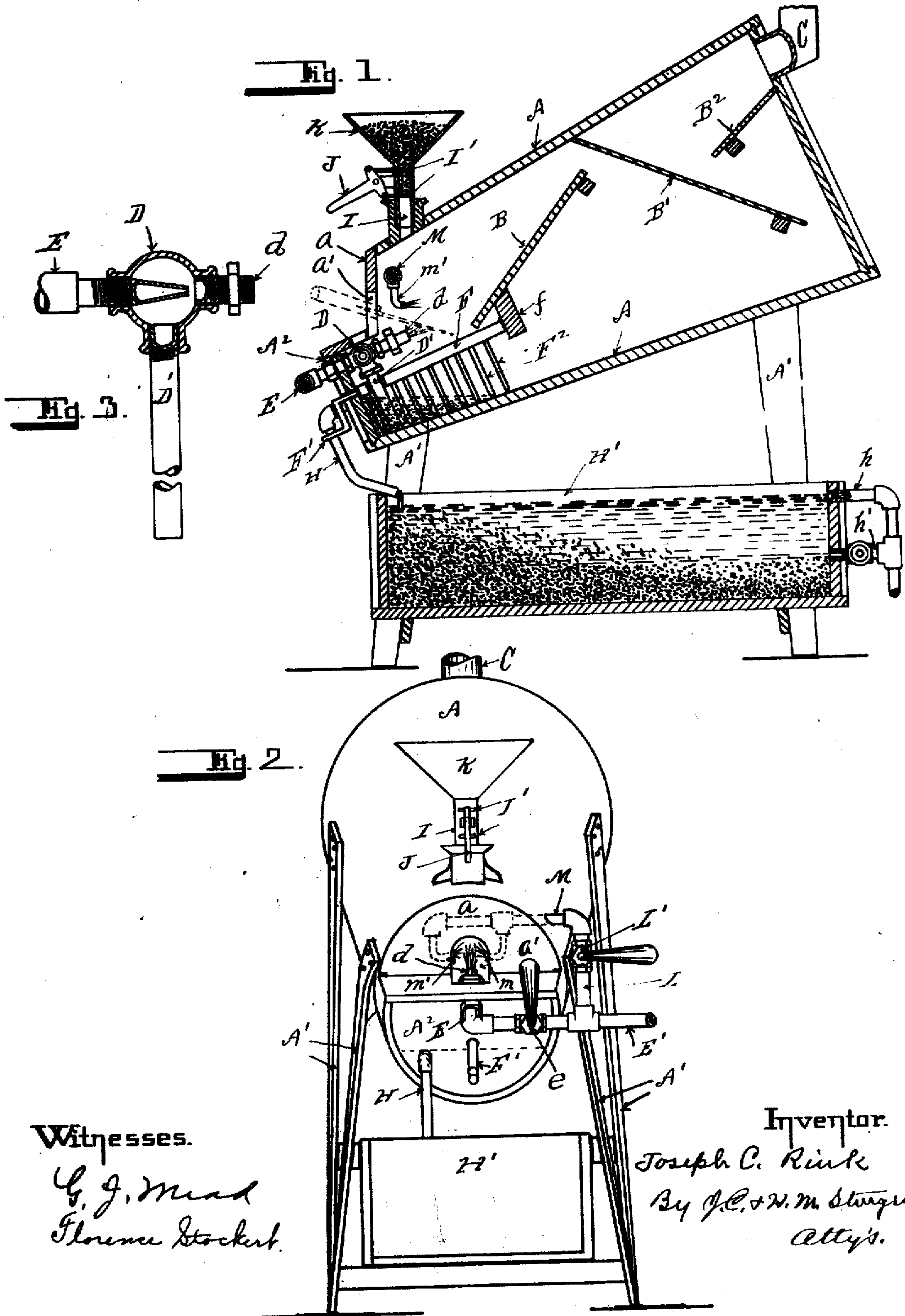


J. C. RINK.
FILE SHARPENER.
APPLICATION FILED JAN. 8, 1909.

Patented July 20, 1909.

928,331.



Witnesses.
G. J. Mead
Florence Stockert.

Inventor.
Joseph C. Rink
By J. C. & H. M. Sturgeon
Atty's.

UNITED STATES PATENT OFFICE.

JOSEPH C. RINK, OF ERIE, PENNSYLVANIA.

FILE-SHARPENER.

