

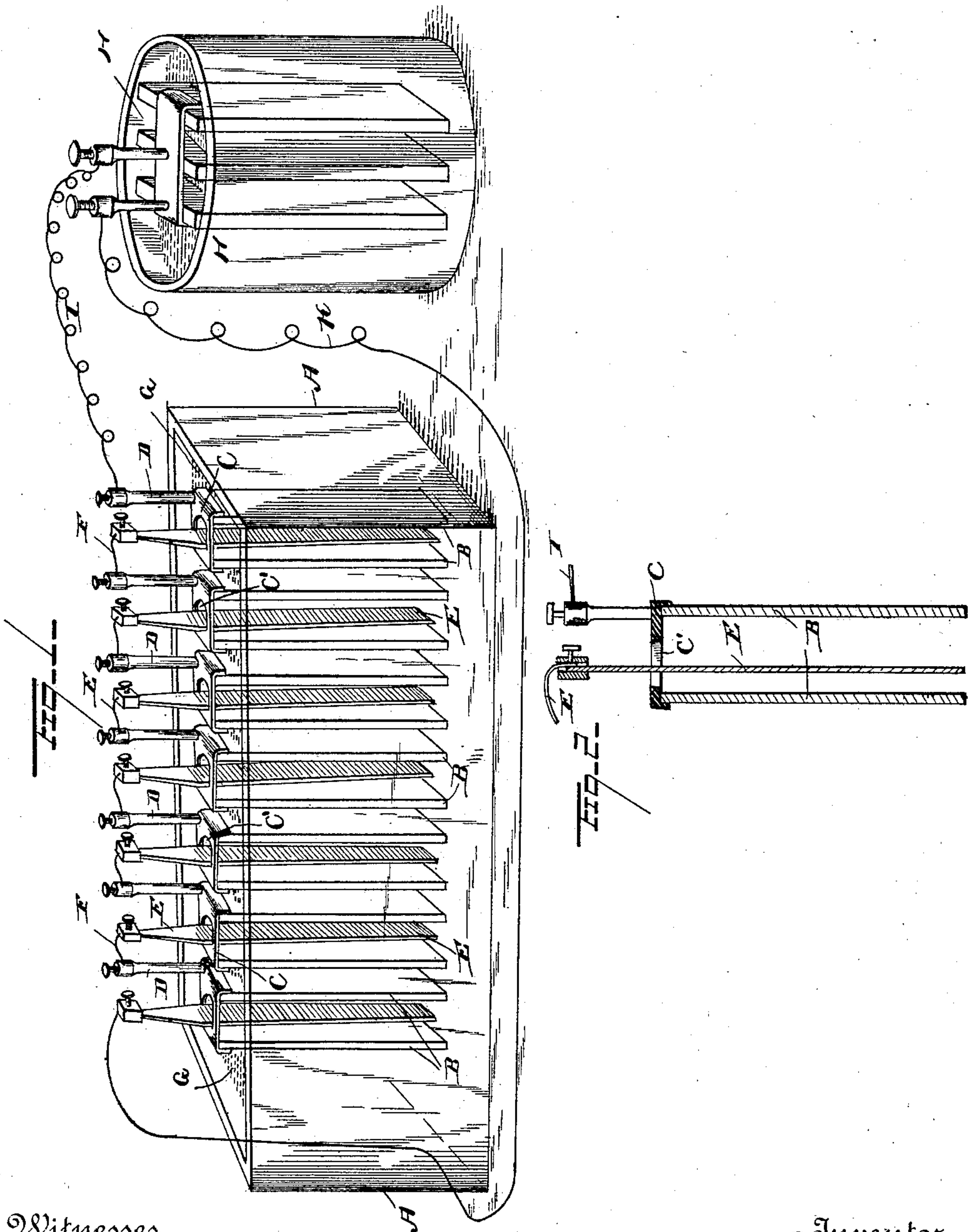
(No Model.)

