

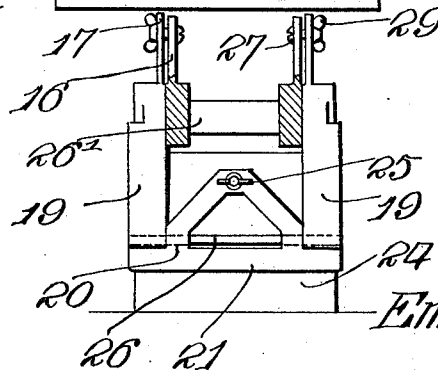
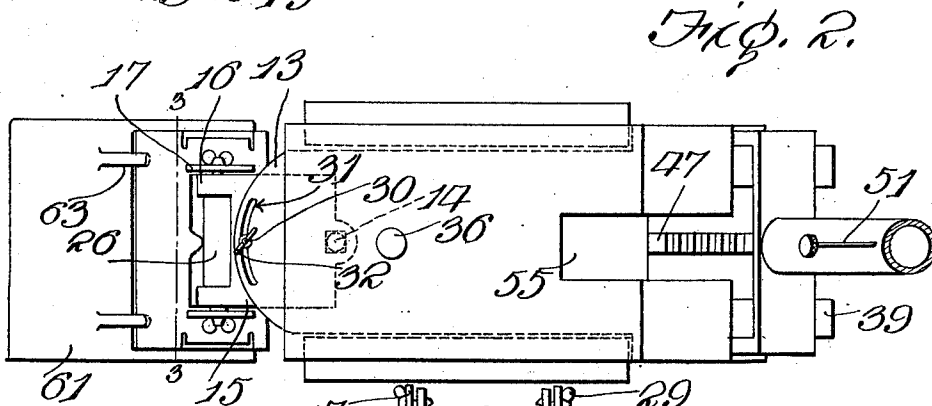
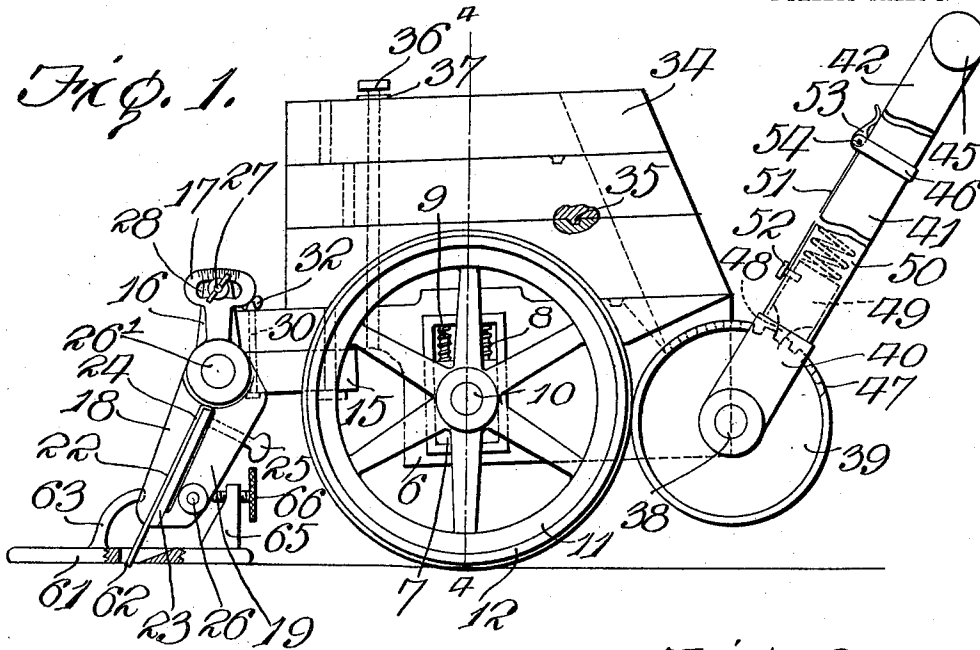
E. W. ANDERSON.
FLOOR SCRAPER.

APPLICATION FILED MAY 6, 1909. RENEWED APR. 3, 1911.

1,032,355.

Patented July 9, 1912.

