

(No Model.)

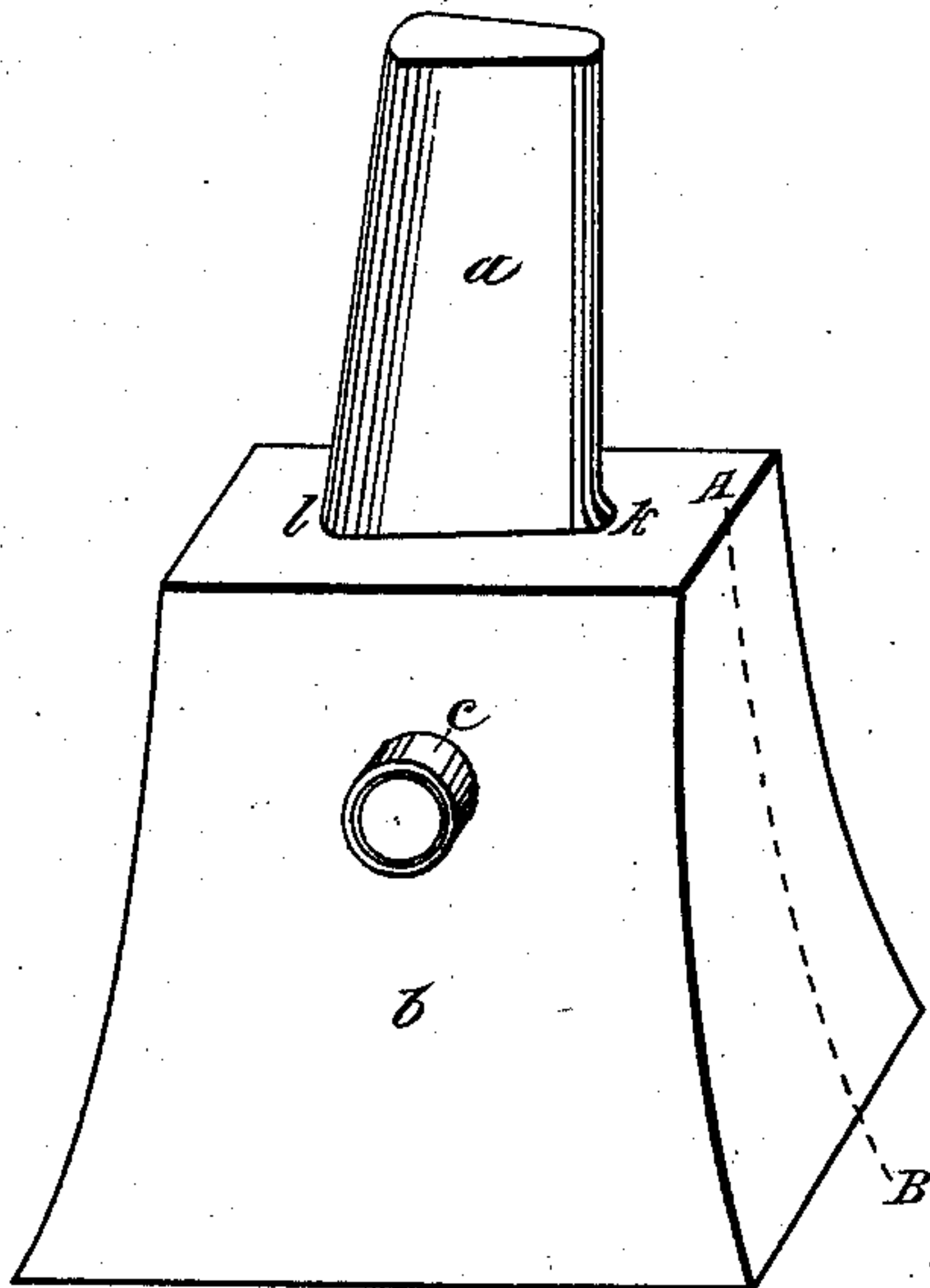
A. GARROW.

DEVICE FOR PUNCHING THE EYES IN AXES, &c.

