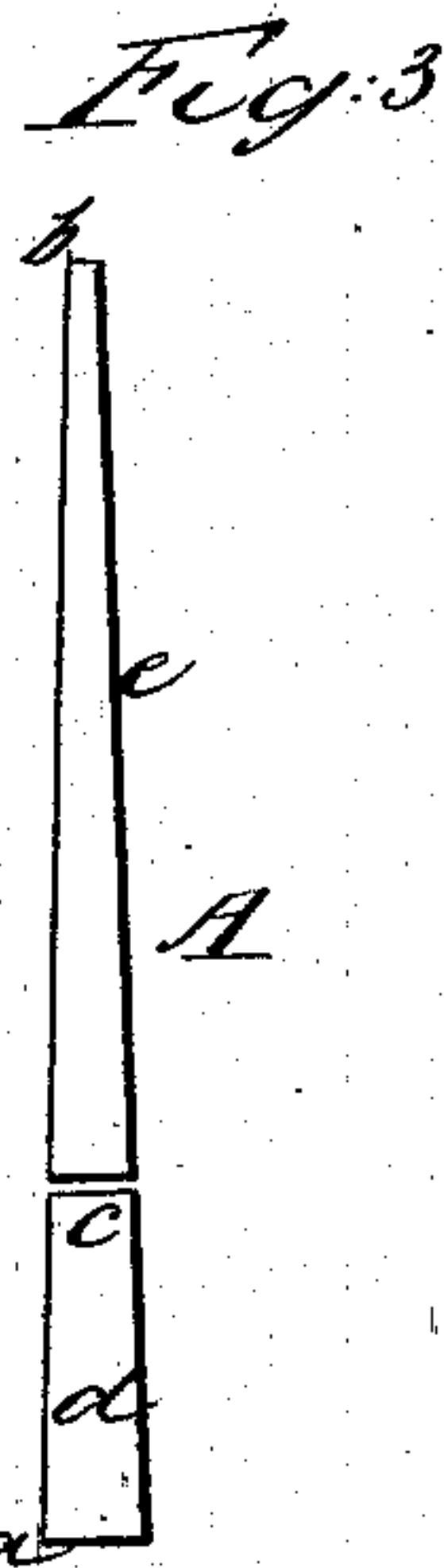
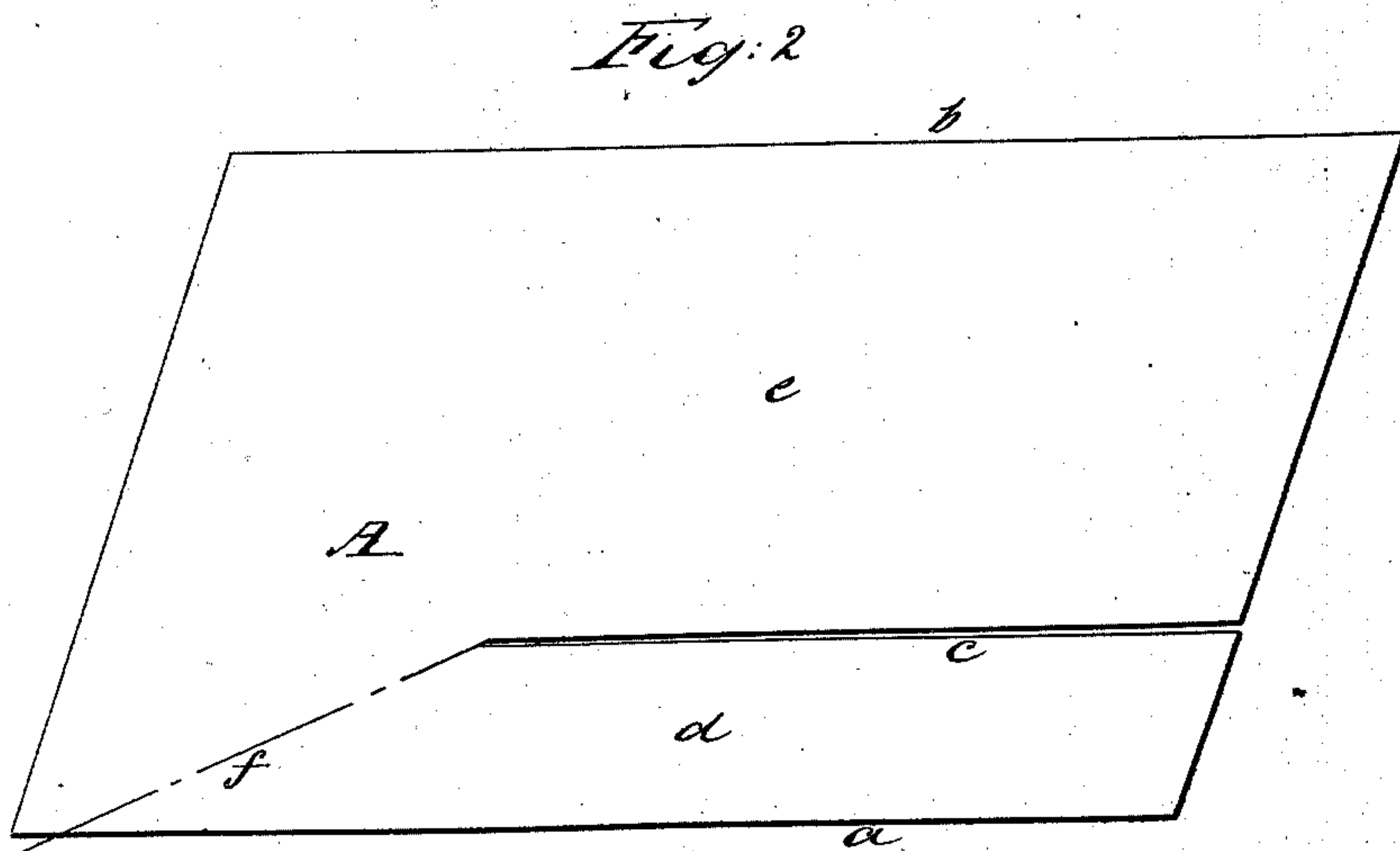
