To all whom it may concern:

Be it known that I, CHARLES L. JOY, a citizen of the United States, and a resident of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Skate-Runner-Grinding Fixtures, of which the following is a specification.

My invention relates to fixtures or attachments for grinding the sides of skate-runners; and it consists in certain details of construction to be more particularly set forth in the following specification.

To enable others to understand my invention, reference is had to the accompanying drawings, in which—

Figure 1 is an upper broken plan view of a grinding-machine, upper plan view of the traveling carriage therefor, fixture attached to the carriage for grinding the sides of skate-runners, and a broken view of a part of the mechanism for operating the carriage. Fig. 2 is a front elevation, looking in the direction of arrow a of Fig. 1, and broken view of the feed-screw. Fig. 3 is a rear end elevation of the carriage and skate-runner fixture looking in the direction of arrow b of Fig. 1, broken view of the carriage-supporting bracket, and sectional view of the feed-screw. Fig. 4 is a front side elevation of the skate-runner fixture and broken view of the carriage looking in the direction of arrow c of Fig. 1.

The fixtures for grinding skate-runners, which constitute my present invention, are adapted for use in connection with a carriage or other light traveling support for the fixtures and a grinding-wheel properly supported and driven. I have shown, however, in the several views a carriage and form of machine which I am now using for grinding cutlery, and also a portion of the reversing mechanism for the carriage, fully shown and described in a former application filed May 23, 1905, Serial No. 261,859, which mechanism, however, forms no part of my present invention.

1 represents the traveling carriage, reciprocally mounted on the support 2, which support is mounted on the bracket 3, projecting from the machine-bed 4. (Shown in Fig. 1.) 5 is a grinding-wheel mounted on the end of the spindle 6, which spindle is journaled in the standards 7 and 8, and 9 is the driving-pulley for the spindle 6.

12 is the feed-screw for reciprocating the carriage, and its projecting end 12a carries the necessary reversing-pulleys and clutch mechanism (not shown) for rotating said screw in either direction.

13, Figs. 1, 2, and 3, is the shipping-rod adapted to connect with the mechanism (not shown) on the projecting end of the feed-screw. 14 is the operating-handle for said rod, whereby the carriage is caused to travel in a forward direction, and when so moving the latch 15 will engage with the block 16 on rod 18 to lock said rod against endwise movement.

16 is a trip on the carriage 1, adapted to engage the latch 15 to release the same, and thus permit the carriage to be returned by means of the reversing mechanism (not shown) on the projecting end of the feed-screw.

17 is a block on the rod 13, adapted to be engaged by the trip 16 and bring the carriage to a standstill when it has reached its extreme rearward position.

The construction and operation of mechanism for holding the skate-runners while the sides are being ground are as follows: 18 is an upright having the rearward projections 18a resting on the upper surface of the carriage and is adjustably secured thereto by means of the screws 19. 20 is a vertically operated slide mounted on said upright. 21, Figs. 1, 3, and 4, is a convex-shaped former adjustably secured to the inside vertical face of the carriage-support 2 by means of the screws 22. 23 is a stud projecting from the slide 20, and it carries the roll 24, adapted to be kept in constant engagement with said former by means of the springs 25, interposed between the top of the slide 20 and the under side of the overhanging fingers 26, carried by the rods 27, which rods are adjustably secured to the upright 18. 28 is a skate-runner holder having the journals 29 and 30, supported in the bearings 31 and 32, secured to the slide 20. 33 is an adjusting-block carrying the screws 34 and 35 to engage threaded holes in support 32, and the ledge 34a, Fig. 4, whereby the skate-runner holder is tilted with respect to the grinding-wheel and the skate-runner 36. The tread portion of this runner rests on a narrow ledge 37 of the support 28, while the pins 38 and 39 serve to prevent longitudinal movement of the skate-runner while being ground. 40 and 41 are guide-rods rotatably mounted on the supports 42 and 43, which supports are adjustably mounted in
the ends of the studs 42 and 43, projecting from the carriage-support 2. When therefore, the skate-runner is properly located on its support, as shown at Fig. 1, the guide-roll 41 will keep the runner from tilting outward during a portion of the forward travel of the carriage. The forward travel of the carriage in the direction of arrow b will bring the outer vertical face or side of the skate-runner in contact with the grinding-wheel, and before the runner has left the guide-roll 41 the forward and ground end of the said runner will have engaged the forward guide-rolls 40. If the entire surface of the skate-runner has not been fully ground on the forward travel of the carriage, the grinding is completed on the return movement. The forward movement will do the rough grinding, and the return movement will finish the runner.

As before mentioned, the former 21 is adjusted for position with respect to the grinding-wheel, and the vertical upright 18 is adjusted longitudinally with respect to the former and also for the purpose of grinding different lengths of skate-runners.

When one side of the skate-runner has been ground, its position on the support of holder 28 is reversed to grind the opposite side, or it can be transferred to a similar machine for this purpose.

It will be understood that while I show rolls 24, 40, and 41 I hold myself at liberty to employ any other antifriction means of contact or even a plain stud or pin, if desirable.

I claim—

1. The combination, with a traveling carriage and a grinding-wheel, of a fixture for grinding the sides of skate-runners comprising a slide, a support therefor, said support mounted on the carriage, a skate-runner holder on said slide, a former located adjacent to the slide, means carried by the slide to engage with said former, for the purpose set forth.

2. In combination, with a traveling carriage and a grinding-wheel, of a fixture for grinding the sides of skate-runners comprising a slide, a support therefor, said support mounted on the carriage, a skate-runner holder on said slide, a former located adjacent to the slide, means carried by said slide to engage with the former, guides to maintain the skate-runner in position during the operation of grinding, for the purpose set forth.

3. The combination, with a traveling carriage and a grinding-wheel, of a fixture for grinding the sides of skate-runners comprising a slide, a support therefor, said support 60 adjustably mounted on the carriage, a skate-runner holder on the slide, a former adjustably located on a fixed support and in close proximity to said slide, means carried by the slide to engage the former and means for maintaining such engagement, guides to maintain the skate-runner in position during the operation of grinding, for the purpose set forth.

4. The combination, with a traveling carriage and a grinding-wheel, of a holder adapted to support a skate-runner while its sides are being ground, guides located in front of the skate-runner to maintain said skate-runner in position during the operation of grinding, for the purpose set forth.

5. The combination, with a traveling carriage and a grinding-wheel, of a slide mounted on the carriage, a skate-runner holder on said slide, a roll carried by said slide, a former located adjacent to said slide to be engaged by the roll, for the purpose set forth.

Signed at New Haven, in the county of New Haven and State of Connecticut, this 3d day of August, A. D. 1905.

CHARLES L. JOY.

Witnesses:

GEORGE A. TYLER,
CAROLINE STREIT.