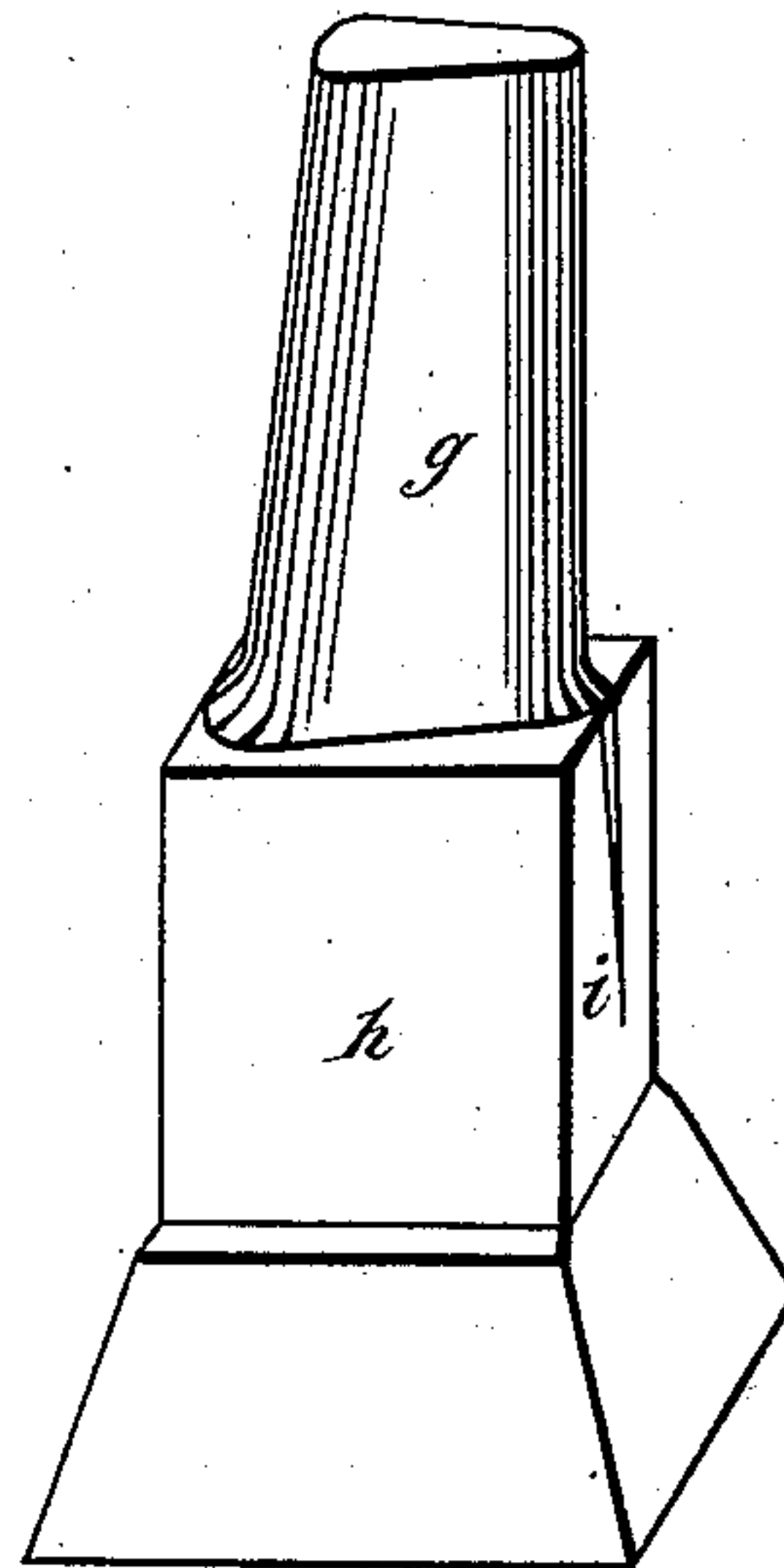
No. 389,562.

Patented Sept. 18, 1888.

