

No. 615,085.

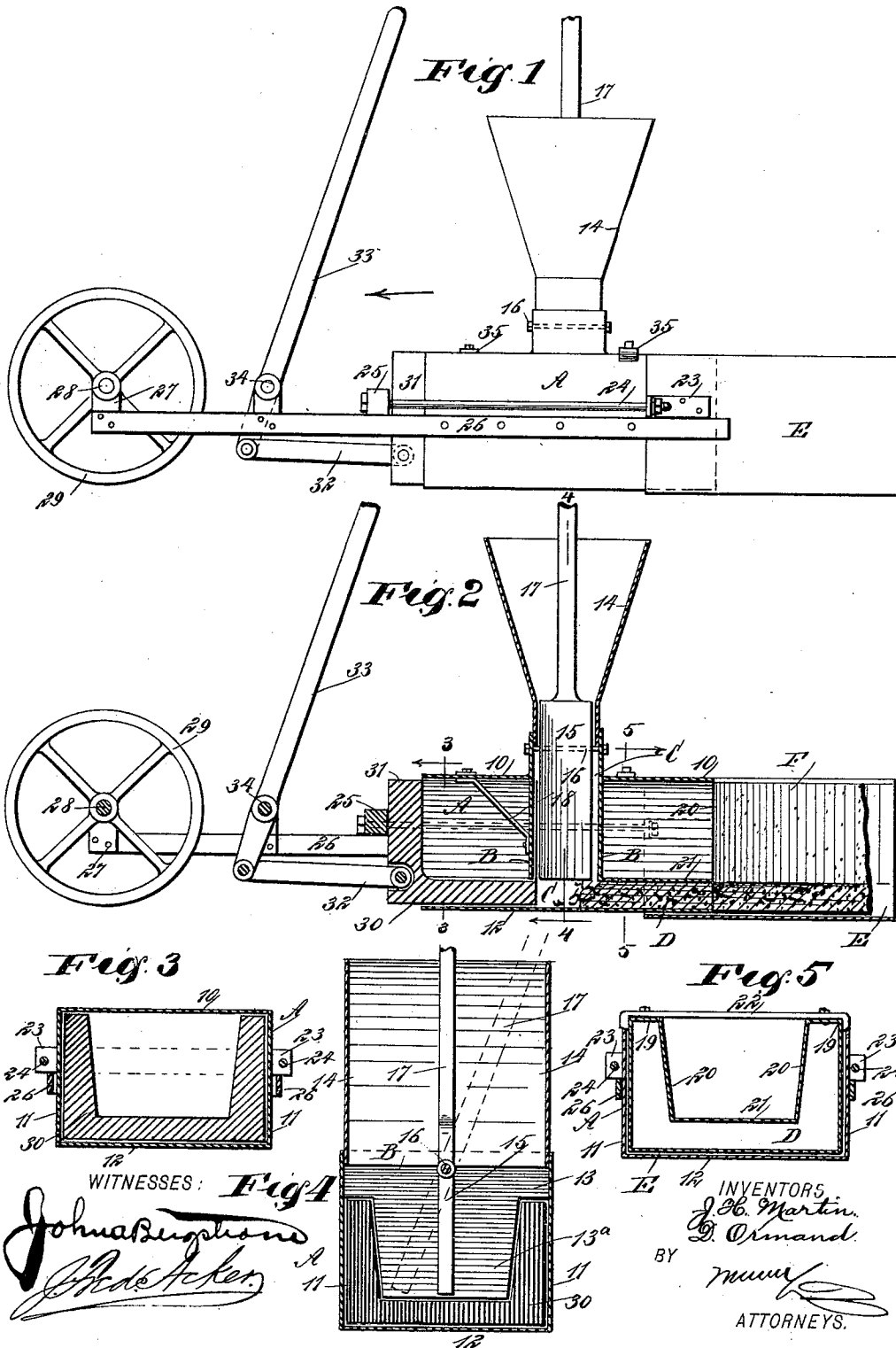
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J. H. MARTIN & D. ORMAND.

MACHINE FOR CONSTRUCTING IRRIGATING OR OTHER FLUMES.

(Application filed May 6, 1898.)

(No Model.)



# UNITED STATES PATENT OFFICE.

JOSEPH H. MARTIN AND DAVID ORMAND, OF RIVERSIDE, CALIFORNIA.

MACHINE FOR CONSTRUCTING IRRIGATING OR OTHER FLUMES.

SPECIFICATION forming part of Letters Patent No. 615,085, dated November 29, 1898.

Application filed May 6, 1898. Serial No. 679,949. (No model.)

*To all whom it may concern:*

Be it known that we, JOSEPH H. MARTIN and DAVID ORMAND, of Riverside, in the county of Riverside and State of California, have invented a new and Improved Machine for Constructing Irrigating or other Flumes, of which the following is a full, clear, and exact description.

The objects of the invention are to provide a device especially adapted to form a flume or irrigating-canal in a simple and economic manner and to so construct the machine that the material utilized will be shaped and set by the operation of a single lever or a like device.

A further object of the invention is to provide a means whereby the material will be distributed to the mold-section of the machine in an even and compact manner.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the machine. Fig. 2 is a longitudinal vertical section through the machine. Fig. 3 is a transverse section on the line 3 3 of Fig. 2. Fig. 4 is a transverse section on the line 4 4 of Fig. 2, and Fig. 5 is a similar section on the line 5 5 of Fig. 2.

