3, and the frame A being also raised on its pivot, the buttons G G are placed through the holes *e′ e′* and their shanks slide down into the narrow slots, locking all fast. A drawing on thin paper is placed on frame A above the glass, a piece of blank paper placed over it, and the apparatus placed back to the light. The light is reflected up through the two papers, and the operator can trace the lines of the drawing upon the blank paper.

I claim as my invention—

1. The combination of the tray C, formed of tinned iron having side pieces, C′ C′, turned up and perforated with holes C^4 C^4, and the frame A, carrying fixed thereon the pivots *a a*, having their shanks resting freely in holes C^4 C^4, substantially as and for the purposes described.

2. The combination of the tray C, formed of sheet metal with bright reflecting upper surface, with tracing glass and frame A B, placed at a suitable angle thereto, substantially as described, whereby the almost perfect reflection of a mirror is obtained without the fear of fracture or the use of heavy and expensive framing required with ordinary mirror-glass reflectors.

3. The combination, with the reflector C, of the frame A, folding flat over same, and the shade E, and supporting-legs D, bent at *d*, so as to fold flat over frame A.

4. The combination of the shade E with the legs D, rigid therewith, whereby one adjustment only is required for both the legs and shield, instead of separate adjustments, as formerly.

5. The combination of reflector C, transparent drawing-frame A B, hinged thereto, legs D, hinged to said frame, and shield E, rigidly fixed to legs D and arranged to fold over the glass A.

6. The combination of the plate C, having sides C′ turned up at right angles and to the height of the folded apparatus, (glass frame A B and shield E,) whereby the plate C acts as a box to inclose the other parts, substantially as described.

7. The combination of a sheet-metal base, C, having back wire, C^3, and legs D, having their lower ends turned round wire C^3 and their upper ends connected by plate E, carrying button-holes *e′*, with the frame A, also hinged to base C and carrying the buttons G, attached thereto.

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

Witnesses: WM. P. THOMPSON.

GEO. C. DYMOND,

H. P. SHOOLERIDGE.