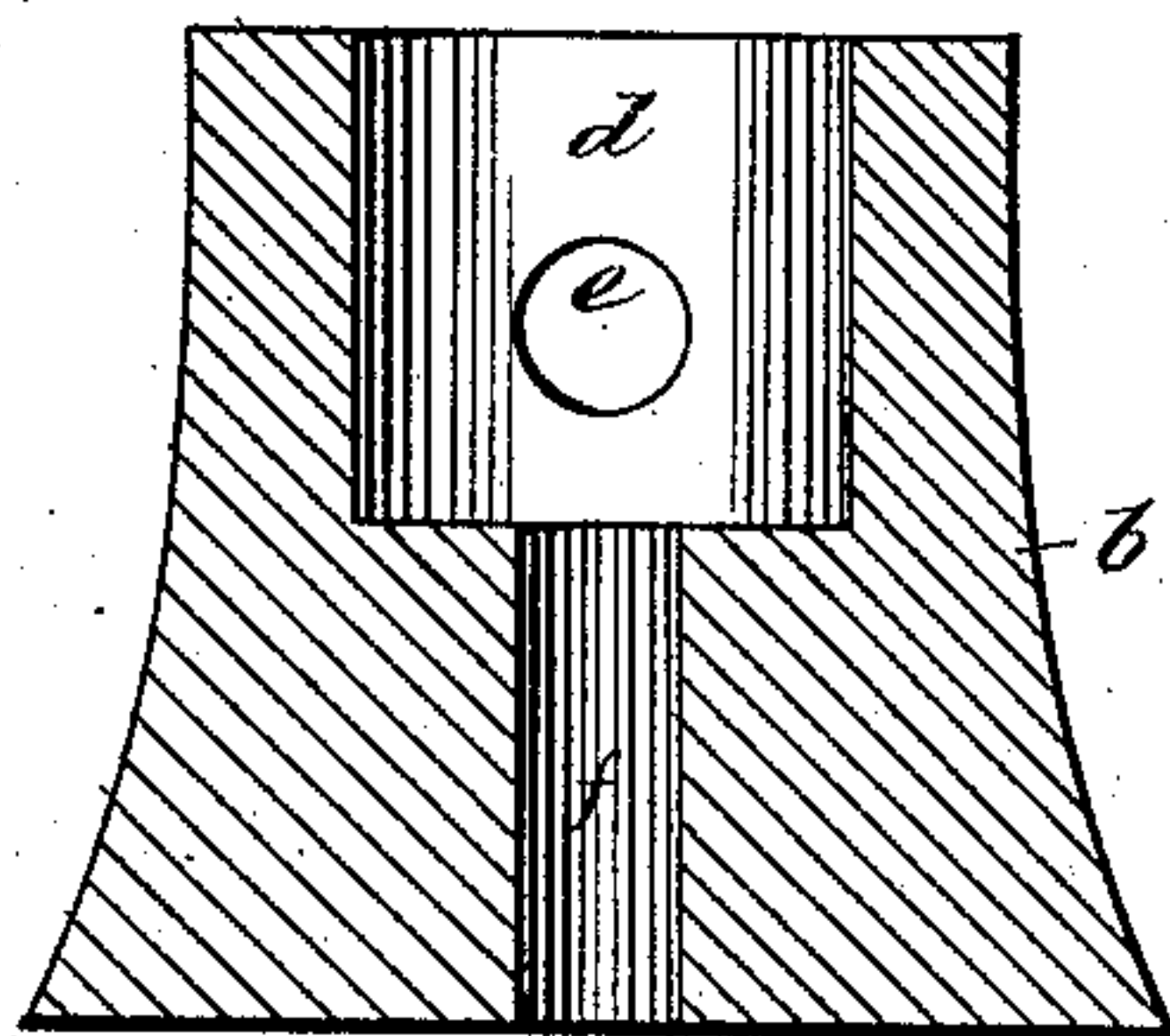
*Fig. 1.*



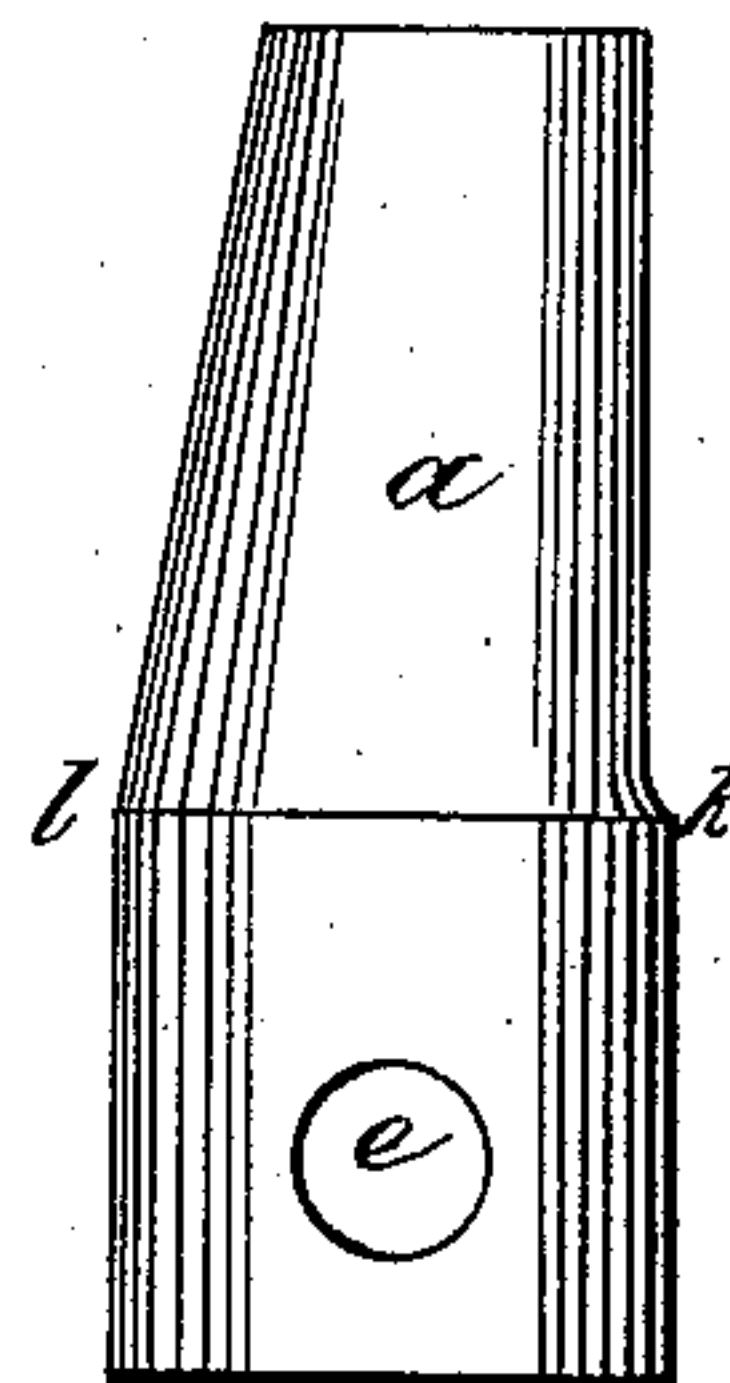
*Fig. 4.*



*Fig. 2.*



*Fig. 3.*



*Witnesses.*

*H. Wilson*  
*A. B. B. B. B.*

*Inventor.*

*Alexander Garrow*



# UNITED STATES PATENT OFFICE.

ALEXANDER GARROW, OF BEDFORD, QUEBEC, CANADA.

## DEVICE FOR PUNCHING THE EYES IN AXES, &c.

SPECIFICATION forming part of Letters Patent No. 389,562, dated September 18, 1888.

Application filed December 5, 1887. Serial No. 257,064. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER GARROW, a citizen of the Dominion of Canada, residing at Bedford, in the township of Stanbridge, county of Missisquoi, Province of Quebec, Canada, have invented a new and Improved Base and Punch for Polling-Machines, of which the following is a specification.

