A. L. MYERS.

EDGE TURNING TOOL FOR SCRAPER BLADES.

APPLICATION FILED MAR. 11, 1907.

929,690. Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

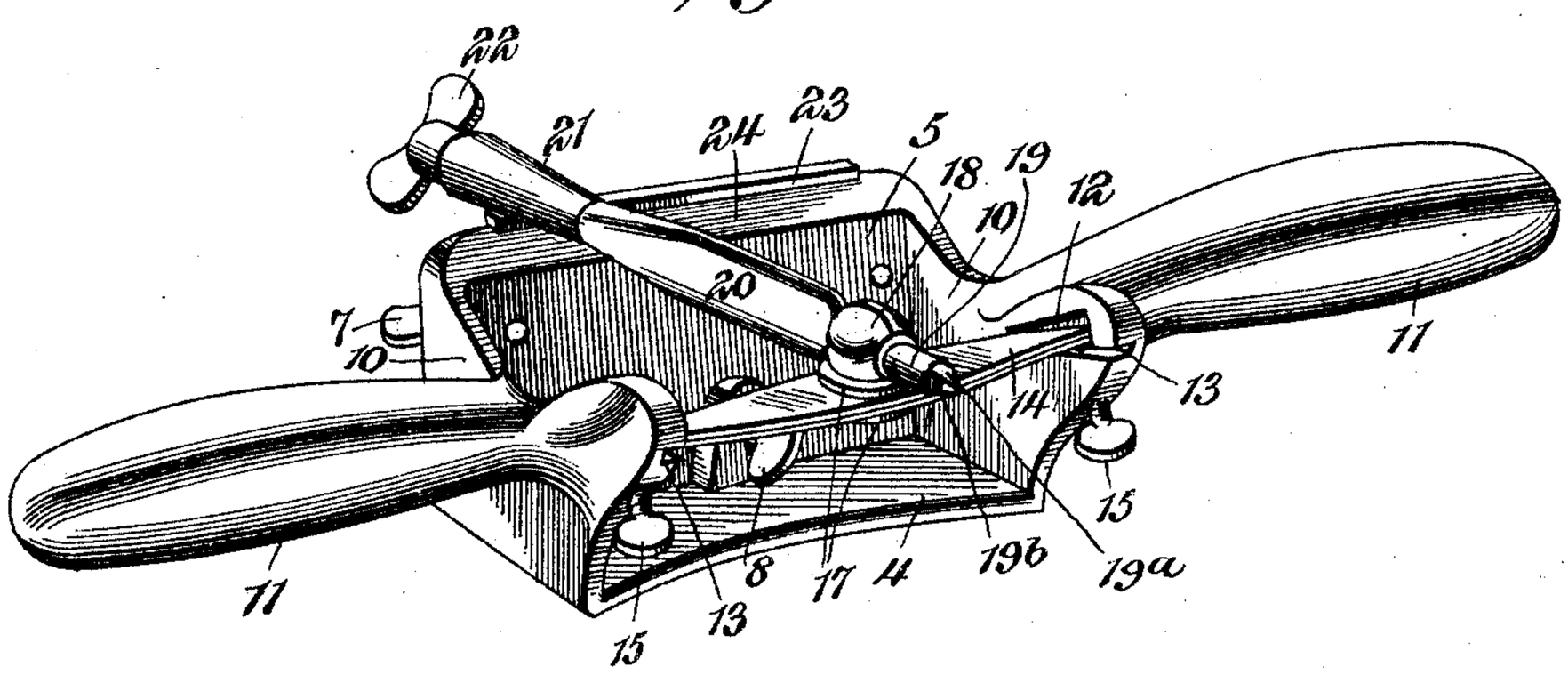
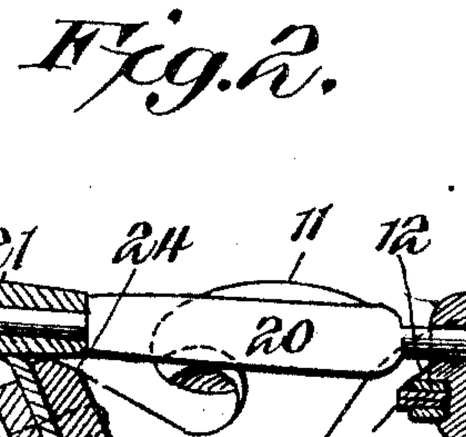


Fig. 2.

