June 3, 1924. 1,496,068

W. RAWLEY ET AL

SCRAPING DEVICE FOR GALVANIZING APPARATUS

Filed March 17, 1922 3 Sheets-Sheet 1

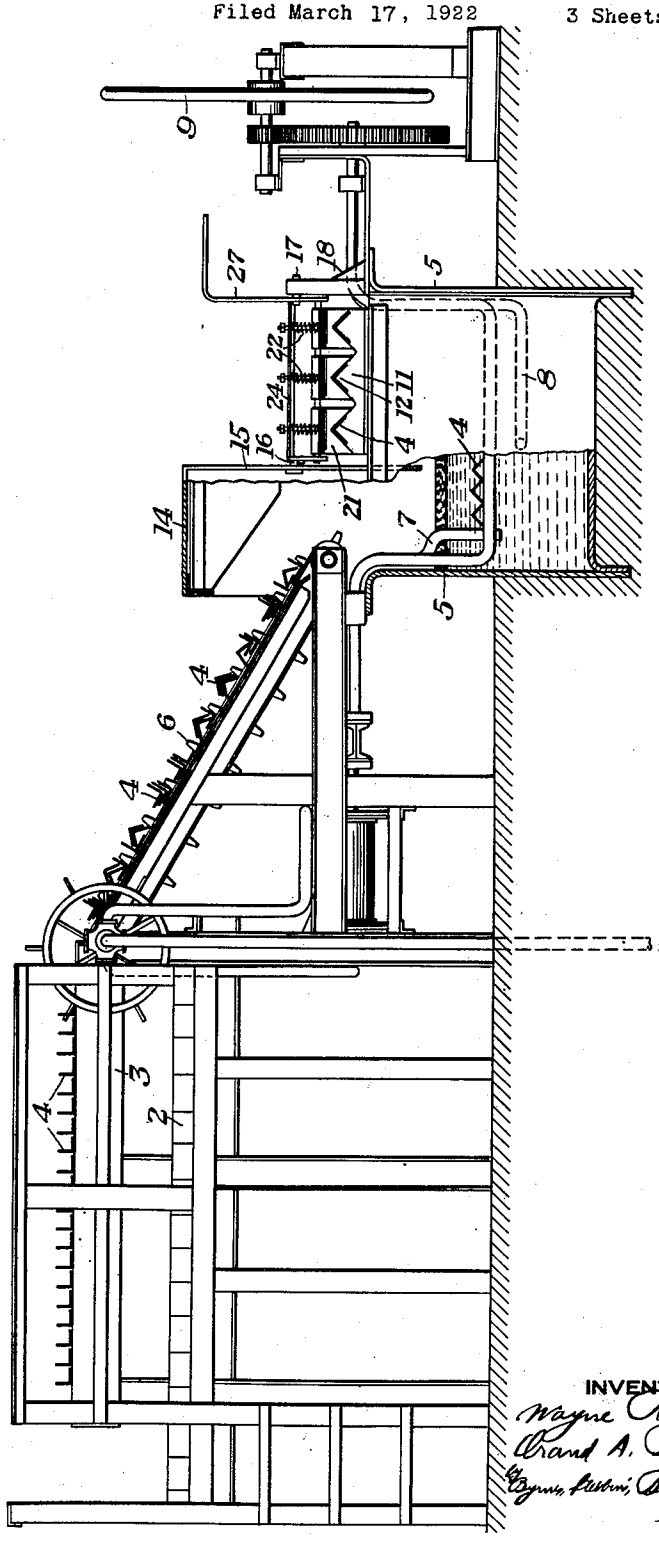


Fig. 1.

