

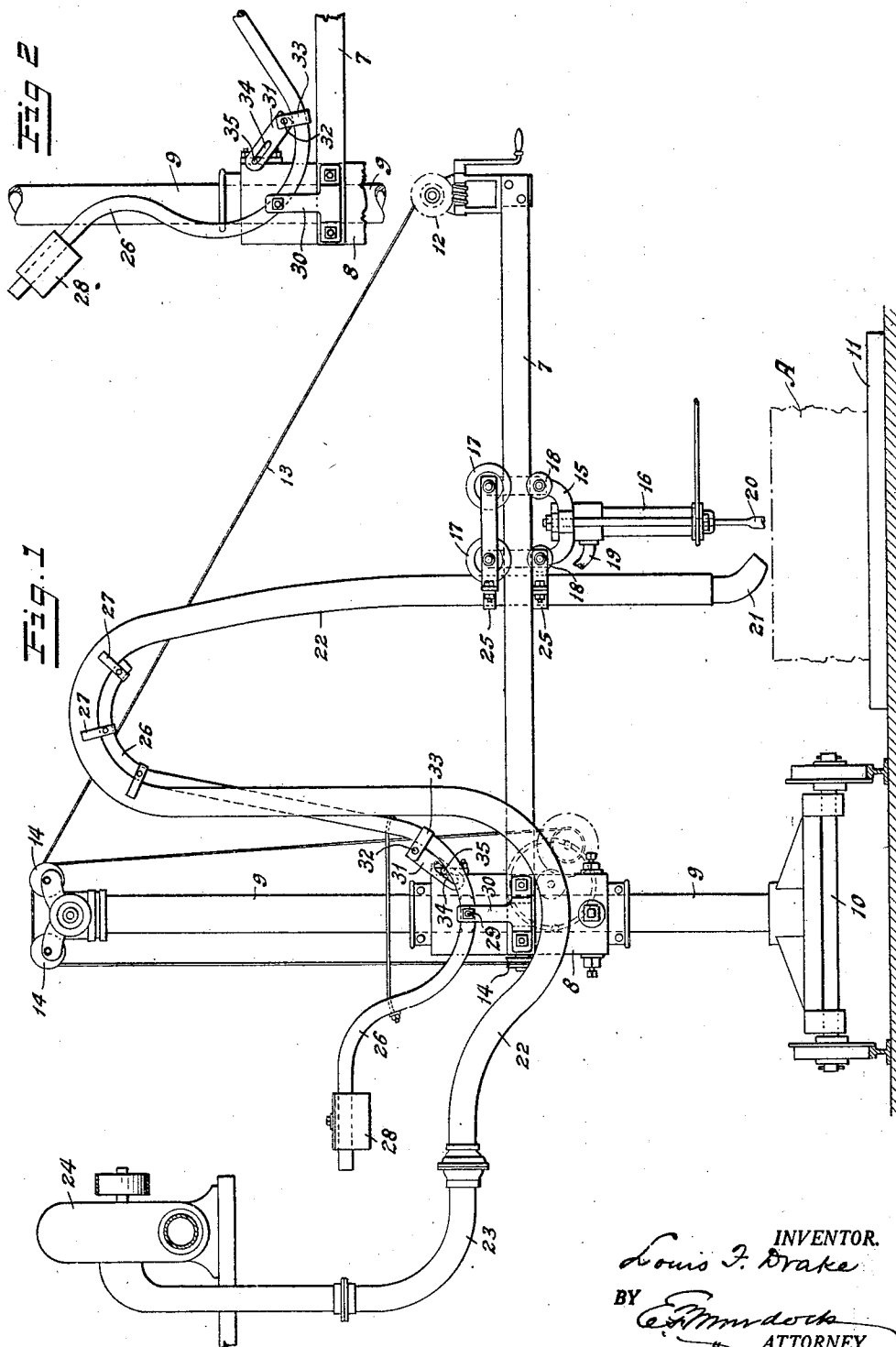
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STONE SURFACING MACHINE

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STONE-SURFACING MACHINE

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Among the principal objects which the present invention has in view are: to support the weight of a suction pipe for collecting dust incident to the surfacing or other treatment of stones; to avoid kinking or collapsing the flexible dust collecting pipe with which the apparatus is provided; to fix the collecting end of the pipe definitely with reference to the stone treating tool; and to provide means whereby the operative position of the pipe is varied to accommodate the work being performed.

Drawings

Figure 1 is a side view of a surfacing machine constructed and arranged in accordance with the present invention.

Figure 2 is a detailed view of a governor for limiting the movement of the supporting mechanism.