2 SHEETS-SHEET 1.



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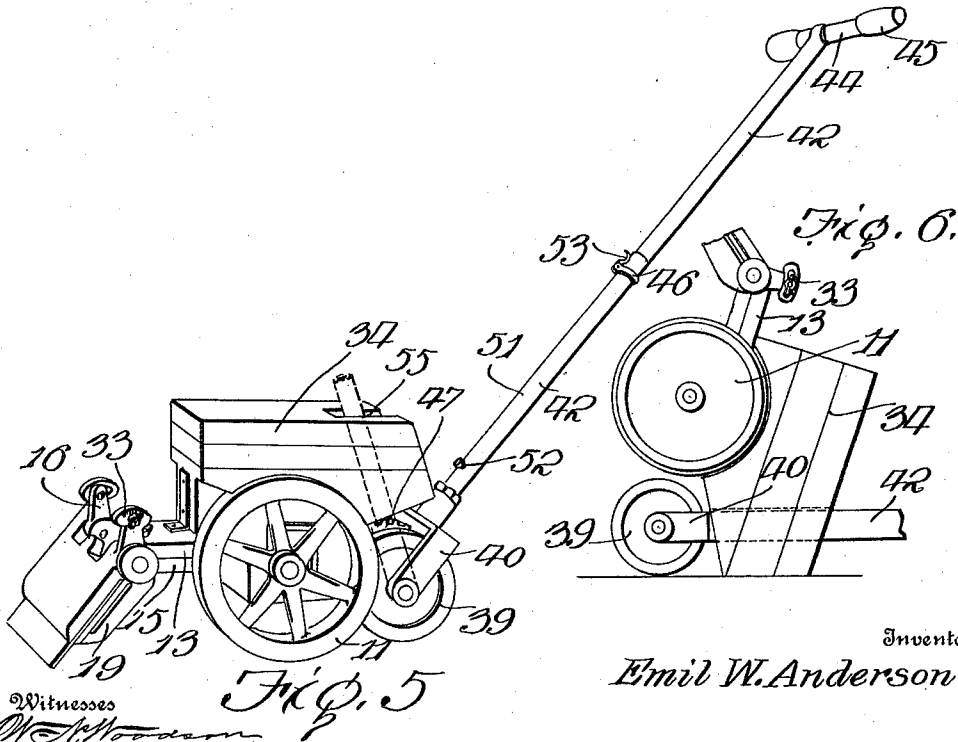
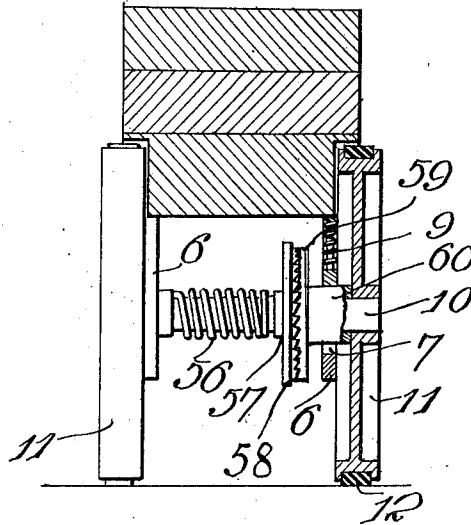
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2 SHEETS-SHEET 2.

Fig. 4.



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UNITED STATES PATENT OFFICE.

EMIL W. ANDERSON, OF MANISTEE, MICHIGAN.

FLOOR-SCRAPER.

1,032,355.

Specification of Letters Patent.

Patented July 9, 1912.

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To all whom it may concern:

Be it known that I, EMIL W. ANDERSON, citizen of the United States, residing at Manistee, in the county of Manistee and State of Michigan, have invented certain new and useful Improvements in Floor-Scrapers, of which the following is a specification.

This invention relates to floor scrapers, and has for its object to provide a strong, durable and thoroughly efficient device of this character by means of which a floor or other surface may be readily scraped and polished with very little exertion on the part of the operator.

A further object of the invention is to provide a scraper having a spring operatively connected with the axle thereof, said spring being placed under tension on the forward stroke of the machine and adapted to expand and assist in propelling the machine on the rearward or cutting stroke of the scraper.

