

S. M. PORTER & C. M. PLATT.

DIES.

No. 171,854.

Patented Jan. 4, 1876.

Fig: 1.

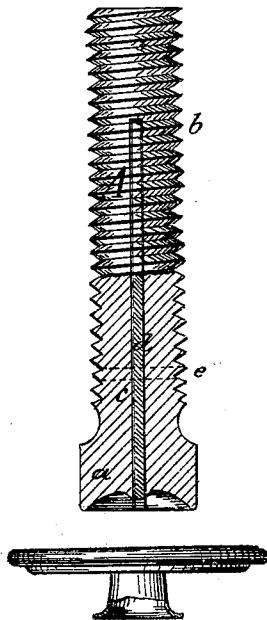
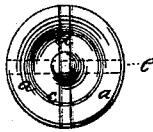


Fig: 2.



Witnesses:

H. C. Mattimberg
M. Lovell

Inventors:

Samuel M. Porter and
Clark M. Platt
per S. M. Porter
att'y.

UNITED STATES PATENT OFFICE.

SAMUEL M. PORTER, OF NEW YORK, N. Y., AND CLARK M. PLATT, OF WATERBURY, CONNECTICUT.

IMPROVEMENT IN DIES.

Specification forming part of Letters Patent No. **171,854**, dated January 4, 1876; application filed October 18, 1875.

To all whom it may concern:

Be it known that we, SAMUEL M. PORTER, of the city, county, and State of New York, and CLARK M. PLATT, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Dies; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention is in the nature of an improvement in punches or dies; and the invention consists in a polarized magnetic die or punch, constructed substantially in the manner and for the purpose hereinafter described.

In the accompanying sheet of drawings, Figure 1 is a side view of our improved die, and Fig. 2 an under side-view of same.

Similar letters of reference indicate like parts in the several figures.

A represents a die or punch designed to spread a metallic eyelet into the shell of a button, or for any other purpose. This die or punch is constructed of hardened steel, and through the head *a* of the die, and the screw-shank *b* is formed a slot, *c*. This slot extends to very nearly the upper end of the screw-shank—in fact, bifurcating it. Into this slot *c* is inserted a piece of sheet-brass, *d*, and the two sides of the die or punch, with the sheet-brass inserted in the slot, are riveted together by a brass rivet, *e*, which passes through the two sides, confining these sides closely to the inserted brass, and making the die nearly as solid as before the slot *c* was formed.

The die, being thus constructed, is next magnetized in the usual manner, the part on one side of the slot *c* forming the positive pole, and the other side forming the negative pole of the magnet, making, in fact, by this construction and polarizing, a magnet possessing the same magnetic qualities as a horseshoe-magnet.

The object of supplying the space between the two sides or poles of the magnet with the brass filling is to render the die or punch as nearly solid as it was before it was divided by the slot; and the brass being a non-mag-

netic metal, the polarization is not affected by it.

The die being constructed and polarized as described, it may be used in any suitable machine, such as machines for fastening buttons to garments, &c., and it is operated by pressing it down, by suitable mechanism, upon the object it is desired to punch or "form up," when the object will adhere, by magnetic attraction, to the end of the die without the aid of retaining springs or fingers, so that when the die is brought in position for punching or forming up the metal adhering to it, the metal will be in the proper position for such punching, &c., and will so remain until the button has been secured to the garment, or the device which has been punched has been detached in any suitable way.

The particular advantage derived from dividing the die in the manner described is to polarize the die, and bring the two poles of the magnet nearly together, and in this way insure its exerting its magnetic attraction in a manner that shall cause the object to be attracted to come squarely and closely in contact with the entire face of the die, for, if this polarization was not produced, the metal would not adhere to the entire face of the die, but would hang by its edge to the edge of the die, and thereby render the magnetic attraction worthless for the purpose designed.

It is obvious that our die may be applied to any kind of machinery where its peculiar construction could be used effectively, and we, therefore, do not wish to limit ourselves in its application to any particular machine; but, Having thus described the construction and operation of our die, what we claim as new, and desire to secure by Letters Patent, is—

A polarized magnetic die or punch, constructed substantially in the manner and for the purpose described.

SAMUEL M. PORTER.
CLARK M. PLATT.

Witnesses as to SAML. M. PORTER:

G. M. PLYMPTON,
H. L. WATTENBERG.

Witnesses as to CLARK M. PLATT:

MERRITT LANE,
CHAS. W. GILLETTE.