No. 928,331.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed January 8, 1909. Serial No. 471,273.

To all whom it may concern:

Be it known that I, JOSEPH C. RINK, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in File-Sharpener; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention relates to file-sharpener, and has for its object the construction of a mechanism operating to project an abrasive material, such as granulated carborundum mixed with fluid, by means of steam against the face of a file at such an angle that it operates to sharpen the teeth of a file.

The features of my invention are hereinafter set forth and explained, and illustrated in the accompanying drawings, in which:

Figure 1 is a central longitudinal section of an apparatus embodying my invention. Fig. 2 is a front end view thereof. Fig. 3 shows an enlarged detail view of one feature of my apparatus.

In these drawings illustrating my invention, A is an inclosed case which is smaller at its front end than at its rear end, mounted on a frame A' with its front end considerably lower than its rear end, and is provided with baffle plates B, B' and B², and a steam outlet C at the top of the rear end thereof. The upper half *a* of the wall closing the front end of the case A, is provided with an opening *a'* and under the base of said opening *a'* there is an extension A² of the case A, and in this extension A² there is a siphon or steam injector D, the nozzle or jet opening *d* of which extends inward under the opening *a*, the steam supply pipe E extending outward through the end of the part A² of the case A, where it is provided with a shut-off valve *e* and extending therefrom is a suitable steam supply pipe E', and the suction pipe D' of said injector extends downward from the injector D substantially to the bottom of the case A.

In the lower part of the front end of the case A, I mount a rock-shaft F one end of which is mounted in a bearing *f* in the case A, and the other extends through the end of the projection A² on the case A, where it is

provided with an operating crank F', and on this rock-shaft F there are downwardly projecting fingers F² which extend downward nearly to the bottom of the front portion of the case A, so that by operating the rock-shaft F the abrading material in the bottom of the front end of the case A where it accumulates by reason of the inclination thereof, can be kept stirred up in suitable condition to be carried upward by the injector suction pipe D'.

Through the end A² of the case A there is an overflow pipe H which determines the height of the water level in the case A, the surplus water and abrading material mixed therewith flowing through the pipe H into a settling tank H' mounted in the base of the frame A'. This tank is also provided with an overflow pipe *h* and a pipe *h'* for drawing off the water when it is desired to remove the accumulated abrading material from said tank H'. For supplying fresh abrading material to said apparatus, I insert an upright pipe I in the case A, substantially directly above and slightly in front of the discharge nozzle *d* of the injector D so that material falling from said pipe I will fall in the line of the steam jet issuing from the nozzle *d*. This pipe is provided with sliding valves I' having an operating handle J by means whereof the valves I' can be operated so as to close one and open the other, whereby a fixed amount of abrading material can be discharged at each movement of the valves I'. And on the top of the pipe I there is a hopper K to retain a supply of abrading material.

From the steam supply pipe E a pipe L extends upward and is provided with a shut-off valve L'. Extending from the valve L' there is a pipe M which extends into and partially across the upper part of the case A where it is provided with steam jet openings *m m'* pointing toward each other and across the upper part of the opening *a* in the case A, so that a file after being submitted to the action of the abrading material issuing from the nozzle *d* can be raised up in line with the steam jets *m* and *m'* and be cleaned.

Having thus described my invention so as to enable others to construct and utilize the same, what I claim as new and desire to secure by Letters-Patent is:

1. The combination in a file sharpening apparatus, of an inclined case having an opening in the upper part of its lower end,

and a steam discharge opening near its upper end, a series of rigid deflectors in the upper part of said case, an extension on the lower end of said case below the opening
5 therein, an injector within said extension, a suction pipe leading from said injector substantially to the bottom of the lowermost part of the extension on said case, and steam-jet pipes operating toward each other across
10 the upper part of the opening in the lower end of said case, substantially as set forth.

2. The combination in a file sharpening apparatus of an inclined casing, rigid deflectors in the upper part of said casing, an
15 injector in the lower part of said casing

operating toward the first of said deflectors, a suction pipe leading from said injector to the lower part of said casing, a pipe in the upper part of said casing for discharging
20 abrading material into said case in front of the injector nozzle, and valve mechanism in said pipe to control the discharge of abrading material therefrom, substantially as set forth.

In testimony whereof I affix my signature, 25
in presence of two witnesses.

JOSEPH C. RINK.

Witnesses:

H. M. STURGEON,
THOS. C. MILLER.