My invention relates to improvements in the base and punch for polling-machines, by each being made separately and then the two so joined together as practically to be one solid piece; and the objects of my improvements are, first, to provide a large solid durable base so made that its shape has never to be changed when being connected with the punch, and, second, to provide a punch that is easily and cheaply made, and having the connecting part of such a shape that when the punch breaks it can be so easily and quickly removed and another replaced in the same base that it is not necessary to stop the motion of the polling-machine. I attain these objects by the construction as illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the base and punch together. Fig. 2 is a vertical section on A B, Fig. 1, of the base; and Fig. 3, an elevation of the punch removed from the base. Fig. 4 shows a perspective of the old style of punch and base as now used, which I give to show more clearly the improvements and advantages of my new and improved base and punch.

Similar letters refer to similar parts throughout the several views, which are shown one-third the natural size as used in an ax-polling machine.

The base *b* is made from a low grade of large bar-steel forged into shape and of a size to suit the polling-machine. The socket *d* is drilled out with different-sized drills. The base-hole *f* is made to facilitate the removal of the punch *a* and the eye-hole *e* for the steel pin *c*, which holds the punch fast to the base. The socket *d* is brought into a true shape by a punch-die, so as to easily receive the punch *a*. The punch *a* is made of a low grade of bar-steel of the shape of that part of the punch *a* from the line of *l k* down. The proper length is cut from the steel bar and then forged out by being held in a pair of gage-tongs, that inclose

the steel up to the line *l k*. Then the eye-hole *e* is drilled.

The advantages I claim for this base and punch are these:

*The base.*—First, the base *b* can be made of a grade of steel which is even cheaper than the iron required in the base *h*, Fig. 4, as there is no welding, and in consequence very little heading; second, the base *b* can have a base area twice that of the base *h*, because the base *h* is limited to a certain size on account of the requirements of welding, and therefore the base *b* is much easier fastened to the bed of a polling-machine and less liable to move when used; third, it requires only three of the bases *b* for a polling-machine, while it requires sixty of the bases *h* to do effective work, as each punch has to have its own base; fourth, the durability of the base *b* is such that it will outlast several sets of sixty of the bases *h*, as after a few welds the base *h* becomes useless; fifth, when a punch breaks in the base *b*, it is only necessary to loosen the base from the bed of the polling-machine, drive out the steel pin *c*, remove the broken punch and replace a new one, and reset the base in the exact position from which it was removed, which is very easily done, and continued perfect work is insured; but if a punch breaks in the base *h* a new base has to be put in, and on account of the welding of the punch to the base it always somewhat changes the position of the base to the punch, and in consequence requires considerable time to properly adjust the new base so as to set the punch in the exact position by repeated trials in order to continue perfect work.

*The punch.*—First, the punch *a* requires a much cheaper grade of steel than the punch *g*, as there is no welding, while the punch *g* requires a high grade of welding steel, and on account of the heating required the punch *g* is much more liable to break, and therefore much more expensive, than the punch *a*; second, the punch *a* is very easily made and handled by being held in a pair of gage-tongs, while the punch *g* has first to be drawn to wedge shape, *i*, and the base *h* split and the weld completed, then the punch *g* drawn out to shape and completed with the base, which makes slow, cumbersome work; third, as poll-punches will not last a very long while without breaking on account of the continuous heating and cooling

when in use and of the shrinking of the poll on the cooled punch, (the punch breaks only when the poll is withdrawn from the punch,) therefore it requires considerable steel for the supply of poll-punches. The punch *a*, when broken, can be used for eye-pins in the manufacture of axes, while the punch *g* is of no value when broken.

Therefore by the use of my new and improved base and punch at least three-fourths of the expense of material and labor is saved in the manufacture of bases and punches for polling-machines where a stationary base and punch is required for axes, pick-eyes, &c., and also more and better work can be turned out in the same time.

I am aware that prior to my invention the punch *a* was used having the same shape which I give it from the line *l k* upwardly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

The herein-described device for punching the eyes in axes, hatchets, picks, &c., comprising the punch *a*, base *b*, and pin *c*, constructed substantially as shown.

ALEXANDER GARROW.

Witnesses:

W. W. WILSON,  
A. A. BATCHELLER.