

J. MIOTKE.
 FILING DEVICE FOR SCRAPER BLADES.
 APPLICATION FILED DEC. 7, 1908.

951,961.

Patented Mar. 15, 1910.

2 SHEETS—SHEET 1.

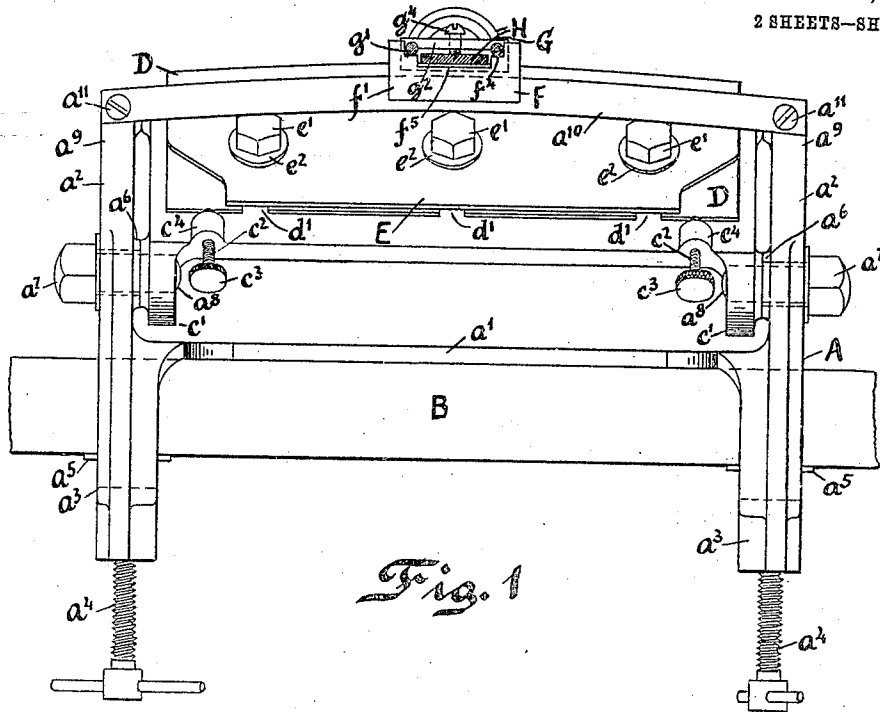


Fig. 1

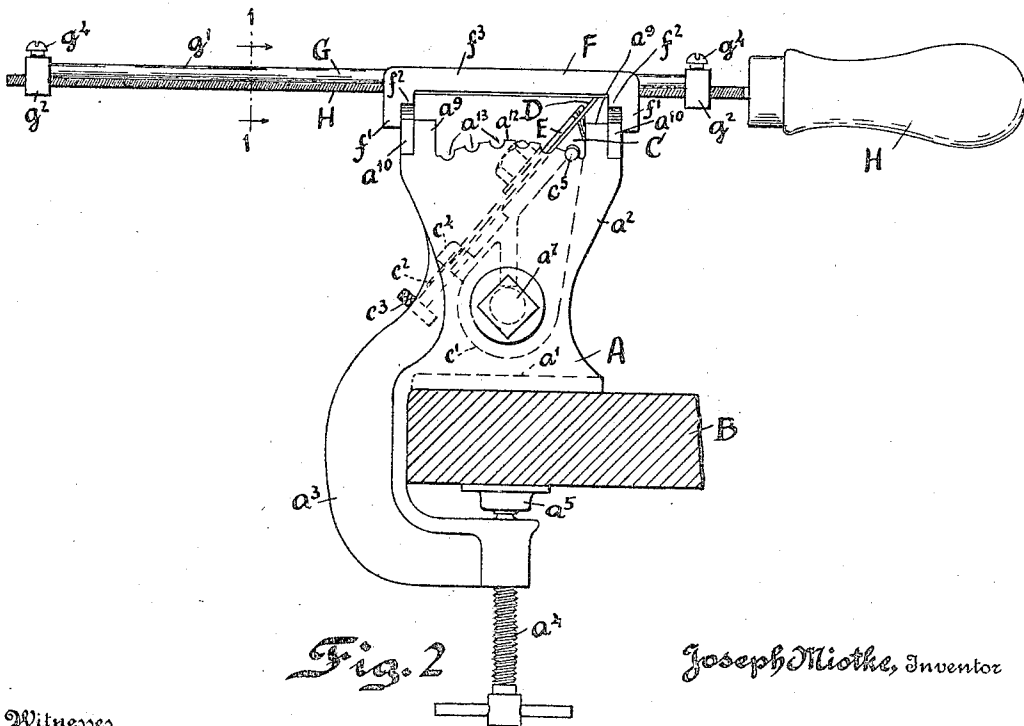


Fig. 2

Joseph Miotke, Inventor

Witnesses

Jos. Miotke
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George Wetmore Allen
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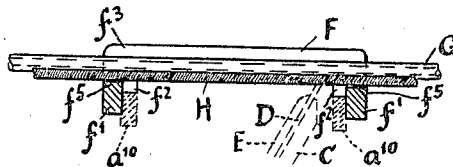


Fig. 3

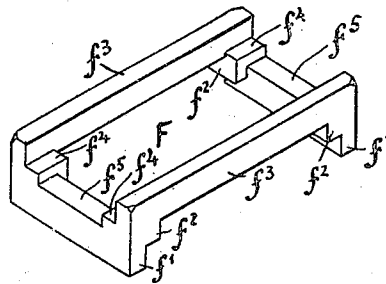


Fig. 4

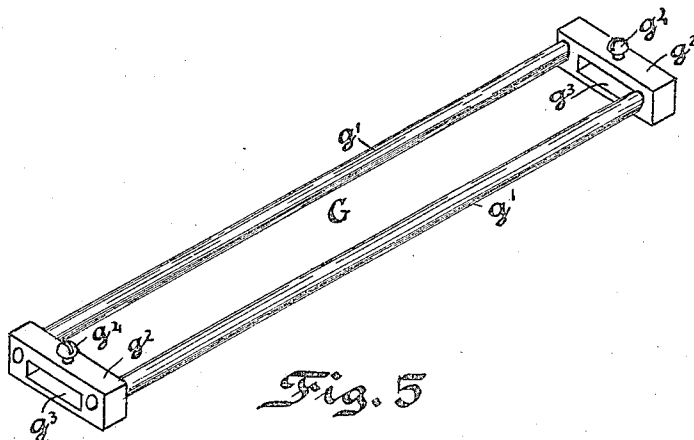


Fig. 5

Joseph Miotke, Inventor

Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH MIOTKE, OF MILWAUKEE, WISCONSIN.

FILING DEVICE FOR SCRAPER-BLADES.

951,961.

Specification of Letters Patent.

Patented Mar. 15, 1910.

Original application filed June 29, 1907, Serial No. 381,558. Divided and this application filed December 7, 1908. Serial No. 466,203.

To all whom it may concern:

Be it known that I, JOSEPH MIOTKE, of Milwaukee, Wisconsin, have invented a Filing Device for Scraper-Blades, of which the following is a specification.

The ordinary floor-scraper as at present in use, has, as is well understood, a blade whose cutting edge is directed at an angle, ordinarily a right angle, to the plane of the blade itself; in other words, it has what is known as a turned edge. The sharpened edge of the scraper, which is turned at an angle to the plane of the blade, is only a minute fraction of an inch in width, and therefore cannot be formed once for all upon the blade, since it soon becomes worn off in use and requires to be re-formed; and for this purpose it is necessary to first sharpen or edge the blade in the original plane thereof, and