A further object is to provide means for tilting the knife-carrying clamp at any angle or inclination with respect to the floor, and means for adjusting said knife-carrying blade laterally in a horizontal plane so as to produce a draw cut.

A further object is to provide improved means for connecting the operating handle to the body of the scraper whereby the latter may be tilted on one end when it is desired to sharpen the scraping or cutting blade.

A still further object is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Referring to the drawings: Figure 1 is a side elevation of a floor scraper constructed in accordance with my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 2. Fig. 4 is a similar view taken on the line 4—4 of Fig. 1. Fig. 5 is a perspective view of the scraper showing in dotted lines the position assumed by the handle when the latter is swung in the direction of the cutter clamp. Fig. 6 is a side elevation showing the scraper tilted rearwardly and the clamping blade in position to be sharpened.

The improved floor scraper forming the subject-matter of the present invention comprises a wheeled truck including a weight-supporting platform 5 having its opposite sides provided with depending extensions or

hangers 6 in which are mounted for vertical movement suitable bearings 7, the latter being normally and yieldably supported in the slots 8 of the hangers by means of coiled springs 9.

Journalled in the bearings 7 is a transverse shaft 10 carrying truck wheels 11, these truck wheels being provided with rubber tires 12 seated in suitable grooves formed in the rims of the wheels, as shown. The forward end of the platform 5 is extended longitudinally beyond the adjacent truck wheels 11 to form a tongue 13 to which is pivotally connected at 14 a coupling member or head 15. The free end of the coupling member 15 is bifurcated to produce spaced vertically disposed ears 16 adapted to register with corresponding ears 17 formed on the knife-carrying clamp indicated by 18. The knife-carrying clamp 18 comprises front and rear sections, one of which terminates short of the other and is provided with spaced arms 19 between which is fitted the reduced extension 20 of a pivoted knife clamp 21. The rigid front and rear sections of the knife-carrying clamp are spaced apart to form an intermediate compartment 22 adapted to receive a removable plate 23, the latter being adapted to bear against and clamp the scraping blade 24 in position on the member 18 when the adjusting screw 25 is rotated. A pin 26 forms a pivotal connection between the arms 19 of the member 18 and the reduced extension 20 of the clamp 21, thereby to permit the latter to be forced into engagement with the plate 21 to effect the clamping of the scraper blade 24. The screw 25 is threaded into an opening in the extension 20 with its inner end bearing against the adjacent end of the plate 23, so that by rotating the screw 25 the upper end of the plate will be forced into engagement with the blade 22 while the lower end of the clamp 21 will be tilted laterally into engagement with the lower end of the plate and thus exert a uniform pressure on the latter throughout its entire length, thereby to prevent accidental displacement of the scraping blade. A transverse pin 26' extends through aligned openings in the ears 16 and 17, so as to permit the blade-carrying clamp to be tilted on the pin 26' to different angular positions with respect to the surface of the floor, according to the angle of inclination of the cutting edge of the scraper, said

clamp being locked in adjusted position by means of threaded pins or screws 27 extending through segmental slot 28 formed in the ears 17 and engage suitable wing nuts 29.

5 The inner ends of the screws or bolts 27 engage correspondingly threaded apertures in the ears 16 of the coupling member 15, the slots 28 serving to accommodate the shanks in the bolts when the clamp is tilted laterally.

10 As a means for adjusting the knife-carrying clamp laterally in a horizontal plane so as to produce a draw cut, there is provided a screw or similar fastening device 30 the lower end of which is threaded in the coupling member or head 15 while the upper end thereof projects through a segmental slot 31 formed in the extension or tongue 13 of the weight receiving platform.

20 A winged nut 32 engages the upper end of the clamping bolt 30 and bears against the adjacent surface of the tongue 13 for the purpose of securing the clamping member 18 in different positions of angular adjustment with relation to the truck wheel 11.

25 Thus, it may be seen that by adjusting the winged nuts 29 the clamping member 18 will be tilted laterally on the pivot pin 26 to raise or lower the cutting blade while by

30 rotating the clamping nut 32 and swinging the tongue 15 laterally in a horizontal plane the active or cutting edge of the blade 22 may be disposed at an angle to the forward edge of the truck to produce a draw cut when desired.