Fig. 3.



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2 SHEETS—SHEET 2.

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Fig. 4.

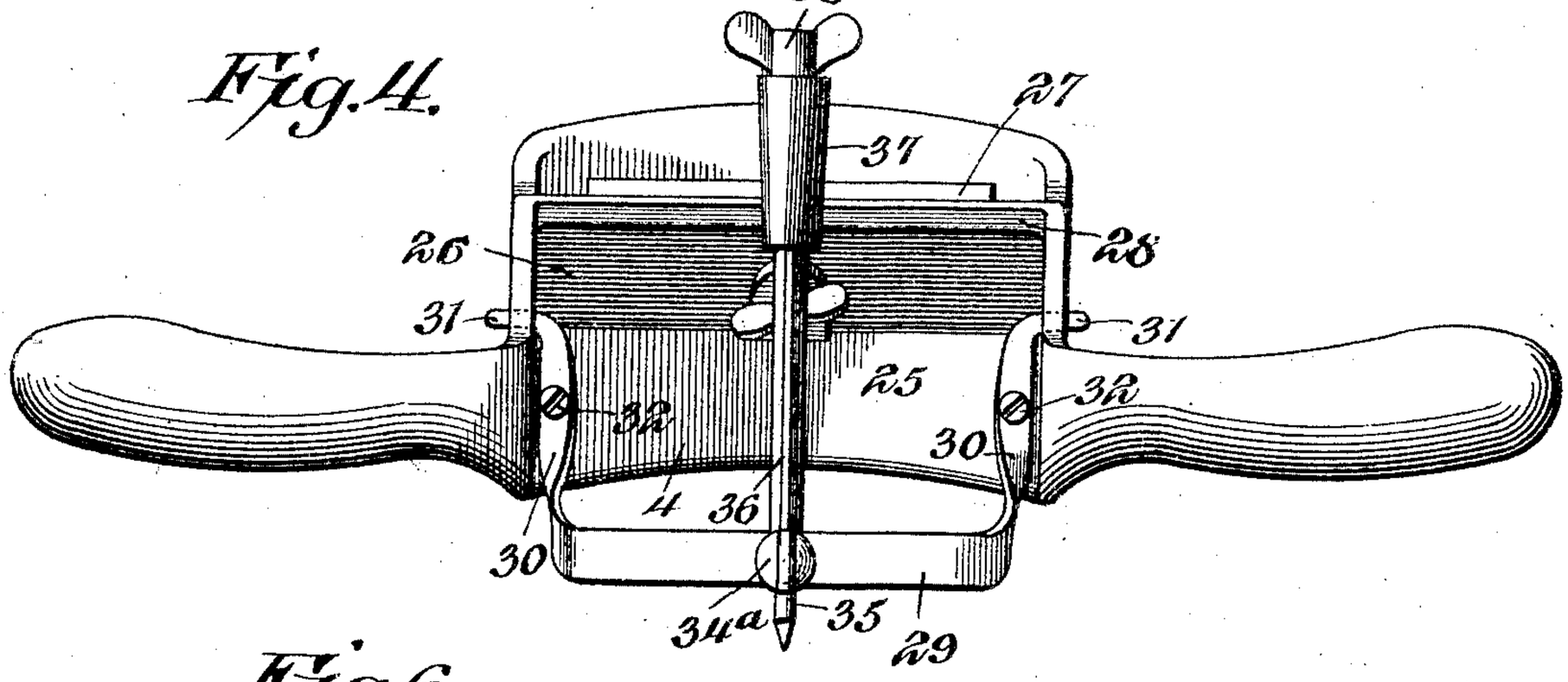


Fig. 6.