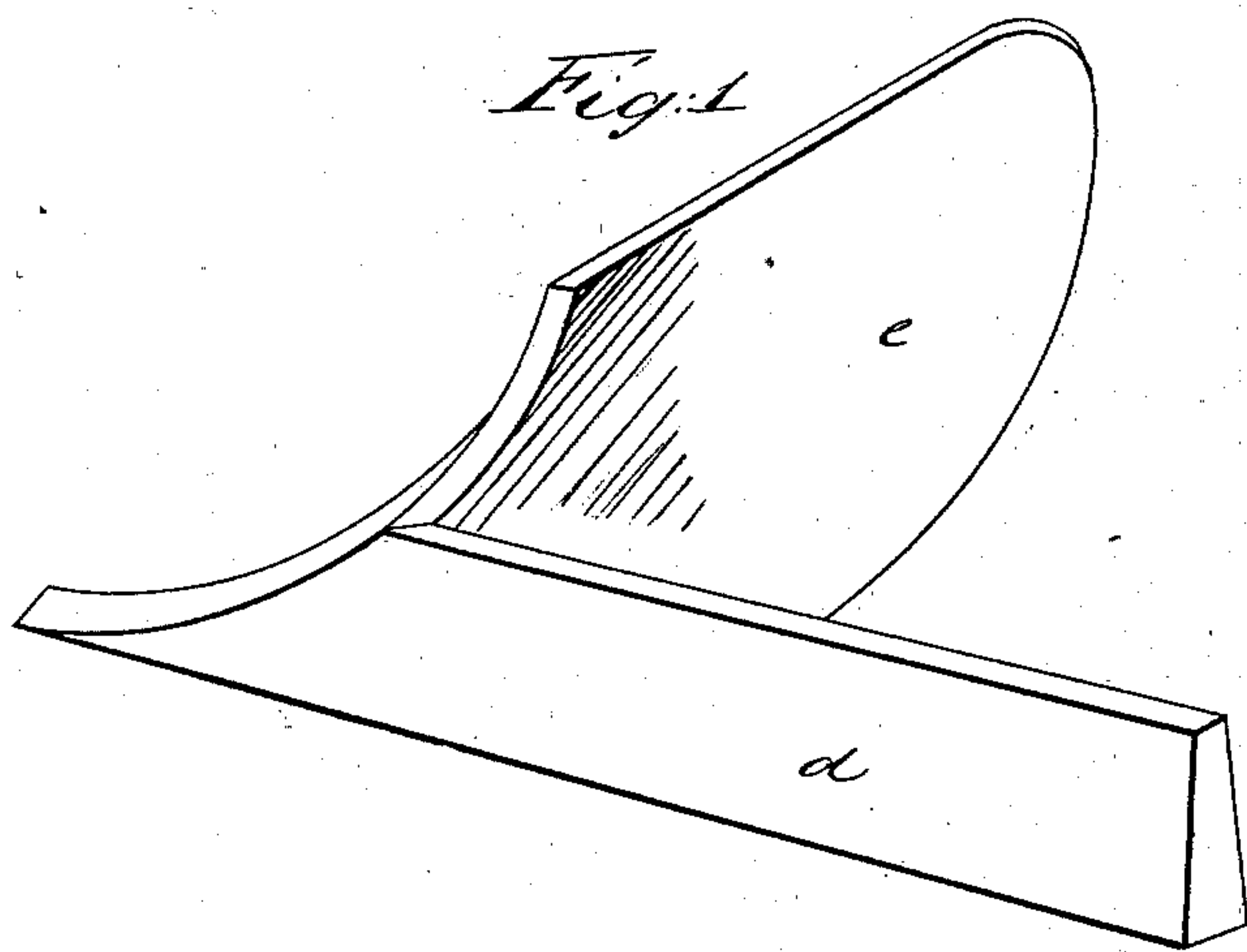


