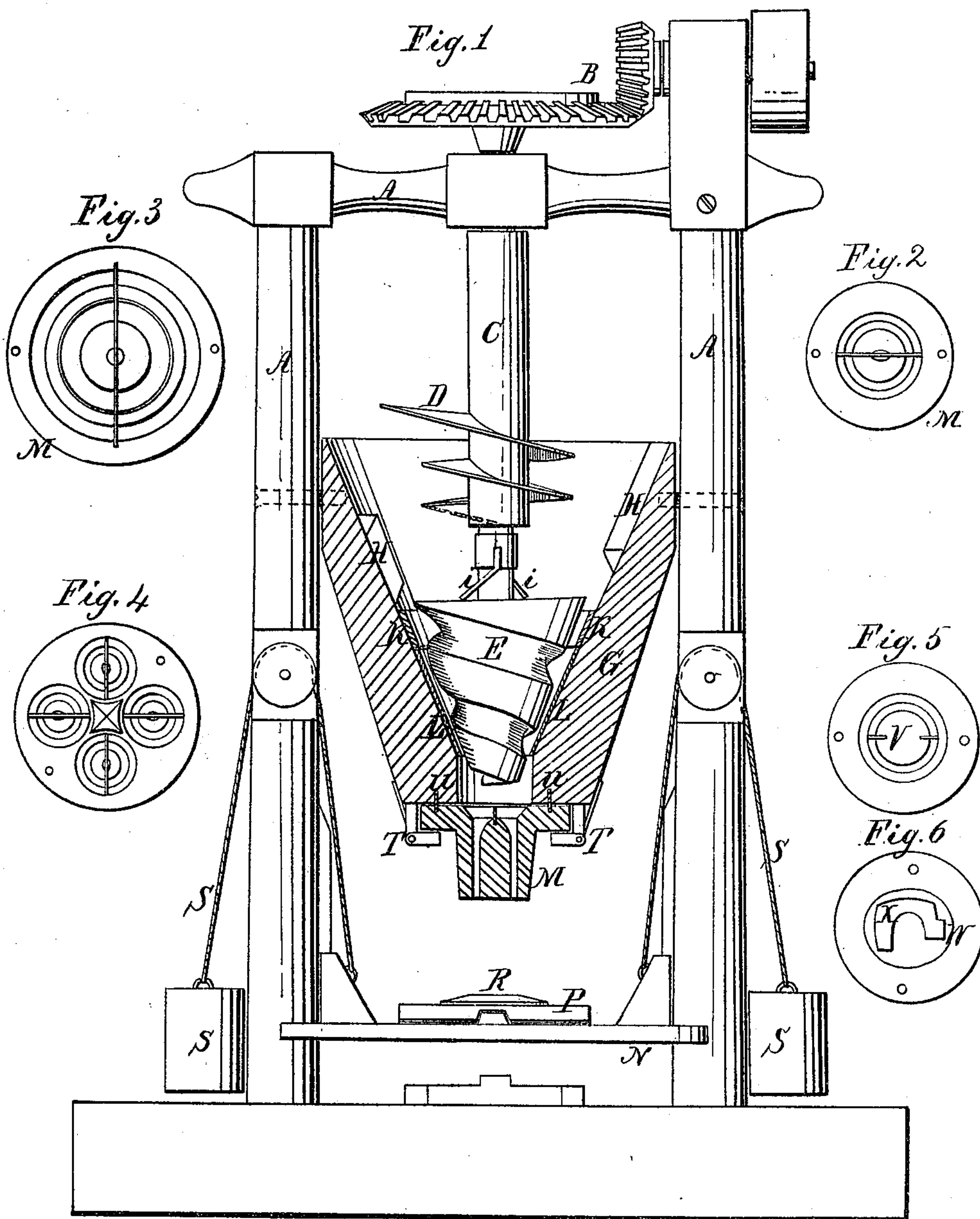


J. C. Bryant.

Drain Pipe Mach.

N^o 97,035.

Patented Nov. 23, 1869.



Witnesses
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ISAAC C. BRYANT, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 97,035, dated November 23, 1869.

IMPROVEMENT IN DRAIN-PIPE MACHINES.

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, ISAAC C. BRYANT, of the city of Washington, District of Columbia, have invented an "Improved Machine for Making Drainage-Pipes, Curb, and Gutter-Pieces;" and I do hereby declare the following to be an exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 represents a vertical and sectional elevation of the machine.