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Filed March 17, 1922 3 Sheets-Sheet 2

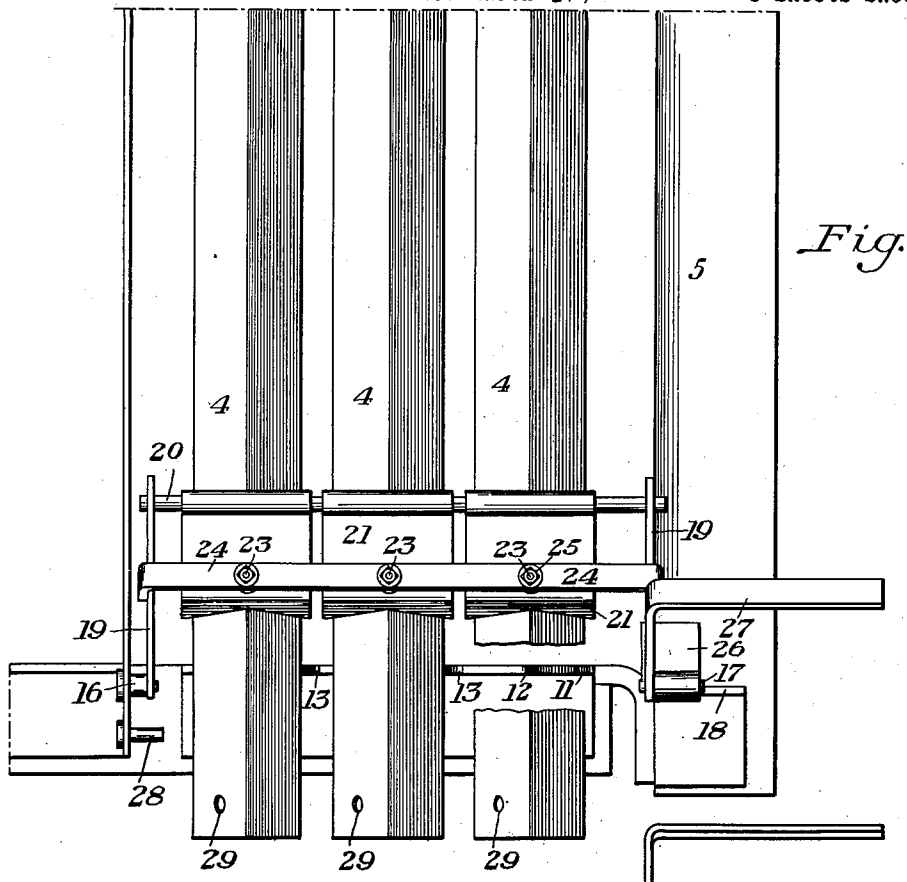


Fig.2.

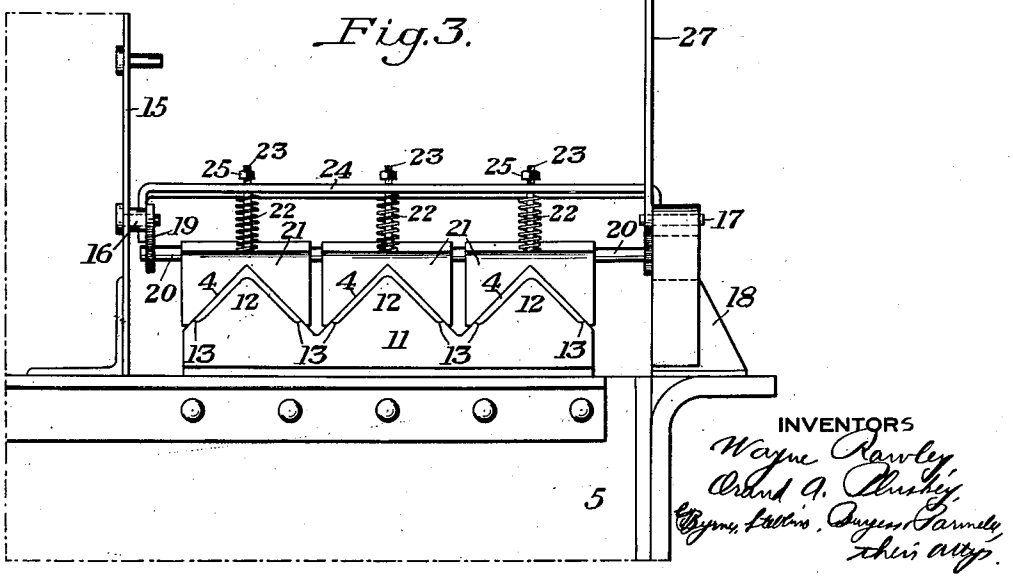


Fig.3.