then to turn said sharpened edge, without dulling the same, to the requisite angle. Practice has shown that this is a most difficult operation, requiring the utmost skill in order to get a perfectly smooth and evenly directed edge without chipping off little pieces, or dulling it; and that to form this edge with the ordinary tools is entirely beyond the skill of the ordinary workman employed to use the scraper. Now as the scraper-blade requires frequent resharpening and as the scrapers themselves are frequently, or rather to say generally, used far from any machine-shop, perhaps hundreds of miles from a place where skilled workmen could be procured to sharpen the blades, it does not avoid the difficulty to provide the worker with an extra supply of blades, and as the workman's own skill is almost invariably insufficient to form a proper edge upon the blade which will enable satisfactory work to be done, this has amounted in a majority of instances hitherto to a practical prohibition of the use of the scraper altogether in planing and smoothing floors after being laid.

It is the object of this invention, taken in connection with the sharpening and setting device which forms the subject of my co-pending application No. 381,558, filed June 29, 1907, of which this application is a division, to overcome these difficulties by providing an apparatus by which scraper-blades at all times can be sharpened by any one, without any expert skill or knowledge of the subject, and thus bring the sharpening proc-

ess within the reach of the average workman; thereby in turn extending the use of the wheeled floor-scraper (a device of very recent origin) over a field of use many times as large as at present.