Figure 2, a view of the upper side of the mouth-piece.

Figure 3 is a view of the upper side of the mouth-piece, for forming pipes of various sizes, at one operation.

Figure 4, the four mouth-pieces combined, for forming four pipes at one operation.

Figure 5, the under-side view of the mouth-piece, for forming gutter-pieces.

Figure 6, the under-side view of the mouth-piece, for forming curb and gutter pieces in one piece.

The nature of my invention consists in the peculiar arrangement of the vertical conical clay-hopper, with its flanged screw above, conical grooved screw below, and cylinder surrounding the core forming the mouth-piece, the mouth-piece being so constructed with two or more cylinders, so as to form two or more different sizes of pipe at one operation, or four cylinders, with their cores set square, so as to form four pipes of the same size, or of different sizes, as required; also, a single cylinder, with its inside core and flange across the inside of the cylinder, to form two gutter-pieces at one operation; also, a pattern, with the shape of a curb and gutter-piece, so constructed as to form the curb-stone and gutter-piece in one pressure or moulding.

The object of my invention being to cut and feed the clay in the hopper by means of the flanged screw above, to the grooved screw below, and the winged pieces below the flanged screw are for the purpose of checking the clay, to prevent it from revolving with the screw, and forcing the clay to the mouth of the lower grooved screw, while the two side flanges, on the inside of the hopper, also prevent the clay from revolving with the screw.

The object of the lower grooved screw is to force the clay down into the cylindrical moulds to form the pipe or curb and gutter-pieces.

A represents the upright frame that supports the devices.

B, the double bevel-gearing at top, to operate the main spindle C, with its flanged screw D, and grooved screw E, inside of the clay-hopper G, that is tapering, wide at top and narrow at the bottom.

The clay is thrown into the hopper at the top, when the revolving flanged screw D forces the clay down to the lower grooved screw E, while the side flanges H, and the lower angular winged flanges I, prevent the

clay from revolving with the screw D, and assist in forcing the clay down to the lower screw E, the spindle C resting and being supported by the cross-piece of frame A, at top, and at the centre of the cross-flanges I.

The lower screw E is tapering, to correspond with the inside of the lower end of the hopper G, fitting closely at the top to the ring K in the hopper G, so that the clay cannot force upward, and the two lower side flanges L L are for the purpose of preventing the clay from revolving with the lower screw E. The clay being then forced down to the cylindrical mouth-piece M, (that may be made angular or cylindrical,) is then formed into pipe or pipes, and as the clay-pipe passes from the mouth-piece it is supported by a self-acting platform, N, beneath which lowers, by the weight of the pipe, as the pipe lengthens, until the platform reaches its proper flooring, that is fixed at the distance that the length of the pipe is intended or required to be, when the pipe is cut off, by a wire or otherwise, at the end of the mouth-piece, and removed by the movable plate P, that has held the end of the pipe steadily by its circular ring or rings R, corresponding with a single pipe, or any number of different sized pipes, the platform N being regulated by its ropes and weights, S, that raise it.

The mouth-piece M is permanently held to the bottom of the hopper G by two adjustable turn-buckles, T, and permanent pins, u u, that centre the mouth-piece to its proper position.

When I desire to make various sizes of pipes, I have the mouth-piece M formed of two or more cylinders, as shown at fig. 3, and when I wish to make four pipes at one operation, I form the mouth-piece as shown at fig. 4.

In forming the gutter-pieces, I divide each cylinder, by inserting a cross-piece, V, at the bottom of the mouth-piece, and in forming the curb and gutter-piece, I shape and construct the mouth-piece with or without a projecting flange, W, at either or both ends of the opening X, as shown at fig. 6.

I do not claim, as new, the several devices above described, nor any general combination of the same; but

What I claim, and desire to secure by Letters Patent of the United States, is—

The improved arrangement, in the drain-tile machine above described, of the parts herein shown, consisting of the vertical tapering clay-hopper or pug-mill G, with its flanges H, ring K, grooves L, the vertical shaft C, with flanged screw D, flanges I, grooved tapering screw E, and removable mouth-piece M, when said parts are all constructed, arranged, and operating as herein described, and for the purposes set forth.

I. C. BRYANT.

Witnesses:

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