The body A of the machine is preferably rectangular in cross-section, comprising a top 10, sides 11, and a bottom 12, constructed of any suitable material. The body, however, is open at both of its ends. About centrally between the ends of the body opposing partitions B are formed, (shown best in Fig. 4,) and each partition B, which extends from side to side of the body, consists of an upper section 13, secured to the sides of the body in any suitable or approved manner, and a lower section 13", the lower section being contracted to such an extent as to form upper horizontal shoulders at the upper section 13, converging sides, and a straight bottom, providing for a substantially dovetail space between the sides of the body A and the partitions B. The space C between the partitions is adapted for the reception of concrete material, and a hopper

14 is secured in any suitable or approved manner to the upper portions of the said partitions. The partitions B do not extend to the bottom of the body A, as shown in Figs. 2 and 4, and within the space or chamber C a paddle 15 is located which is pivoted near its upper end, preferably above the top of the body, by means of a suitable pivot-pin 16, the upper end of the paddle being provided with a handle 17, which extends a suitable distance through and beyond the hopper 14, so that the paddle may be moved laterally, as illustrated in Fig. 4, to distribute the material as may be required, the material being distributed to the body at the rear of the aforesaid chamber C. The body forward of the chamber C is unobstructed; but at the rear of the chamber C the formation of the body is that indicated in Fig. 5, in which it will be observed that the body at the rear of said chamber is provided with short upper or cover sections 19, converging downwardly-extending walls 20, and a bottom wall 21, which, in addition to the side and bottom walls of the body proper, form a flume-chamber D, which chamber comprises a lower horizontal portion and upwardly-extending diverging portions.

A guide-section E is located at the rear or delivery end of the body A. The said guide-section E preferably consists of side sections and a bottom section, the side sections being connected by suitable cross-bars 22, as shown in Fig. 5, and the guide-section E of the device is provided at each side with brackets 23, to which rods 24 are secured, which rods are carried forwardly and through a cross-bar 25, the said cross-bar being adapted to rest and slide upon side bars 26, secured to the side portions of the body A of the machine, the rear ends of the side bars being carried loosely over the guide-section E, while the forward ends of the said side bars 26 extend beyond the forward end of the body A and are provided at or near their forward extremities with boxes 27, in which the axle 28 of a supporting-wheel 29 is mounted to turn. A plunger 30 is mounted to slide in the body, the plunger 30 being given the same shape in cross-section as the cross-section of the flume-chamber D, which chamber the plunger is adapted to enter. Normally the plunger 30 is located at the forward portion of the feed-

chamber C, and its front end 31 extends at that time beyond the forward end of the body of the machine, as illustrated in Fig. 1.

The forward partition B is suitably braced by bars 18, and a link 32 is secured to the forward end of the plunger 30, as indicated in Fig. 2, which link is connected in a pivotal manner to the lower end of a lever 33, which lever is fulcrumed upon a rod 34, which is secured in suitable brackets attached to the side bars 26 between the supporting-wheel 29 and the forward end of the body. The body is strengthened, preferably, by means of cross-bars 35, located at the top, as shown in Fig. 1.

In operation the cement or other material of which the flume is made is fed to the hopper 14 and delivered by the said hopper to the lower portion of the body A. When the lever 33 is carried forward or in direction of the supporting-wheel 29, the plunger 30 is carried rearward and forces the material delivered by the hopper into the flume-chamber D, and the material molded in the said flume-chamber D will be forced into the guide-section or chamber E, and the frictional contact between the material which is forced into the guide-section E and the flume-chamber D will force the machine a certain distance forward, and as the plunger 30 returns forwardly the cross-bar 25 will be carried in a forward direction and the guide-section E will be carried in the same direction a certain distance, exposing a portion of the flume molded in the chamber D and delivered to the guide-section E. In this manner at each forward movement of the plunger another section of the flume is molded, and at each rearward movement of the plunger a portion of the molded flume is exposed, the molded material being permitted to set while in the guide-section E.

The supporting-wheel 29, which is practically a roller, can be made very heavy, so as to increase the amount of pressure necessary to move the machine, and consequently increase the solidity or compactness of the material in the flume-chamber D throughout the operation of the machine.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a machine for constructing a flume or a ditch, a mold-section, a plunger having movement in the mold-section, and a guide-section for the product of the mold, movable upon the mold-section, substantially as described.

2. In a machine for constructing a flume or a ditch, a body-section adapted to receive ma-

terial, a plunger located in the body-section, the body-section being moved forwardly by the rearward movement of the plunger, and a guide-section arranged to move forwardly by the forward movement of the plunger, substantially as set forth.

3. In a machine for constructing a flume or a ditch, a body-section, means for supplying material to the body-section, a molding-chamber contained within the body-section, a plunger mounted to slide in the body-section and its molding-section, a guide-section located at the delivery end of the body-section, and means, substantially as described, for imparting movement to the guide-section through the movement of the plunger, as set forth.

4. In a machine for constructing a flume or a ditch, the combination, with a body-section provided with a molding-section, a device for delivering material to the molding-section, and a paddle for distributing the material to the molding-section, of a guide-section mounted to slide on the body-section, and a plunger mounted to slide in the body-section and into the molding-section of said body-section, the guide-section being operated by the movement of the said plunger, for the purpose specified.

5. In a machine for constructing a flume or pit, a mold for the flume, a hopper connected with the mold, partitions extending within the mold from opposite sides of the hopper, forming a chamber, said partitions being stopped short of the bottom of the mold, and a paddle pivoted within the hopper and extending within said chamber, the paddle being adapted to distribute material delivered by the hopper into said chamber in said mold, substantially as described.

6. In a machine for constructing a flume or a ditch, a mold for the flume, a hopper connected with the mold, a paddle mounted for lateral movement in the said hopper, the paddle being adapted to distribute the material delivered by the hopper in the said mold, a plunger mounted to slide in the said body and in the mold-section thereof, a roller forming a partial support for the said body, and means, substantially as described, for operating the said plunger, for the purpose set forth.

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Witnesses:

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