35 The walls of slots 28 are preferably graduated as indicated at 33 for registration with a suitable index on the ears 17 so that the angle or inclination of the clamp 40 18 may be readily ascertained by the operator.

Mounted on the platform of the truck are a plurality of superposed weights 34 each provided with a tongue or lip 35 adapted to enter a correspondingly shaped recess formed in the adjacent weight, thereby to prevent accidental displacement of the weight when the scraper is caused to travel over a floor or other surface. The weights 50 30 are removable and are maintained in position on the platform 5 by means of a bolt 36 having a flange or collar 37 which bears against the upper surface of the adjacent weight 34 as best seen in Fig. 1.

55 Arranged at the rear end of the platform 5 is an axle 38 carrying relatively small wheels or rollers 39 which latter serve to support the weight of the truck on the forward movement of the latter. Pivotaly 60 mounted on the opposite ends of the axle 38 is a yoke 40 having a socket 41 secured thereto which receives the lower section 42 of an operating handle, the upper section 43 of said operating handle being telescoped 65 within the lower section 42 and provided at

its outer end with a cross bar 44 the opposite ends of which are provided with hand pieces 45 preferably formed of cork or other yieldable material. By making the operating handle in sections, the same may be extended or contracted to accommodate the height of the operator, said sections being locked in adjusted position by means of a clamping collar 46.

Interposed between the rear wheels 39 75 and secured in any suitable manner to the body of the truck is a segmental rack 47 which receives the toothed pin 48 of a locking pawl 49. The pawl 49 is housed within the lower section 42 of the operating handle, 80 while the toothed end of said handle is normally and yieldably supported in engagement with one of the notches of the rack 47 by means of a coiled spring 50, interposed between the upper end of the pawl 85 and a suitable button formed in the handle section 42, as shown. For moving the pawl 49 to released position so as to permit the handle to be swung laterally to the dotted line position shown in Fig. 4 of the drawing, there is provided an operating rod 90 51 one end of which is secured to a bolt or similar fastening device 52 carried by the pawl 49 while the other end thereof is operatively connected with a cam lever 53 eccentrically 95 mounted at 54 between the pair of upstanding ears on the clamping member 46, so that by operating the lever 53 the pawl 49 will be retracted against the tension of the spring 50 thereby to release the locking 100 member 48 from engagement with the rack. When the operating handle is moved to the dotted line position shown in Fig. 5 of the drawings, that is to say, when seated in recess 55, the truck may be tilted upwardly 105 and rearwardly so that the rear ends of the weights 35 will rest on the floor or other surface, thereby to elevate the cutting blade 24 and support the same in convenient position to be operated upon by a suitable tool 110 for the purpose of sharpening the same when necessary.

In order to lessen the labor on the part of the operator incident to the moving of the machine back and forth over the surface of the floor in the act of scraping the same there is provided a coiled spring 56 115 one end of which is rigidly secured to any fixed portion of the truck frame while the other end thereof is coiled around the axle 10 and is fastened to a collar 57 loosely mounted on said axle and carrying a clutch member 58. Disposed in spaced parallel relation to the clutch member 58 is a similar or mating clutch member 59 carried by a 120 collar 60 keyed or otherwise fixed to the shaft 10, the said clutch members being normally held in engagement with each other by the spring 56 so that when a forward movement is imparted to the truck the 130

spring 56 will be placed under tension and when the truck starts on its rearward or working stroke, the energy of the spring will be transmitted to the axle thereby to assist in propelling the truck and thus materially lessen the labor on the part of the operator. If the rearward stroke is continuous, as for instance, when wheeling the truck from one portion of a room, or other inclosure, to another, the toothed face of one clutch member will slip over the face of the adjacent clutch member without effecting the spring.

Associated with the cutting blade 24 is a smoothing shoe 61 having a lower, flat, unobstructed surface for contact with the surface of the floor to be scraped and provided with a slot 12 through which the active end of the cutting blade projects, this shoe being designed to prevent the knife from cutting holes or depressions in the surface of the floor during the scraping operation. The shoe is retained in position on the clamping member 18 by means of fingers 63 which enter sockets 64 formed in one of the arms of the member 18, there being a lug or bracket 65 extended vertically from the rear end of the shoe and provided with a threaded aperture adapted to receive a clamping screw 66, which latter bears against the other arm of the clamping member 18, as best seen in Fig. 1 of the drawings.

