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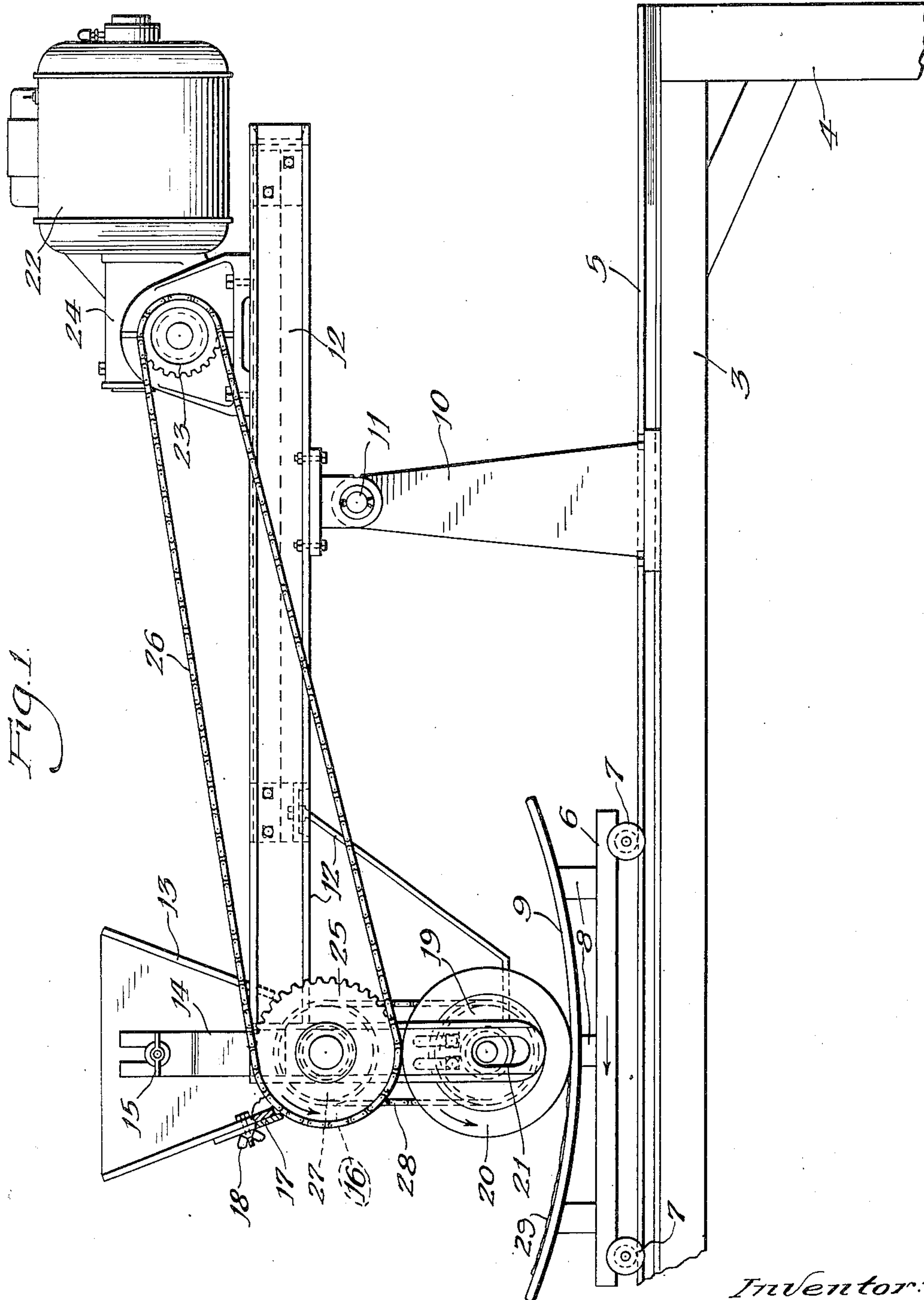
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2,538,945

WIPING COATING MACHINE.