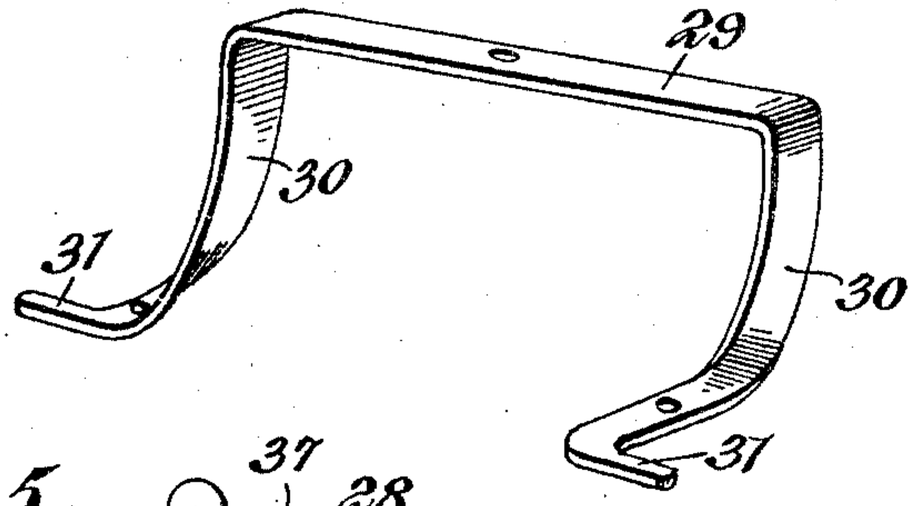
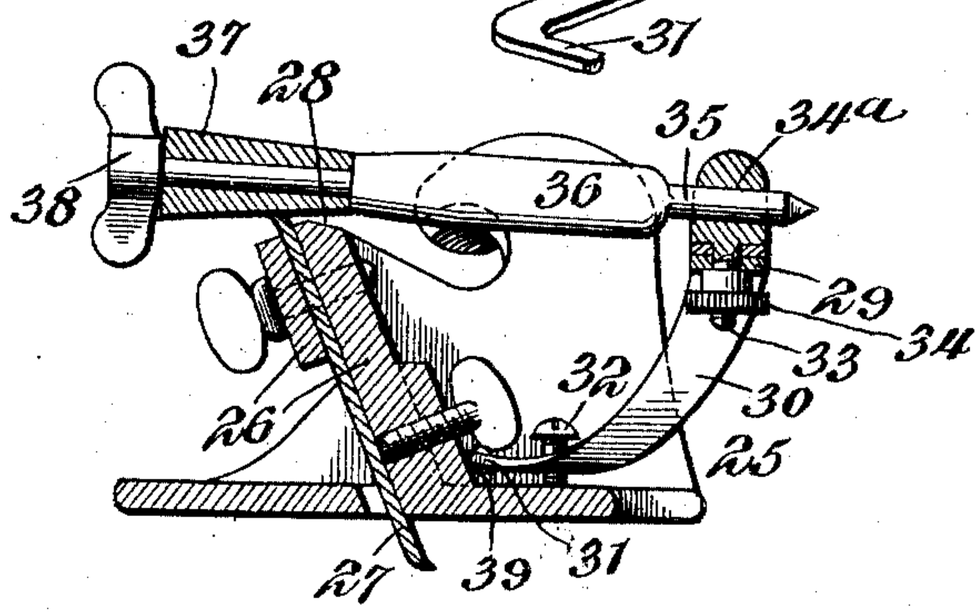


Fig. 5.



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UNITED STATES PATENT OFFICE.

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EDGE-TURNING TOOL FOR SCRAPER-BLADES.

No. 929,690. Specification of Letters Patent. Patented Aug. 3, 1909.

Application filed March 11, 1907. Serial No. 361,820.

To all whom it may concern:

Be it known that I, ALLEN L. MYERS, a citizen of the United States, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented a new and useful Edge-Turning Tool for Scraper-Blades, of which the following is a specification.

As is well known to those skilled in the art, in order to secure the highest degree of efficiency in tools employed for scraping floors, veneer, and other material, the scraping edge of the blade must be turned or bent at a particular angle when a blade is secured in place in the scraper body. This so far as I know, has heretofore been done by hand, and it requires long practice and efficiency to accomplish the same properly. Moreover, an expert workman will not on an average turn the edge correctly more than seven times out of ten.

The primary object therefore of the present invention is to provide means, whereby the scraping edge of a scraper blade may be quickly and properly turned without the necessity for the high degree of skill heretofore essential.