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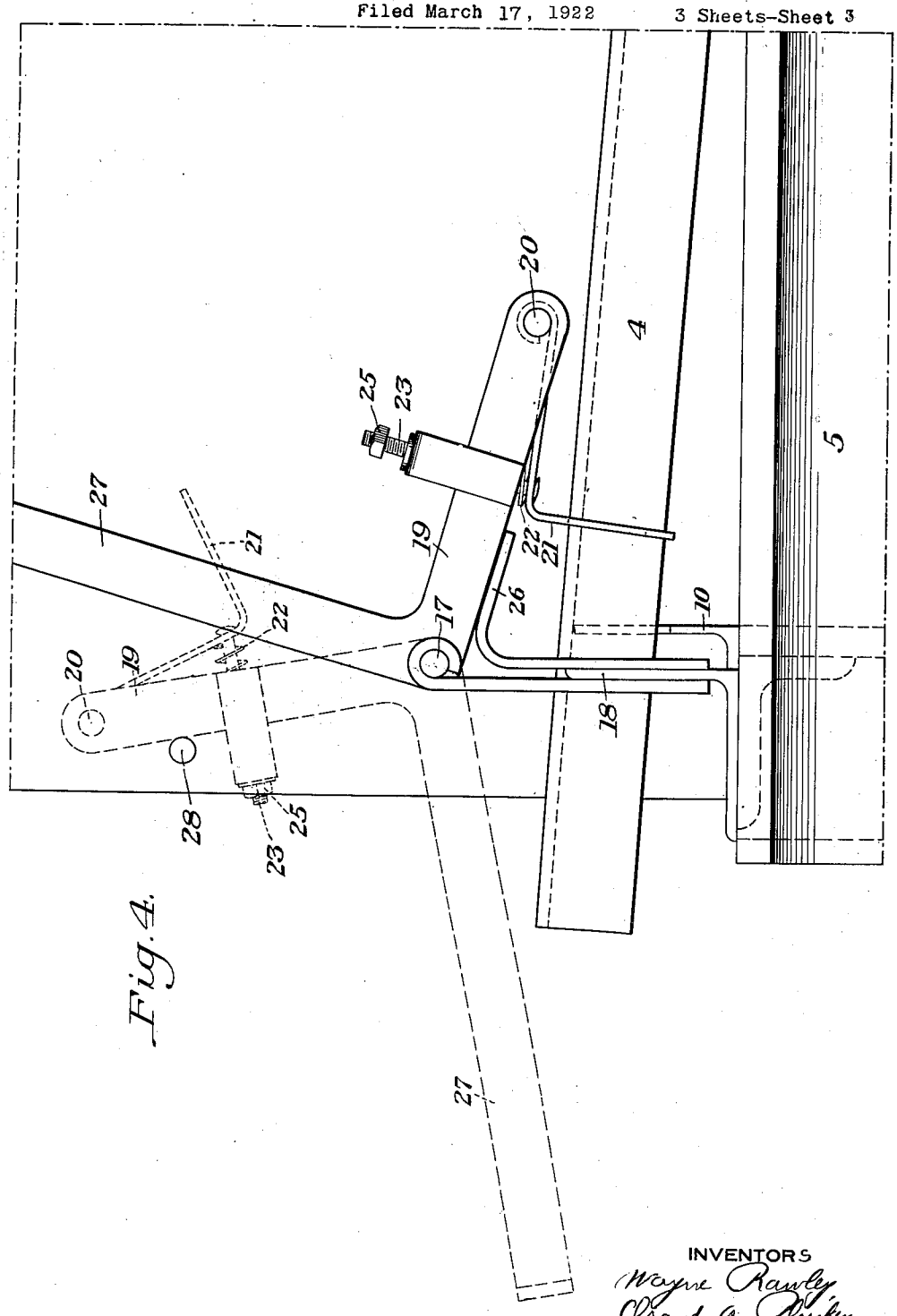


Fig. 4.

