

J. W. Stockwell. Drain and Water Pipe Machine.

106424

Fig. 1

PATENTED AUG 16 1870

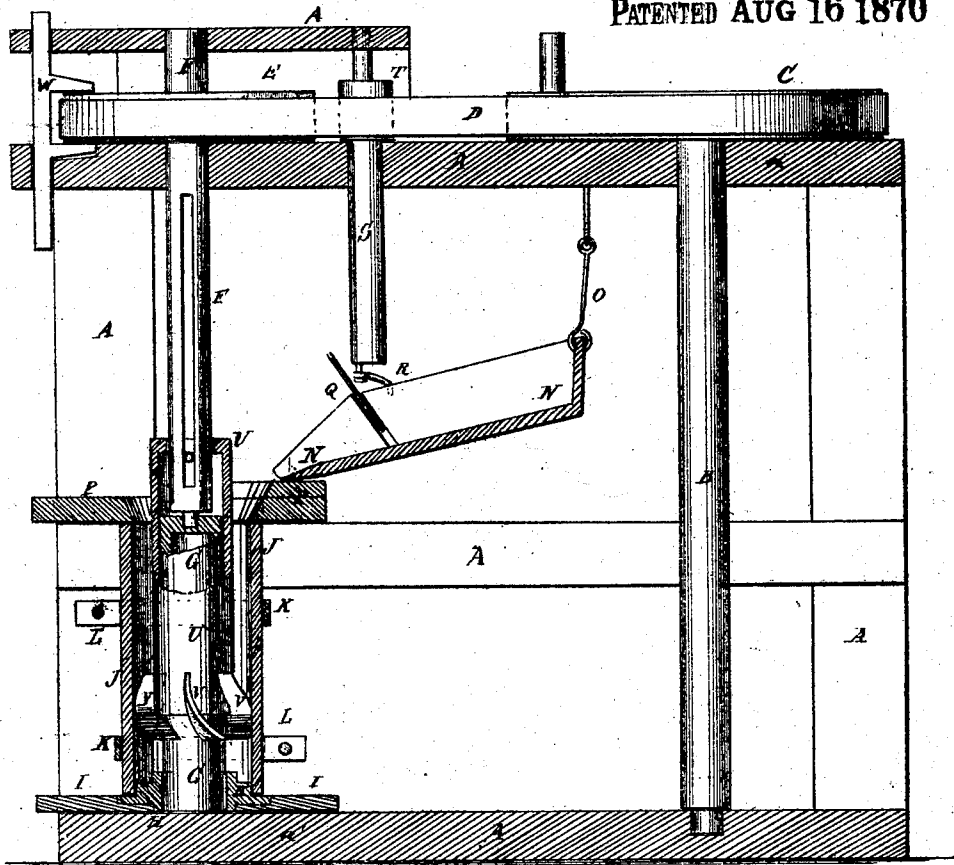


Fig. 4



Fig. 5

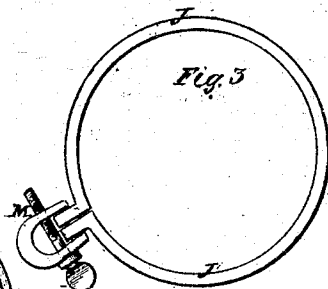
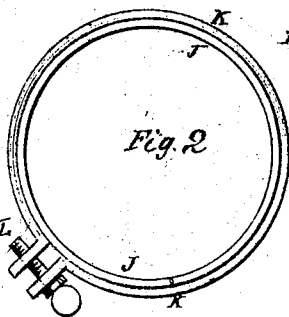


Fig. 2



Witnesses:

A. W. Holmquist
S. S. Mahoe

Inventor:

J. W. Stockwell

PER

Attorneys.

United States Patent Office.

JOHN W. STOCKWELL, OF PORTLAND, MAINE.

Letters Patent No. 106,424, dated August 16, 1870.

IMPROVED WATER-PIPE MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN W. STOCKWELL, of Portland, in the county of Cumberland and State of Maine, have invented a new and useful Improvement in Drain and Water-pipe Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

Figure 1 is a vertical detail section of my improved machine, parts being broken away to show the construction.

Figure 2 is an end view of the outer case of the mold.

Figure 3 is an end view of a modification of the same.

Figure 4 is a side view, partly in section, of the device for forming the tip upon the pipe.

Similar letters of reference indicate corresponding parts.

My invention relates to a drain-pipe machine, and consists in the following improvements:

First, in combining, with a suspended and oscillating hopper, an auxiliary plate and adjustable slide, in a new and improved manner.

Second, in combining, in a new and improved manner, a revolving shaft and trowel-carrier with the core.

Third, in an improved tubular shouldered tool, having inclined cutters on its outer face.

A represents the frame-work of the machine or building.

B is the driving-shaft, which may be driven by any convenient power, and to which the power may be applied by a pulley, by gear-wheels, or by other convenient means.