Having thus described the invention, what is claimed is:

1. A floor scraper including a wheeled truck, a cutting blade carried by the truck, and a spring operatively connected with the axle of the truck for storing energy on the forward movement thereof and adapted to expend said energy to assist in propelling the truck on the rearward movement thereof.

2. A floor scraper including a wheeled truck, a cutting blade carried by the truck, relatively stationary and movable clutch members mounted on the axle of the truck and normally held in engagement with each other, and a spring having one end thereof connected with the frame of the truck and its other end connected with the loose clutch member, said spring being placed under tension on the forward movement of the truck for storing energy and adapted to expend said energy to assist in propelling the truck on the rearward movement thereof.

3. A floor scraper including a wheeled truck having a weight-receiving platform one end of which is extended longitudinally beyond the truck wheels to form a tongue having a segmental slot, a coupling member pivotally mounted on the tongue, a clamp member pivotally connected with the coupling member and mounted for tilting movement thereon, a scraping blade carried by the clamp member, means for securing the

clamp member in a tilted position, and a fastening device carried by the coupling member and extending through the segmental slot in the tongue.

4. A floor scraper including a wheeled truck having a weight-receiving platform, a clamp pivotally mounted on the platform and including mating sections of different lengths having their inner faces spaced apart to form compartment, a scraping blade seated in said compartment, a plate bearing against the blade, a clamping jaw pivotally mounted on the short section of the clamp and provided with a reduced extension, and a clamping screw carried by the reduced extension and adapted to bear against the plate for clamping the scraping blade within said compartment.

5. A floor scraper including a wheeled truck having a weight-receiving platform, a coupling tongue pivotally mounted on the platform and provided with upstanding ears, a clamp member pivotally connected with the coupling member and including mating sections of different lengths having their inner faces spaced apart to form an intermediate compartment, the rear clamp section being provided with spaced arms, a clamping jaw pivotally mounted on the rear section and provided with a reduced extension projecting between the arms of the said rear clamp section, a scraping blade disposed in the compartment, a plate bearing against the blade, a screw threaded into the extension of the jaw and adapted to bear against the plate for clamping the blade, upstanding ears formed on the clamp member and provided with elongated slots, the walls of which are graduated, fastening devices extending through said slots and engaging the upstanding ears of the clamping member, there being an index formed on the ears of the coupling member and adapted to register with the graduations on the walls of the slot for determining the angle or inclination of the clamping member with respect to the surface of the floor.

6. A floor scraper including a truck having forward traction wheels and provided with a weight-receiving platform, a scraping blade carried by one end of the truck, a shaft disposed at the other end of the truck and provided with rear truck wheels, a yoke pivotally mounted on the opposite ends of the shaft, an operating handle seated in the yoke and formed of telescoping sections, a rack secured to the truck, a spring-pressed pawl adapted to engage the rack for locking the handle in different positions of adjustment, and means carried by one of the handle sections for releasing the pawl, thereby to permit the handle to be swung laterally into engagement with the weight-receiving platform.

7. A floor scraper including a wheeled

truck, a clamp mounted on one end of the truck, a smoothing shoe carried by the clamp, and a scraping blade mounted on said clamp and having its cutting edge projecting through the shoe.

5 8. A floor scraper including a wheeled truck having a weight-receiving platform, a clamp member pivotally mounted for tilting movement on one end of the platform
10 having a socket formed in one side thereof, a smoothing shoe detachably secured to the clamp member and provided with a slot, a scraping blade mounted on the clamp member and having its cutting edge projecting
15 through the slot in the smoothing shoe, a finger secured to the shoe and having its free end seated in the socket in the clamp

member, and a clamping device carried by said shoe and adapted to bear against the clamp member for forcing the finger to its seat in said socket. 20

9. A floor scraper comprising a frame having carrying wheels, a scraper head and knife carried by said frame, an operating handle, and a spring put under tension by the movement of said head and frame in one direction to aid in their return movement. 25

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

EMIL W. ANDERSON. [L. S.]

Witnesses:

HANNAH ANDERSON,
ANNA NORDSTROM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