Filed June 17, 1947

2 Sheets-Sheet 1



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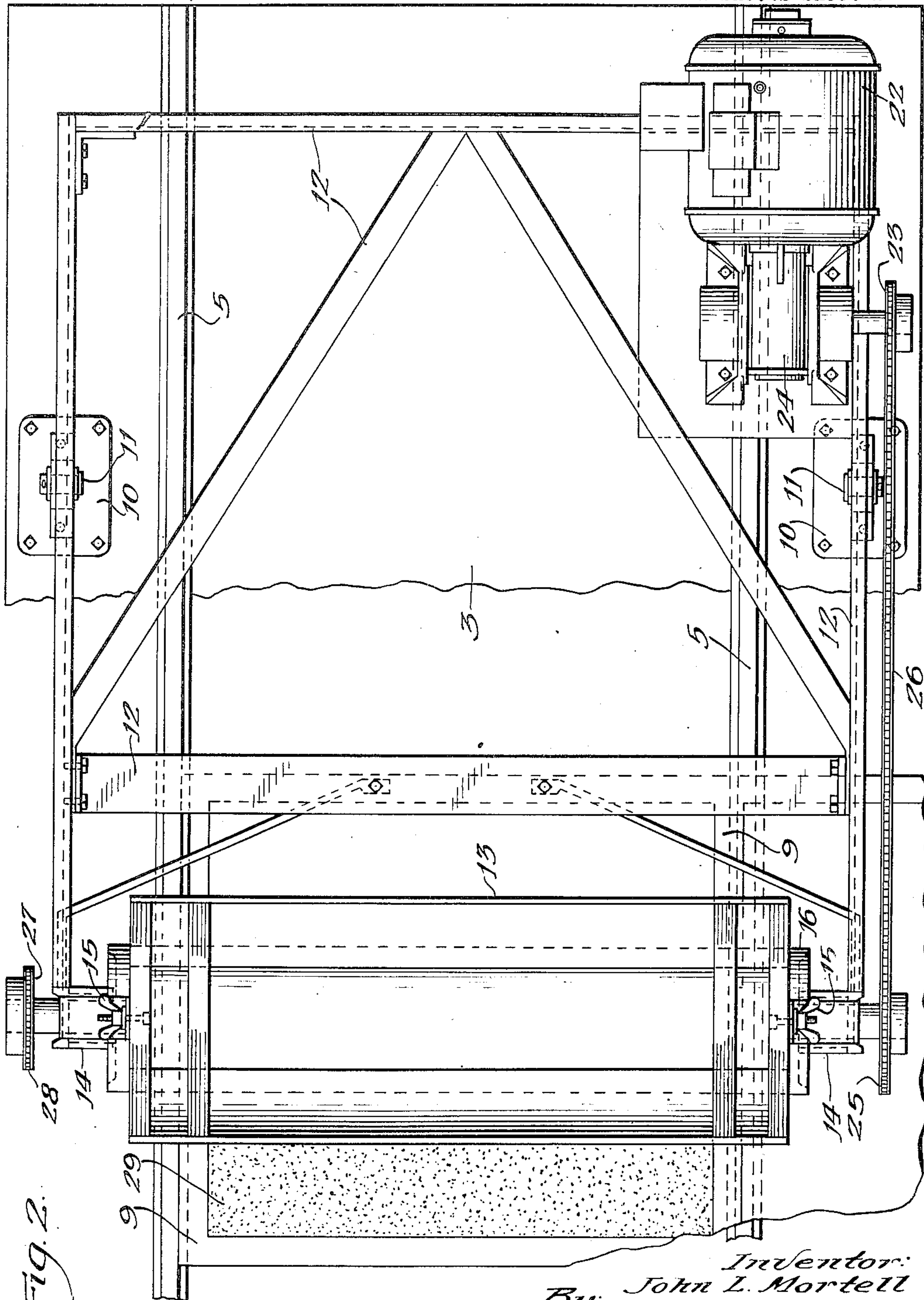


Fig. 2.

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WIPING COATING MACHINE

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5 Claims. (Cl. 91—50)

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This invention relates to machines for wiping and coating surfaces of material, and more particularly to machines for applying a heavy viscous coating to the inside of panels, such as automobile doors.

The primary object of the invention is to provide an improved method and machine for applying heavy viscous coatings, such as soundproofing material, to door panels, and the like, so that a smooth and even coating can be quickly and inexpensively adhered to the surface.

Another object of the invention is to provide a machine wherein the applicator roll is covered with soft yielding material which will first wipe the surface to be coated and immediately apply a viscous coating.

Another object of the invention is to provide a machine wherein the coating material is wiped from a feed box onto an applicator roll which wipes the material onto the surface to be coated, the applicator roll wipes foreign material from the work surface, and it in return is wiped by the transfer roll.

A further object of the invention is to provide a machine which can apply coatings to curved surfaces, and to provide improved driving means for the roll and a carriage for moving the panels into coating position.

The invention is illustrated in a preferred embodiment in the accompanying drawings in which—

Figure 1 is a fragmentary side elevational view, partly in section, showing the improved machine; and Fig. 2 is a fragmentary plan view of the same.

In the embodiment illustrated, a base member 3 may have suitable legs 4 to support tracks 5 at a convenient height for a carriage 6. The carriage may have rollers 7, so that it may be moved back and forth on the tracks 5. It is also provided with a suitable fixture 8 to support work material which may be a curved metal panel 9 which can be made into the door for an automobile.

The base is provided with supports 10 which pivotally support at 11 a metal supporting frame 12. One end of the frame is provided with a trough-like feed box 13 for holding a supply of viscous material, such as a mixture of asphalt and sand used for sound deadening purposes. The trough is shown supported on slotted uprights 14, so that its height may be adjusted by wing nuts 15.

