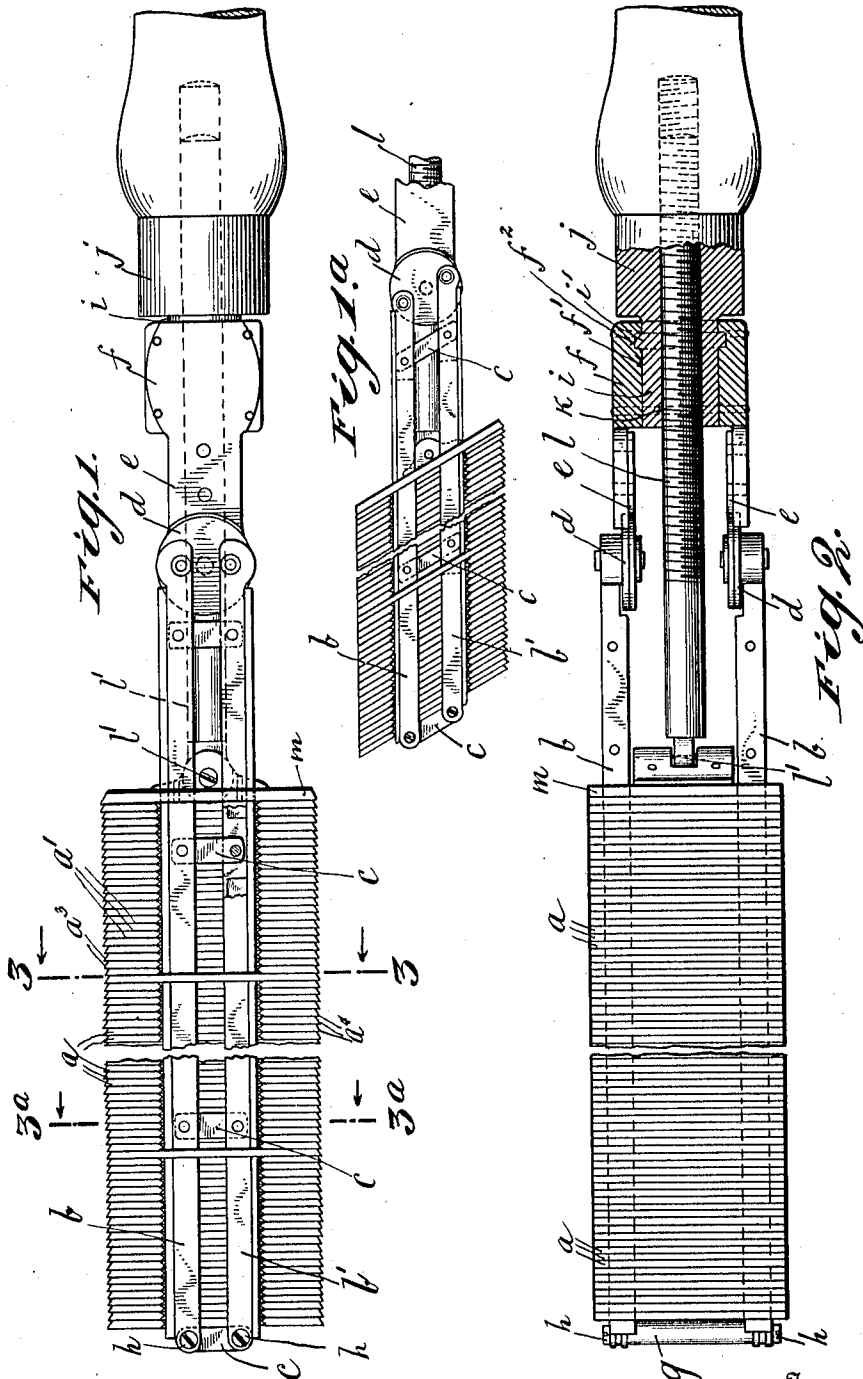


1,035,736.



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1,035,736.

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FILE OR LIKE TOOL.
APPLICATION FILED OCT. 26, 1911.

Patented Aug. 13, 1912.

2 SHEETS—SHEET 2.

Fig. 5.