Description

As seen in the drawings the stone surfacing machine is provided with a boom 7 which is horizontally extended from a travelling head 8. The head 8 is slidably mounted on the mast 9 which is carried by the truck 10 on the rail of a road bed, suitably arranged with reference to the working bench 11 or other work holding device.

To elevate and lower the head 8, a winch 12 is provided at the outer end of the boom 7. The guy lines 13 leading from the drum of the winch 12 are passed over suitable pulleys 14, those at the top of the mast being permanently fixed on the mast, while those on the carrier 8 are permanently fixed on the carrier 8. The guy line 13 is so arranged that when it is wound on the drum of the winch 12, the carrier 8 is elevated on the mast 9, and when the guy line is paid out, the head 8 is lowered on the mast 9 carrying the boom 7.

The boom 7 provides a trackway for a stirrup hanger 15 in which is mounted the surfacing tool 16. The stirrup hanger 15 is provided with supporting and guide rollers 17 and 18, respectively.

The tool 16 as shown in the drawings is of a pneumatic power type, the air under compression being delivered thereto by a pipe

19, the fragment only of which is shown in the accompanying drawings.

Adjacent the cutting end of the tool 20 is a dust collector head 21. The head 21 is permanently mounted in the flexible suction pipe 22 which in turn is connected with the suitable rigid pipe section 23 and through it to a blower 24.

To support the pipe 22 in its preferred working position, I provide clamp collars 25 mounted on the hanger 15. The collars 25 are arranged to grip the pipe 22 firmly so that the collector head 21 is at all times maintained in the fixed position relative to the tool 20.

To support the body of the pipe 22 I provide a saddle comprising the curved extremity of the supporting arm 26. The arm 26 is provided with a series of U-shaped holders 27 to form a rack for the pipe 22. The arm 26 is counter-balanced by a weight 28 which is slidably mounted on the arm 26 at the short end thereof. The arm 26 is pivoted on a shaft 29 which is extended from the bracket 30, the lower end whereof is rigidly bolted to the head 8. It is provided that the weight 28 shall always slightly overbalance the weight of the pipe 22 so that the loop or bend thereof will at all times be lifted above the hanger 15, and the boom 7. As the hanger 15 and parts associated therewith are moved outwardly toward the end of the boom 7, the pipe line 22 will be lowered, and the supporting arm will yield and be depressed thereby.

A slotted link 31 is pivotally mounted by the pin 32 on the split collar bracket 33. The slot 34 provided in the link is engaged by a pin 35 extended from the head 8. The purpose of the link 31 and 35 is to guide and limit the movement of the supporting arm 26 and pipe 22 carried thereby.

As will be seen in Fig. 2 of the drawings, when the pipe 26 is in the position where the curved end of the said pipe is in its lowermost position, the pin 35 rests in the far end of the slot 34 in the link 31.

From the foregoing it will be seen that when the dust collector head 21 is positioned operatively adjacent the tool 20, and the blower 24 is operating, any dust incident to the

operation of the tool 16 and 20 is immediately taken into the pipes 22 and 23 to be delivered by the blower 24. Also it will be seen that while the body of the pipe 22 is lifted and therefore removed as an obstruction, the tool 16 and parts associated therewith may be moved lengthwise of the boom 7, which in turn is arranged to swing about the mast 9 thus permitting the tool 20 to traverse the entire surface of the stone block A, which is being treated.

And further, it will be observed that during the movement of the tool, the looped portion of the pipe 22 and the end of the supporting arm 26, have been raised and lowered in response to the pull or strain on the pipe 22, connected with the clamp collars 25, the counter-balancing weight 28 always maintaining a lifting strain on the arm 26 sufficient to raise the looped portion of the pipe 22 whenever permitted to do so by the movement of the tool hanger 15.

Claims:

1. A support for a flexible pipe line comprising a movable head an arm having a convex downward portion, means for pivotally supporting said arm at said portion on said movable head, said arm extending upwardly and outwardly from the pivot on one side thereof and terminating in a convex upward curve, the pipe line being adapted to be supported on top of the convex upward portion of the arm, and a weight carried on the other end of said arm.

2. A support for a flexible pipe line comprising an arm having a convex downward portion, a supporting head, means for pivotally supporting said arm at said portion upon said supporting head, said arm extending upwardly and outwardly from the pivot on one side thereof and terminating in a convex upward curve, the pipe line being adapted to be supported by the convex upward portion of the arm, a weight carried on the other end of said arm, and a link connecting said arm with said supporting head and limiting the pivotal movement of said arm.

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