W. P. Long,

Making Plow-Irons,

Patented Feb. 19, 1867.

N<sup>o</sup> 62,211.



Witnesses  
Jas A. Service  
W. H. Houghton

Inventor  
W. P. Long  
Per Munn & Co

# United States Patent Office.

W. P. LONG, OF WHEATLAND, INDIANA.

*Letters Patent No. 62,211, dated February 19, 1867.*

## IMPROVEMENT IN MAKING PLOUGHS.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, W. P. LONG, of Wheatland, Knox county, State of Indiana, have invented a new and useful improvement in the Forming of Steel for the Construction of Ploughs; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a perspective view of a plough constructed according to my invention.

Figure 2, a view of the metal plate out of which the plough is formed, said plate being cut and prepared ready for bending and swaging into proper form.

Figure 3, an end view of fig. 2.

Similar letters of reference indicate like parts.

The object of this invention is to produce a single plate of steel or iron rolled or formed in such a manner that the plough when finished will be thicker at those parts where it is subjected to the most wear, and the plough be capable of being constructed at a very moderate cost. To this end the invention consists in rolling a plate of steel or iron of taper or wedge shape transversely, and then cutting said plate of diamond or lozenge shape, and slitting the plate longitudinally the greater portion of its length, and bending the plate so that the narrow part formed by the slit will be bent down to form the land-side, and the other part bent and swaged or rolled to form the mould-board or main portion of the plough. A represents a plate of wrought iron or steel, which may be of any suitable dimensions, according to the size of plough required. This plate is rolled so as to be transversely of taper form, as shown clearly in fig. 3, one edge, *a*, being more than double the thickness of the other, *b*. This plate is cut or slitted longitudinally, as shown at *c*, said cut extending from one end of the plate to within say six or eight inches of the opposite end. The cut *c* is near one edge of the plate, the width of the narrow part *d* being sufficient to form the land-side, the mould-board being formed of the other part *e*. This plate, after being thus rolled, has its ends cut obliquely so as to be of diamond or lozenge form, as shown clearly in fig. 2, and the part *d* is bent down at right angles with the other part *e*, the plate in front of the cut *c* being bent diagonally from the cut to the thick edge, or at the rear of the end, as indicated by the dotted line *f*. The part *e* is then bent or swaged to form the mould-board, as shown in fig. 1. By this mode of construction it will be seen that the plough is quite heavy or thick at those parts which are subjected to much wear. The land-side is thick or heavy, requiring no rib, and the plough at the junction of the land-side and mould-board is also heavy or thick, so as to wear a long time. The outer part of the mould-board, where there is not much wear, is comparatively thin. The ploughs may be constructed in this manner at a comparatively small cost, and they will be far more durable than the ploughs of ordinary construction; there are no bolts to become loose, nor after work required, as is the case with the ordinary ploughs composed of two or more detached parts bolted together.

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

Forming the land-side and mould-board from one plate of metal, in the manner substantially as described, for the purpose specified.

W. P. LONG.

Witnesses:

JAMES O. WILLIAMS,  
M. L. B. SEPIRT.