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Patented June 3, 1924. 1,496,068

UNITED STATES PATENT OFFICE.

WAYNE RAWLEY, OF PITTSBURGH, AND ORAND A. PLUSKEY, OF MILLVALE, PENNSYLVANIA, ASSIGNORS TO BLAW-KNOX COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

SCRAPING DEVICE FOR GALVANIZING APPARATUS.

Application filed March 17, 1922. Serial No. 544,506.

To all whom it may concern:

Be it known that we, WAYNE RAWLEY and ORAND A. PLUSKEY, residing at Pittsburgh, county of Allegheny, Pennsylvania, and Millvale, county of Allegheny, Pennsylvania, respectively, have invented a new and useful Improvement in Scraping Devices for Galvanizing Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which:—

Figure 1 is an end elevation of a galvanizing apparatus, partly broken away, embodying the present invention, and

Figures 2, 3 and 4 are detail views illustrating the scraping device.

The present invention relates broadly to coating machines, and more particularly to a galvanizing apparatus and a scraping device therefor.

Heretofore in the art to which the present invention relates a considerable difficulty has been experienced in uniformly and quickly removing from a plurality of galvanized shapes any surplus spelter. This has been particularly true where production has been an important factor and the shapes were handled in groups.

The present invention provides a scraping device for use in connection with galvanizing apparatus whereby large production of uniformly coated metallic shapes is made possible.

The drawings, constituting a part of this specification, are illustrative of one embodiment of our invention, and it will be apparent that changes may be made in the construction and operation of the parts without departing from the spirit of the invention or the scope of our broader claims.

In the drawings, there is illustrated an apparatus particularly adapted for galvanizing structural shapes such as angle irons, but the apparatus is equally adapted for use with other shapes. The present apparatus comprises a charging platform 2 having supports 3 thereon for receiving the shapes 4 to be galvanized. The shapes may be supplied to the supports 3 in any desired manner, but are preferably arranged thereon substantially as illustrated whereby they may be easily inspected by an operator, or operators on the charging platform. From this platform the shapes may be delivered in groups of any desired number to a galvanizing pot 5 by means of suitably arranged charging conveyors 6. The shapes as discharged into the galvanizing pot may be moved from one side thereof to the other by suitable pushers 7, and after the desired interval may be elevated from the spelter bath by a suitable elevating mechanism illustrated as comprising a crank arm 8 adapted to be operated by a hand wheel 9.

The foregoing features constitute no important part of the present invention, but comprise means for delivering the shapes to the galvanizing pot in groups and for elevating the same therefrom in groups as desired. These features of the invention may be constructed in accordance with our copending application Serial No. 544,507, filed March 17, 1922.

Arranged on the galvanizing pot 5 adjacent one end thereof is a bracket 10 carrying a lower scraping member 11 having formed thereon a plurality of fixed scraping projections 12. Each of these projections, in the embodiment of the invention illustrated, is provided with sides arranged at substantially right angles to each other and terminating in a slightly rounded apex adapted to fit into the angle between the sides of the shapes 4. These projections may also each be formed with shoulders 13 adapted to cooperate with the edges of the shapes 4.