A smooth metal transfer roll 16 is journaled in the uprights 14, so that it rotates through the lower portion of the feed box and makes con-

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tact with the viscous material in the box. The front of the box is shown provided with a doctor blade 17, which is adjustable vertically by means of wing nuts 18, to regulate the thickness of the material adhering to the transfer roll as it turns out of the box. An applicator roll 19 also is journaled in the uprights 14 and contacts the roll 16. Preferably, the roll 19 is provided with a soft rubber-like coating 20, so that it will make yielding rubbing contact with the transfer roll 16 and the work material 9. As shown in Fig. 1, one end of the roll may be supported by a slotted bearing 21, to enable it to accommodate itself to slight longitudinal irregularities in the panel 9. However, in order to apply a coating successfully, it is necessary to maintain wiping contact with the roll 16.

The rear end of the frame 12 is provided with an electric motor 22, which drives a sprocket wheel 23 through a conventional gear reduction 24. The sprocket wheel 23 drives a sprocket wheel 25 on the roll 16 by means of a sprocket chain 26. The opposite end of the roll 16 is provided with a sprocket wheel 27 which drives a sprocket wheel on the roll 20, by means of a sprocket chain 28. It will be noted that the rolls 16 and 20 rotate in the same direction, so that a wiping contact is made between them. Also, the panel 9 is rolled to the applicator roll 20 in the opposite direction to the direction of rotation, so that the work material or panel 9 is first wiped free of oil or other foreign material by the applicator roll, and then the viscous material is deposited on the surface by a rubbing action. It is common to find oil on the panel 9 which has been applied as a rust preventative. This material is picked up by the applicator roll and carried up to the transfer roll where it is wiped off and carried up into the feed box, where it has been found it causes no harm to the viscous coating material.

The fact that the frame may swing on the pivot 11 enables the rolls to be raised or lowered to conform to the surface which is to be worked upon, and the machine has been found to work satisfactorily on door panels which have both longitudinal and lateral irregularities.

The motor is provided with suitable switches, not shown, which may be operated automatically to start and stop the machine, as a panel is moved into or out of proper coating position. It will be understood that when the rolls are in raised position a panel 9 is placed on the fixture 8 and rolled into position to receive a coating 29. When a

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desired amount of surface is coated, the machine is stopped, the rolls raised, and the carriage rolled out so that the treated panel may be replaced.

The foregoing detailed description is given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, for some modifications will be obvious to those skilled in the art.

I claim:

1. A machine of the character set forth, comprising, a base member having a track, a supporting frame pivotally mounted on said base member, a feed-box adjustably mounted on said frame for holding viscous material, a transfer roll journaled in said frame so as to rotate through the lower portion of the feed-box, an applicator roll journaled in the frame so as to wipe against a portion of said transfer roll, a carriage longitudinally movable on said track beneath the applicator roll for moving work material into surface contact with said applicator roll, said applicator roll having a soft rubber-like face for applying viscous material to the work material and wiping said work material as it moves into treating position, and means for driving the transfer roll and the applicator roll in the same direction of rotation.

2. Apparatus for applying a viscous coating to a surface, comprising, a base member having a track, a supporting frame pivotally mounted on said base member for swinging upward movement with relation to said base member, a feed-box mounted on said frame for holding viscous material, a transfer roll journaled in said frame so as to rotate through the lower portion of the feed-box, an applicator roll journaled in the frame so as to wipe against said transfer roll, a carriage longitudinally movable on said track beneath the applicator roll for moving work material into surface contact with said applicator roll, and means for driving the transfer roll and the applicator roll in the same direction of rotation, said feed-box, transfer roll, and applicator roll being swingable as a unit with the frame toward and away from the work material to accommodate non-planar surfaces on the work material.

3. Apparatus as claimed in claim 2, including a pair of uprights on said frame on which uprights the feed-box is mounted and the transfer roll is journaled, one of said uprights having a slot adjacent one end, the applicator roll being journaled at one end in one of said uprights and rotatably and slidably mounted at its other

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end in said slot to enable the applicator roll to accommodate itself to slight irregularities in the work material.

4. Apparatus for applying a viscous coating to a surface, comprising, a base member having a runway, a supporting frame pivotally mounted on said base member, a feed-box on said frame, a transfer roll journaled in said frame so as to rotate through the lower portion of the feed-box, an applicator roll journaled in the frame so as to wipe against said transfer roll, a carriage for supporting work material having a surface to be coated and being longitudinally movable on said runway, and means for driving the transfer roll and the applicator roll in the same direction of rotation, the feed-box, transfer roll and applicator roll moving as a unit with the frame when the frame is moved due to non-planar surfaces on the work material contacting the applicator roll.

5. Apparatus for applying a viscous coating to a surface, comprising, a base member having a runway, a carriage for supporting a member having a surface to be coated, said carriage being longitudinally movable on said runway, a supporting frame pivotally mounted on said base member for upwardly rocking movement and provided at one end with a feed-box for holding viscous material, a transfer roll journaled in said frame so as to rotate through the lower portion of the feed-box, an applicator roll journaled in the frame so as to wipe against a portion of said transfer roll, driving means for rotating said rolls in the same direction, said carriage during part of its longitudinal movement moving beneath the applicator roll for moving the surface of the member to be coated into surface contact with said applicator roll and against its direction of rotation, said frame having a pair of upright members one of which is provided with a slot near its lower end, and said applicator roll having end trunnions one of which is slidable in said slot.

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