J. E. EMLEY.

APPARATUS FOR RECUTTING FILES.

No. 360,517.

Patented Apr. 5, 1887.



Witnesses

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JAMES E. EMLEY, OF WEATHERFORD, TEXAS, ASSIGNOR TO W. J. CARSON
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APPARATUS FOR RECUTTING FILES.

SPECIFICATION forming part of Letters Patent No. 360,517, dated April 5, 1887.

Application filed July 22, 1886. Serial No. 209,346. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. EMLEY, a citizen of the United States, residing at Weatherford, in the county of Parker and State of Texas, have invented a new and useful Improvement in Method of and Apparatus for Recutting Files, of which the following is a specification.

My invention relates to an improvement in methods of and apparatus for recutting files; and it consists in immersing the files in an acid solution and connecting the said files and solution with an electrical current, thereby causing the acid solution to act upon the faces of the files and recut the same; and it further consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of an apparatus embodying my improvements. Fig. 2 is a detached vertical sectional view of the same.

A represents a tank, which is made of any suitable dielectric material.

B represents a series of pairs of carbon plates, which are connected at their upper ends by a dielectric plate, C, having a central opening, C'. From the upper end of one plate of each pair projects a binding-post, D.

E represents the files to be recut. The said files are maintained in a vertical position between the pairs of carbon plates, and have their upper ends extending through the openings C', the pairs of plates being previously placed in the tank A. Connecting-wires F are employed to connect the top of each file to the binding-post D of the next adjacent series of plates throughout the tank.

G represents an acid solution or exciting agent, which is placed in the tank, and in which the lower portions of the files and of the carbon plates are immersed. The said acid solution may consist of salt and water, or sulphuric acid and water, or nitrate or hydrochlorate acid and water; or a suitable alkaline solution of potash and water or soda and water may be employed, though I prefer a solution of either sulphuric, nitric, or hydrochlorate.

H represents a galvanic battery, which has one pole connected by a wire, I, to one of the

carbon plates, and the opposite pole connected by a wire, K, to the top of the file at the end of the series.

The operation of my invention is as follows: When an electric current from the battery passes through the series of carbon plates and the files and through the acid or alkaline solution in the tank, it sets up electrical action therein, and causes the said solution to bite or eat into the faces of the files, so as to re-cut the same. A great advantage gained by thus recutting the files by means of electro-chemical action is that the temper of the metal of which the files are made is not destroyed or altered, thus preserving the files in their original condition.

For the sake of convenience, I have herein illustrated a galvanic battery for furnishing the electrical current to the file-cutting apparatus; but a dynamic battery or other suitable source of electricity may be employed, if preferred.

Having thus described my invention, I claim—

1. In an apparatus for recutting files by electro-chemical action, the dielectric plates C and the carbon plates B, having their upper ends attached to the said non-conducting plates, whereby the files to be recut are disposed between the carbon plates when in the solution, substantially as described.

2. In an apparatus for recutting files by electro-chemical action, the combination of the tank to contain the solution, the series of pairs of carbon plates B, located in the tank, the non-conducting plates C, connecting the upper ends of the pairs of carbon plates above the level of the solution in the tank, said plates C having the openings C', the files arranged between the pairs of plates B and projecting through the openings C', and the conducting-wires attached to the poles of a battery and connecting one carbon plate of each pair to the file between the adjacent pair of carbon plates in series, substantially as described.

3. In an apparatus for recutting files, the carbon or other suitable plates connected together in pairs, substantially as described.

4. The combination of the tank containing the acid or alkaline solution, the carbon plates immersed therein, the files immersed in the

solution between the plates, and the battery
or other source of electricity connected in cir-
cuit with the plates and the files, and adapted
to pass electrical current through the said
5 plates and files and through the solution in
which they are immersed, for the purpose set
forth, substantially as described.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
presence of two witnesses.

JAMES E. EMLEY.

Witnesses:

J. E. B. STEWART,
C. W. McGEHEE.