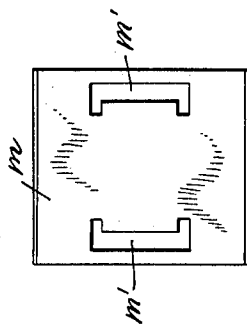
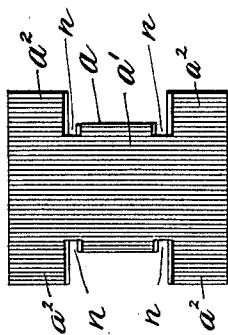


Fig. 6.

Fig. 4.

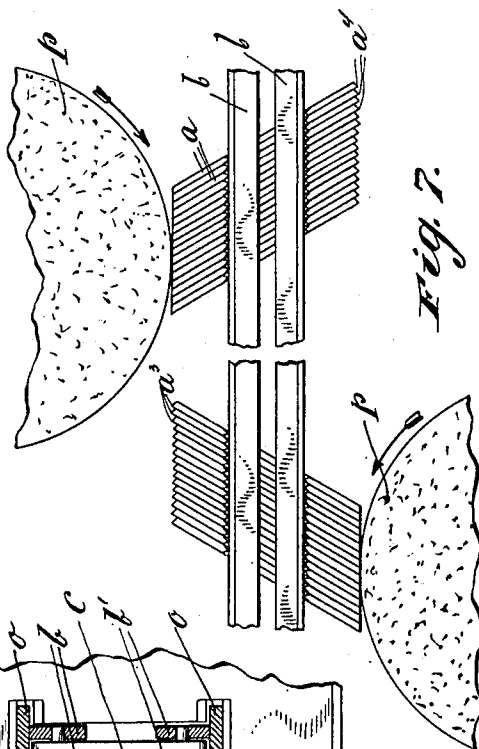
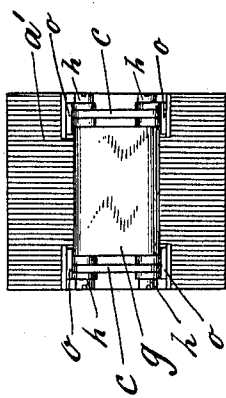


Fig. 7.

Fig. 3.

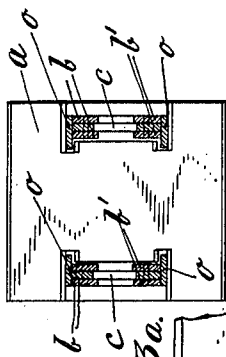
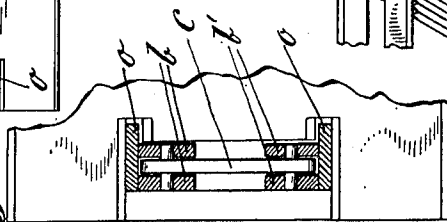


Fig. 3a.



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FILE OR LIKE TOOL.

1,035,736.

Specification of Letters Patent.

Patented Aug. 13, 1912.

Application filed October 26, 1911. Serial No. 656,974.

To all whom it may concern:

Be it known that I, HENRY PUPPE, a subject of the German Emperor, residing at Nebraska City, in the county of Otoe and State of Nebraska, have invented certain new and useful Improvements in Files or Like Tools, of which the following is a specification.

The present invention relates to files and has for its object to provide a file of great efficiency and durability.

The hitherto used files are generally made of soft steel, so that the teeth can be cut by a chisel. This has the disadvantage that the teeth never can be made very sharp and will not affect hard metals. Furthermore, when the teeth become blunt, the file is practically rendered useless, for in order to resharpen it, it first must be annealed, its cutting surfaces ground off, new teeth chiseled and then hardened. These manipulations, evidently, render the work very difficult and more expensive than the cost of a new file.

According to my invention, the file is composed of a great number of individual metal blades or plates having their upper or lower edges or both beveled to form teeth and which are loosely mounted in an adjustable frame, so that they can be tightly pressed against one another either in upright or operative position, or, when the teeth become blunt, they can be adjusted so that their teeth lie in plane and can be sharpened by means of a grindstone. Owing to this novel construction, my file may be made of the hardest steel, to affect any kind of metal, and if any one or more of the individual plates become worn out or damaged the same may be readily replaced by new ones without rendering the file useless. Another advantage of my new tool is that the user of the file can sharpen it himself by means of a grindstone and all those processes necessary with ordinary files are obviated.