To the upper end of the shaft B is attached a large pulley, C, around which passes a band, D, which also passes around a pulley, E, attached to the upper end of the shaft F, the upper part of which revolves in bearings in the upper part of the frame-work A, and the lower end of which hangs free, and has a pin or pivot formed in or attached to the center of its lower end, to enter a socket in the end of the core G of the mold. The core G is made of the exact shape and size that the interior of the pipe should have.

The lower end of the core G passes through and fits into a hole in the base-plate H of the mold.

The base-plate H of the mold is secured in a hole or recess in the platform I, which is supported upon the floor or platform *a* of the frame-work A, so that the lower end of the core G may rest upon the said floor or platform *a*.

The platform I may be mounted upon small wheels

or rollers, for convenience in removing and replacing it, as required.

The base-plate H is made with an interior shoulder around its central hole, to form the socket or recess in one end of the pipe, to receive the tip of the end of the adjacent length of pipe.

The base-plate H is also formed with an exterior shoulder, to receive the lower end of the case J of the mold.

The case J is made of a sheet of sheet metal, bent into a cylindrical form, with its edges fitting to each other, and which is held together while the machine is being packed into it by the bands K, two or more of which are passed around it, and the ends of which are bent outward as shown in figs. 1 and 2, to receive the clamping-screws L, which are swiveled to the one end and screw into the other end of said bands. By adjusting the bands K so that their open ends may be upon opposite sides of the case J, as shown in fig. 1, the said projecting ends may serve as handles, for convenience in handling the mold. By this construction, when the material of which the pipe is formed has set, the core G is pushed out and the screws L are loosened, allowing the bands K to be removed and the case J to be opened out and removed from the pipe.

If desired, the adjacent edges of the open cylindrical case J may be bent outward and secured to each other by two or more screw-clamps, M, as shown in fig. 3, or the said turned-out edges may be secured by two or more screws passing through holes in the one edge, and screwing into holes in the other edge. The first construction I prefer, as enabling the case to be more easily and surely adjusted into its proper position.

The prepared material is fed into the mold from the hopper N, the rear end of which is hung from the frame A by a jointed rod or rods, O, and the forward and lower end of which rests upon the platform P, in such a position that the material may pass from the hopper, through a hopper-shaped hole in the central part of said platform, into the mold.

The rapidity of the flow of the material from the hopper N is regulated by the slide Q, the ends of which enter and work in grooves in the sides of the said hopper.

The ends of the slide Q are split, and their lower parts are turned a little outward, so as to press against the sides of the grooves, and thus hold the slide securely into any position into which it may be adjusted.

To one side of the hopper N is pivoted one end of the rod R, the other end of which is pivoted eccentrically to the lower end of the shaft S, the upper end of which revolves in bearings in the frame A in such a position that the pulley T, secured to the upper part of said shaft, may bear against the band D, so that

the movement of the said band D may revolve the shaft S, and thus shake the hopper N.

A part or the whole of the platform P should be detachable, so that it can be conveniently removed for convenience in removing and adjusting the mold.

U is a tube, fitting upon the core G and the shaft F, and the upper end of which is connected to the said shaft by a pin which passes through the upper end of the said tube U and through a longitudinal slot in the said shaft F, as shown in fig. 1, so that the said tube U may be carried around with the said shaft F in its revolution.

To the lower end of the tube U are attached the inclined or curved trowels V, the lower ends of which are made of such a breadth as to fill or nearly fill the space between the core G and the case J. By this construction, as the material is fed into the mold, it is smoothed down and packed closely and evenly by the trowels V, the tube U and trowels V rising as the mold fills.

In the case of oval pipe, the tube U may be made short, and the trowels V connected with it by means of flexible or pivoted arms or shanks, so that the said trowels may pass freely around and adjust themselves to the oval core G.

The shaft F may be raised to disconnect it from the core G by the shifter W, as shown in fig. 1. A

When this is done, the tube U and its attached trowels are raised and held suspended by a suitable catch attached to the frame-work A.

The tool X is then placed upon the upper end of the core G, and turned around by hand or by lowering

the shaft F down upon it, and revolving it by the movement of the machine.

The tool X is made in the form of a short tube, having a shoulder upon the inner side of its lower end, and having inclined cutters or trowels, Y, formed upon or attached to its outer side, which, as the tool is revolved, cut away and remove the outer part of the upper end of the pipe, until the shoulder of the tool comes in contact with the top of the pipe and stops the action of the tool. A few turns of the tool backward smooths off the end of the pipe and leaves the tip perfectly formed.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The suspended and oscillating hopper N, adjustable slide Q, and auxiliary hopper-plate P, all constructed and relatively arranged to form an improved feeding device for a pipe-molding machine.

2. The core G, shaft F, and revolving trowel-carrier U, all constructed and relatively arranged together, as specified.

3. The device X Y, for forming the tip of the pipe, constructed and operating substantially as herein shown and described.

The above specification of my invention signed by me this 3d day of March, 1870.

JOHN W. STOCKWELL.

Witnesses:

GEO. W. MABEE,
JAMES T. GRAHAM