I further aim to provide such a device as will enable scraping-blades to be sharpened not only by unskilled labor, but also in a period of time (amounting to 4 or 5 minutes) insignificant in comparison with that which is required when they are sharpened as usual heretofore, thus saving a vast amount of time to the workman employed, since these blades require very frequent sharpening in order to do good work. And I further aim to produce such a device as will, besides accomplishing the object hereinabove mentioned, enable an edge far more perfect and smooth, sharp and regular, to be produced upon the scraper blades, than is possible in carrying out the ordinary method of sharpening.

The present invention is limited to the filing or rough-sharpening portion of the sharpening operation and consists generally speaking of a frame made in two main parts, one of which is provided with a clamping device for holding blades during the filing or like sharpening operation and the other with a set of guides arranged to hold the tool in the proper position and permit it to move back and forth over the edge to be sharpened.

For the better understanding of my invention I have illustrated the same in concrete form in the accompanying drawings wherein,

Figure 1 is a front view of one form of my device showing the file and holder in position for use and in section on the plane 1 of Fig. 2; Fig. 2 is an end elevation thereof from the right of Fig. 1 illustrating the filing operation; Fig. 3 is a longitudinal central section through the file-guide or bridge and file-holder, the file being shown in elevation; Fig. 4 is a perspective view of the filing-slide or bridge; and Fig. 5 is a perspective view of the file-holder.

In these drawings every reference letter and numeral refers always to the same part.

The device as shown in the first form consists of a main frame-piece A having a flat base-plate a' at whose extremities are upright standards a^2 with a pair of clamping arms a^3 , which extend around the edge

of a table or work-bench B on which the device is mounted and are adapted to clamp it firmly thereto by means of clamping-screws a^4 provided with abutment pieces a^5 loosely mounted on their ends, said clamping-screws being screwed up firmly to the under side of the table or bench B. Instead of the clamping-arms or screws, any other suitable means may be substituted for attaching the member A permanently or removably to the table or bench B and is consistent with my invention.

The standards a^2 are provided with screw bosses a^6 receiving pivot-screws a^7 , whose ends a^8 are reduced to form bearings for the hubs c' of the rotatable member C which is pivoted upon said screws. Said member C has an oblique upper surface to which is clamped the scraper-blade D which is to be sharpened, by means of a clamping-plate E and cap screws e' , provided with washers e^2 and passing through holes in the plate E and engaging threaded sockets in the member C as clearly shown in Fig. 1. The screws e' do not pass through holes in the scraper-blade D but through slots d' which are generally provided in such blades for setting them in the scraper to permit of the blade being adjusted to take up wear. This enables the blade to be likewise moved forward in the holder as it becomes worn down by frequent sharpening. To enable it to be set rapidly and correctly to project the proper amount, I may provide a pair of adjusting screws c^2 provided with milled heads c^3 and turning in threaded lugs c^4 on the holder C.

The standards a^2 of the member A are provided at their upper corners with projecting lugs a^9 to which are secured a pair of longitudinal curved guide-bars a^{10} by means of screws a^{11} or in any other suitable fashion. The guide-bars are parallel and connect the two standards at the front and back, and they are made curved to fit the proper curvature of the working-edge of the scraper-blades.

The member C is made pivoted with respect to member A for purposes not connected with the filing-means which form the subject of this application, and the purpose thereof and of the circular arc a^{12} , notches a^{13} , and pins c^5 coöperating therewith, is not essential to the filing means and is described in connection with my aforesaid application of which this is a division. So far as the filing means is concerned, the member C may be made stationary.

In connection with the device as above described, there is used a sliding-bridge F which is used as a guide for the file in the important operation of beveling the edge of the blade in the initial operation of sharpening. This member is shown in perspective in Fig. 4. It has a pair of side-

flanges f' which are properly spaced to fit on the outer sides of the guide-rails a^{10} , and rectangular projections f^2 in the corner form seats or rests which abut on the upper faces of the rails and slide thereon. The side-flanges f' are connected by cross-flanges f^3 , the distance apart of which corresponds with the spacing of the rails g' of the file-holder G, which is shown separately in perspective in Fig. 5. It is to be understood that the inner faces of the flanges f^3 are properly spaced to receive the bars g' between them without any unnecessary lateral motion or wobbling, and in this position the bars g' rest upon four raised rectangular projections f^4 at the corners of the member F, while between these projections the flanges f' are cut away as shown at f^5 to leave room for the file H, as will be best understood by considering Fig. 1, which shows an end-view of the sliding-bridge and a cross-section of the file and file-holder in position therein. The latter consists of a pair of transverse end-blocks g^2 united by the bars g' , and slotted out at g^3 to receive the file H, which passes therethrough and is clamped in place by set-screws g^4 . It will be observed that the lower faces of the slots g^3 are below the bars g' so that the active face of the file passes below said rods and the latter in consequence never come in contact with the edge of the scraper blade.