A further object is to provide means which may be made a part of the scraper or separate therefrom, or in the form of an attachment capable of application to practically any of the well known scrapers now on the market.

Two of the preferred embodiments of the invention are illustrated in the accompanying drawings, wherein:—

Figure 1 is a perspective view of the turning mechanism applied to the scraper. Fig. 2 is a cross sectional view therethrough. Fig. 3 is a detail sectional view through the mounting of one of the spring ends. Fig. 4 is a plan view of a slightly modified form of construction, showing the invention in the shape of an attachment. Fig. 5 is a vertical sectional view therethrough. Fig. 6 is a detail perspective view of the spring.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated, the tool frame consists of a base plate 4, from one edge of which rises a blade clamping plate 5 that is associated with another blade clamping plate 6 held thereto by set screws 7. A blade adjusting screw 8 is threaded through the plate 5 below the plate 6, and the base 4 has a slot 9 disposed alongside the outer face of the plate 5. Ears 10 are formed in the angles at the ends of the plates 4 and 5, and are integral with said plates, said ears being provided with outstanding handle grips 11.

The inner sides of the ears 10 are provided with tapered recessed seats 12 having slots 13 that open through the rear ends of the ears. A leaf spring 14, preferably formed of a plurality of leaves, has its ends engaged in the seats 12, said ends being removable through the slots 13. Tension varying screws 15 are threaded through the edges of the ears and bear against the outer margins of the ends of the spring that are in the seats 12. A stud 16 is journaled in the central portion of the spring, washers 17 being located on said stud on opposite sides of the spring. The upper end of the stud carries an eye 18, and rotatably mounted in said eye, is the gudgeon 19 of a turning arm 20 that is thus capable of a swinging movement over and longitudinally of the clamping plates 5 and 6. The end 19^a of the gudgeon is tapered and angular to produce edges 19^b. A roller 21 is journaled on the outer portion of the arm 20, and is held in place by a thumb nut 22. It will be observed that this roller tapers toward its inner end.

In using the edge-turning mechanism, the blade 23 having its edge first sharpened at the proper bevel is clamped as shown, between the plates 5 and 6, the bevel 24 at the upper edge of the plate 5 being provided for the purpose of a guide in securing said proper bevel, and furthermore eliminating any chance of the plate 5 being disposed in the path of movement of the roller 21. Having positioned the blade in the holding means or clamp, one of the edges 19^b of the tapered end of the gudgeon 19 is then moved along the edge of the blade to turn back the wire edge, after which the gudgeon is engaged in the post 18 and the arm 20 is swung so that the roller 21 will ride longitudinally upon the sharpened edge. This action will turn or bend said edge at an angle with the main portion of the blade, thus placing it in proper tension for scraping. Different classes of work, however, require the edges of the blades to be turned to a greater or less degree. For instance, floor scrapers must have a well defined turned edge, while for veneer, the edge should be lighter. To provide for this, the tension of the spring can be varied by adjusting the

screws 15 in or out. As a result, the ends of the spring will be held at different angles with respect to the arm when the roller is operating on the edge of the blade, and the spring being twisted upon its longitudinal axis, during the travel of the roller, the tension upon such roller can thus be varied as will be evident. While the roller 21 is believed to be effective, experience has demonstrated that it is not necessary, and that an integral portion of the arm may be employed for engaging the blade to turn the edge thereof. When employed, however, the tapered shape is of considerable importance, as it insures the proper turning of the edges of the blade uniformly throughout the length thereof.

The structure disclosed in Figs. 1, 2 and 3 is particularly intended as a part of the manufactured article, but the invention may be in the form of an attachment applicable to substantially any type of scraper. Thus in Figs. 4 and 5, a scraper 25 of any desired character is illustrated, and is provided with a pair of clamping plates 26 arranged to hold the blade 27. The upper portion 28 of the inner plate is beveled to determine the angle of the edge of the blade 27 when the same is sharpened. The spring support in the present case comprises a substantially flat leaf 29 having depending offset arms 30 provided with pintles or gudgeons 31. Through the arms are preferably passed adjusting screws 32. A stud or post 33 is journaled in an intermediate portion of the leaf spring 29, and has a thumb nut 34 threaded on its lower end. The upper portion of the stud has an eye 34ª in which is mounted the pointed gudgeon 35 of an arm 36. A tapered roller 37 is journaled on the arm, and is held in place by a suitable thumb nut 38. In attaching a device to the scraper 25, holes or seats as 39 are bored in the ears of said scraper, and the gudgeons 31 are sprung into the same. It will thus be evident that the edge of the blade 27 can be turned in the same manner as in the first described embodiment of the invention, and the tension of the spring can be readily varied by adjusting the screws 32 or loosening the thumb nut 34.