My invention thus relates to the novel construction, combination and arrangement of parts as will be hereinafter specified and claimed.

In the accompanying drawing, in which similar reference letters denote corresponding parts, Figure 1 is a side elevation of my file in which the individual plates are shown in operative position; Fig. 1^a is a reduced similar view thereof showing the same adjusted in position for sharpening;

Fig. 2 is a plan view of the file; Fig. 3 is a cross section on line 3—3 of Fig. 1; Fig. 3^a is a cross section on line 3^a—3^a of Fig. 1; Fig. 4 is an end view; Figs. 5 and 6 are details and Fig. 7 illustrates the manner of sharpening the file.

My file consists of a number of individual blades or plates *a* which are loosely mounted in a frame composed of lateral bars *b*, *b'*, there being one pair of such bars on each side of the blades or plates. The bars of each pair are superposed and parallel and connected by several links *c*. The rear ends of the two pairs of bars *b*, *b'* are pivoted to vertically rocking disks *d*, which are centrally fulcrumed in lateral arms *e* projecting from a head piece *f*. Between the front ends of the two pairs of bars a plate *g* is inserted, which by screws *h* may be connected to one another, to which end the several bars are perforated at their front extremities and the plate *g* has screw threaded bores. The head piece *f* has a cylindrical bore *f'* and rotatively borne therein is a cylindrical extension *i* of the handle *j*. By a collar *k'* or the like, bearing in an annular groove *f²* of the bore *f'* the longitudinal displacement of the handle or its extension is prevented. The extension *i* has a threaded bore *k* and forms a nut for a threaded spindle *l* centrally secured in and projecting outwardly from the handle. At its forward end the screw spindle has pivotally secured to it at *l'* a slotted plate *m* substantially of the same size as the blades *a*, which plate with its slots *m'* engages the bars *b*, *b'* of the frame.

The blades *a* are all of equal size and are mounted on the frame between the plates *m* and *g* and the forward face *a'* (Fig. 5) of each blade is vertically corrugated. The blades are substantially T-shaped and the extended portions *a²* thereof bear partly against the upper and partly against the lower edges of the bars *b*, *b'*. The blades in assembled position in the frame rest face to face against one another with their corrugated surfaces directed forwardly. The upper and lower edges *a³*, *a⁴* of the blades are beveled to form sharp cutting edges or teeth.

In order to properly guide the loose blades, they are each provided with lateral recesses or notches *n* and secured to the upper face of the upper bar *b* and the lower face of the lower bar *b'* on each side of the

frame are longitudinal bars *o* which are extended inwardly to loosely engage the said notches *n* in the blades *a*. The corrugations on the front surfaces and the beveled edges of the individual plates together constitute the teeth of the file. In operative position, the blades are held upright and are tightened between the plates *g* and *m* by the spindle *l*.

When the upper or lower cutting edges of the blades become blunt, the blades can be put in inclined position, so that the respective edges lie in a plane and can be sharpened by means of a grindstone *p* as shown in Fig. 7. To this end, the plate *g* is slackened and the plate *m* is shifted backward by unscrewing the spindle *l*. The blades *a* can now be tilted into the desired inclined position, the plate *g* being hereby caused to swing and the bars *b*, *b'* to move into the position shown in Fig. 3^a. When the desired position of the blades is obtained, the plate *g* is tightened and plate *m* moved forward by means of the spindle *l* and tightened. The plate *m* being allowed to swing, will when brought in contact with tilted blades, also adopt an inclined position (Fig. 3^a). The blades in this inclined posi-

tion can then be ground off. When the blades are readjusted into upright position, their treated edges will be sharp.

Since the construction may be modified in various ways without departing from the spirit of my invention, I do not wish to restrict myself to the details shown and described.

What I claim and desire to secure by Letters Patent is:

In a file, a frame consisting of movable lateral bars and a hollow head piece connected to the latter, an adjustable member interposed between the front ends of said bars, an adjustable pressure plate at the rear ends of said bars, a rotary handle carried by said head piece, a threaded spindle in said handle working in said head piece and pivotally connected to said pressure plate and blades tiltably and loosely mounted on said bars between said rear pressure plate and front member.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY PUPPE.

Witnesses:

G. E. BERTHOLD,
JOSEPH ZERBS.