Cooperating with the galvanizing pot 5 is a hood 14 having a vertically extending wall 15. Mounted at one end on a suitable pivot 16 carried by a vertical wall 15, and at the opposite end on a similar pivot 17 carried by the bracket 18 is a frame 19. This frame comprises side arms between the free ends of which extends a cross bar 20. Pivotally mounted on the cross bar 20 are a plurality of independent scraping members 21 having scraping recesses formed therein and adapted to cooperate with the outside portions of the shapes being scraped. Each of the members 21 is resiliently or yieldingly mounted for vertical movement independent of the others, to compensate for any irregularities in the shapes 4. This mounting comprises compression springs 22 surrounding guide pins 23. The guide pins 23 at their lower ends pass through the members 21 and at their upper ends through a yoke 24. Each

of the guide pins may be formed with a screw threaded upper end adapted to receive a nut 25, the position of which determines the lost motion connection between each of the members and the yoke 24. The bracket 18 also carries a fixed stop 26 adapted to maintain the frame 19 in a predetermined operative position. For moving this frame to inoperative position, to permit the placing of the shapes 4 over the projections 12, the frame is provided with an operating handle 27 by means of which it may be swung into the dotted line position illustrated in Figure 4 until it engages the stop pin 28.

Each of the shapes may be provided in one end thereof with an opening 29 whereby the shapes may be easily engaged for simultaneous withdrawal from the galvanizing pot and between the members of the scraping device. Any desired means for effecting the withdrawal may be provided.

The advantages of the present invention arise from the provision of means for simultaneously cooperating with a plurality of individual shapes whereby each of the shapes is individually scraped with a yielding pressure to remove any surplus spelter therefrom.

We claim:

1. A scraping device for coating machines, comprising a bottom member having means to simultaneously cooperate with a plurality of shapes, an upper member mounted for substantially equal movement toward and from all the means on the lower member, independent yieldingly mounted means on the upper member to simultaneously cooperate with a plurality of shapes, and means for moving the upper member to an operative position, substantially as described.

2. A scraping device for galvanizing machines, comprising a member having a plurality of projections shaped to conform to parts of the shapes being galvanized, a frame movably mounted for substantially equal movement toward and from said projections to permit the shapes to be placed in position in the device, and a plurality of independently movable members carried by said frame for cooperation with other parts of the shapes being galvanized, substantially as described.

3. A scraping device for galvanizing machines, comprising a member having a plurality of fixed projections shaped to conform to parts of the shapes being galvanized, a frame movably mounted for substantially equal movement toward and from said projections to permit the shapes to be placed in position in the device, and a plurality of independently movable members carried by said frame for cooperation with other parts of the shapes being galvanized, substantially as described.

4. A scraping device for galvanizing machines, comprising a member having a plurality of projections shaped to conform to parts of the shapes being galvanized, a frame movably mounted for substantially equal movement toward and from said projections to permit the shapes to be placed in position in the device, and a plurality of independently movable spring-pressed members carried by said frame for cooperation with other parts of the shapes being galvanized, substantially as described.

5. A scraping device for galvanizing machines, comprising a member having a plurality of projections shaped to conform to parts of the shapes being galvanized, a frame movably mounted for substantially equal movement toward and from said projections to permit the shapes to be placed in position in the device, a plurality of independently movable members carried by said frame for cooperation with other parts of the shapes being galvanized, and a separately acting means for urging each of said movable members into contact with the shapes being scraped, substantially as described.

6. A coating machine, having a scraping device for scraping metal sections which are moved therethrough in a longitudinal direction, comprising a plurality of relatively fixed scrapers shaped to conform to a portion of the surface of the sections to be scraped, a frame pivoted on an axis perpendicular to the line of movement of sections, and a plurality of resilient scrapers on the frame shaped to conform to other portions of the surfaces of the sections.

7. A coating machine, having a scraping device for scraping metal sections which are moved therethrough in a longitudinal direction, comprising a plurality of relatively fixed scrapers shaped to conform to a portion of the surface of the sections to be scraped, a frame pivoted on an axis perpendicular to the line of movement of sections, a plurality of levers on the frame mounted on axes parallel to the frame axis, a scraping device on each lever shaped to conform to the surface of the section to be scraped, and a spring connected to each lever.

In testimony whereof we have hereunto set our hands.

WAYNE RAWLEY.
ORAND A. PLUSKEY.