From the foregoing, it is thought that the construction, operation, and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. The combination with a scraper body, of a device movably mounted on the body and adapted to operate on the edge of a scraper blade, and means for clamping a scraper blade to the body with one edge in position to scrape and with the other edge in a position to be operated on by the edge engaging device.

2. The combination with a scraper body having a bottom, of an edge turning device movably mounted on the body and operating over the upper portion thereof, and clamping plates carried by the body for securing a blade with one edge thereof projecting below the bottom, in a position to scrape, and the other projecting above the body in the path of movement of the edge turning device.

3. In an implement of the character set forth, the combination with a support, of a torsion spring mounted on the support, an edge-turning device movably mounted on the spring and producing torsion of said spring upon its movement, and means for holding a blade with the edge thereof in the path of movement of the edge-turning device, said spring by its torsional action holding the edge-turning device in operative engagement with the edge of the blade.

4. In an implement of the character set forth, the combination with a support, of a leaf spring having its ends secured against movement to the support, an edge-turning arm movably mounted on an intermediate portion of the spring and effecting the torsion of the spring on its movement, and clamping means for securing a blade with the edge thereof in the path of movement of the edge-turning arm, said arm being held in coaction with the blade by the torsion of the spring.

5. In an implement of the character set forth, the combination with blade holding means, of a spring, a stud journaled in the spring, and a movable edge-turning device having one portion mounted on the stud and another portion that operates on a blade secured by the holding means, and is held in engagement with the blade by the spring.

6. In an implement of the character set forth, the combination with blade holding means, of a leaf spring secured at its ends, a stud journaled in the central portion of the spring, and a swinging arm mounted in the stud and swinging across the blade holding means, said spring holding the arm in coöperation with the blade secured by said means.

7. In an implement of the character set forth, the combination with a frame having a blade holding clamp, of a leaf spring having its ends secured to the frame, and an arm journaled in an intermediate portion of the spring and capable of swinging across the clamp to turn the edge of a blade secured thereby, and being held by said spring in engagement with the blade.

8. In an implement of the character set

forth, the combination with a frame comprising plates, one of said plates having spaced rearwardly extending ears, a leaf spring having its ends engaged in the ears, a stud journaled in the leaf spring, and an arm having a bearing in the stud, said arm having a portion that operates across the clamp plates, and is held by the spring in engagement with the device secured by the plate.

9. In an implement of the character set forth, the combination with a frame comprising blade clamping plates, one of said plates having spaced rearwardly extending ears, said ears being provided with seats, a leaf spring having its ends engaged in the seats, adjusting screws engaging the ends of the spring, a stud carried by an intermediate portion of the spring, and a swinging arm mounted in the stud, and capable of swinging across the blade clamping plates to turn the edge of a blade clamped by said plates.

10. In an implement of the character set forth, the combination with a spring having means for engaging with the bottom of a scraper, of a swinging arm, and a pivot for the arm engaged with the spring, said spring constituting means for holding the arm in coaction with the blade of the scraper.

11. In an implement of the character set forth, the combination with a spring having means for engaging with the body of the scraper, of a stud journaled in the spring and having an eye, and a swinging edge-turning arm having one end engaged in the eye and the other end provided with edge-turning means, said spring holding the edge-turning means in coaction with the scraper blade.

12. In an implement of the character set forth, the combination with a movable arm, of a roller journaled on the arm and having its axis of rotation disposed longitudinally thereof, means for securing a blade with the edge thereof in the path of movement of the roller, and means for yieldingly urging the arm toward the securing means.

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

ALLEN L. MYERS.

Witnesses:
O. H. Scott,
Thomas C. White.