The operation of sharpening the blade is as follows: The blade being set up in the holder C and suitably adjusted therein by means of the screws c^2 , the slide-bridge F is placed upon the rails a^{10} , and the file H fitted in the file-holder G, the operator then places the file and holder between the longitudinal flanges f^3 of the bridge and reciprocates the file longitudinally in the ordinary manner of filing, moving it slowly along the edge until the blade is filed down substantially to the point where the file is moved without further action thereon. Then the edge is smoothed by a draw-filing operation, the file and bridge being moved along the rails a^{10} without moving the file in the bridge. This serves to give greater smoothness to the filed edge. After this the blade may be further smoothed by means of an ordinary oil-stone, one edge of which may rest on the rail a^{10} while the other rests on the blade, using it in the same manner as in filing, and the blade is then ready for the setting and turning operation, which is described in my aforesaid copending application.

While I have hereinabove shown the most improved form of my invention, I wish it understood that not all of the features are essential thereto or necessarily made in the exact form shown, but various changes and modifications in the constructions as herein

shown may be made without departing from the spirit of my invention, and I wish it understood therefore that the latter is not otherwise limited than by the reasonable scope of my claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A device of the class described comprising, in combination, means for holding a scraper-blade in a relatively fixed position, one or more guides parallel to said blade, a sliding-member engaging said guide or guides and acting itself as a guide for a tool moving over the edge of said blade, and a tool-holder engaging said sliding-member and having a sliding movement thereon transverse to said blade.

2. A device of the class described comprising, in combination, a blade-holder, and a pair of parallel guide-bars on opposite sides thereof and adapted to guide a tool in contact with the edge of a blade held by said holder, said holder and bars being fixed as regards relative longitudinal movement.

3. A device of the class described comprising, in combination, a blade-holder, and a pair of parallel guide-bars on opposite sides thereof and adapted to guide a tool in contact with the edge of a blade held by said holder, said guide-bar having a curved form corresponding to the curved edge of the blade to be sharpened.

4. A device of the class described comprising, in combination, a blade-holder adapted to hold a scraper-blade, a pair of parallel guide-bars on either side thereof, and a sliding-bridge adapted to slide longitudinally on and guided by said bars, said bridge forming a rest for a tool adapted to operate on the edge of the blade held in said holder.

5. A device of the class described comprising, in combination, a blade-holder

adapted to hold a scraper-blade, a pair of parallel guide-bars on either side thereof, a sliding-bridge adapted to slide longitudinally on and guided by said bars, said bridge being open in the center and forming a rest for a tool placed thereon and contacting with said scraper-blade in the central opening of said bridge.

6. A device of the class described comprising, in combination, a blade-holder adapted to hold a scraper-blade, a pair of guide-bars on either side thereof, a sliding-bridge resting on said guide-bars and sliding longitudinally thereon and a tool-holder adapted to hold a tool in position to operate on the edge of a scraper-blade held by said blade-holder, said tool-holder resting on and being guided by said sliding bridge and having a transverse sliding motion relative to the edge of said blade.

7. A device of the class described comprising, in combination, a blade-holder, means for guiding a sliding-member along the edge of a blade held in said holder, a sliding-member engaging said guiding means, said sliding member having ways for guiding a tool-holder in a movement transverse to said blade; and a tool-holder comprising a pair of longitudinal bars united by transverse-blocks at the ends, said bars being adapted to slide in the ways of said sliding-member, said blocks having apertures for receiving a tool such as a file and means for clamping it therein, the surface of said tool when so positioned lying below said bars and thereby contacting with the edge of the blade while said bars are out of contact therewith.

In witness whereof I have hereunto set my hand this fourth day of December, 1908.

JOSEPH MIOTKE.

Witnesses:

GEORGE W. COLLES,
EMIL WALLBER.