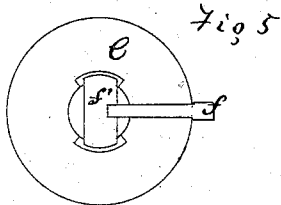
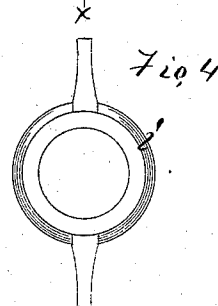
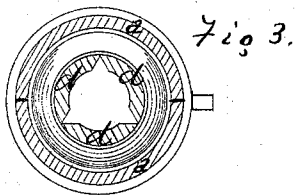
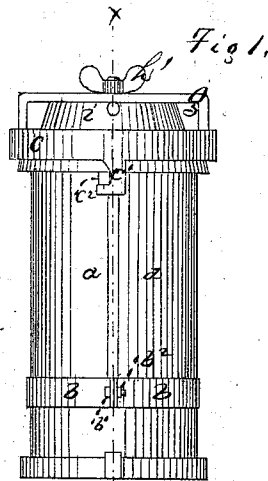
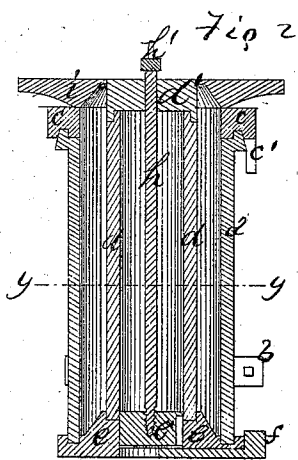


P. McINTYRE.
Molds for Earthen Pipes.

No. 138,035.

Patented April 22, 1873.



Witnesses:

John Pollitt
 F. H. Fuller,

Inventor
 Peter McIntyre
 By W. E. Simonds
 Att'y

UNITED STATES PATENT OFFICE.

PETER McINTYRE, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN MOLDS FOR EARTHEN PIPES.

Specification forming part of Letters Patent No. **138,035**, dated April 22, 1873; application filed December 2, 1872.

To all whom it may concern:

Be it known that I, PETER McINTYRE, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Molds for Making Earthen Pipe, of which the following is a specification, reference being had to the accompanying drawing, in which—

Figure 1 is a side elevation of the mold complete. Fig. 2 is a central vertical section of the same through the dotted line *x x*. Fig. 3 is a cross-section of the same through the dotted line *y y*. Fig. 4 is a view of the under side of the former for shaping the upper end of the pipe. Fig. 5 is a view of the bottom end of the mold.

This apparatus is more especially designed for use in making drain and sewer pipe, though it is applicable to other analogous purposes.

The material generally used for making the pipe is a mixture of hydraulic cement and sand or gravel.

The letters *a a* indicate the casing, made in two parts as usual, held together by the spring-band *b*, the ends of which are turned out so as to meet and oppose each other; through these ends runs a bolt, *b¹*, having a nut, *b²*, upon it, by means of which bolt and nut the band can be made to clasp the halves of the casing tightly or loosely, as desired. The ring *c* fits upon the upper end of the mold and holds that end securely; this ring has hooks *c¹*, which by turning the ring catch upon lugs *c²*, which project from the halves of the casing, thus holding the ring securely to the casing. The core is made in two or more longitudinal sections, preferably in three sections, *d d d*, which are held together at the top by the cap-ring *d'*, and at the foot by the base *e*, which base is hollow through its center, and this hollow is occupied by the sliding plug *e'*, which is capable of a short up-and-down movement; when it is "up," as seen in Fig. 2, its top just fits in

the inside of the core, and when it is "down" it just clears the foot of the core. The slide *f* holds it up, and pulling this slide back lets it down. There is a cleat, *f'*, across the bottom of the plug, whose projecting ends strike against shoulders made for them in the base when the plug is up, and so prevents further upward movement of the plug. There is a cross-bar, *g*, whose ends rest upon the ring *c*; through the center of this cross-bar runs the rod *h*, having a thread at its foot, by which it screws into the plug, and having a thumb-nut at the top *h'*, which screws down upon the cross-bar, and thus holds the parts of the mold together.

The pipe is formed by running the cement and sand in between the case and core, the base forming the female end of a pipe with so-called V-shaped ends. When the body of the pipe has been formed, some of the cement is heaped up on the top of the casing; then the cross-bar is taken off and the male end of the pipe shaped by means of a former, *i*, of common construction. To disengage the pipe from the mold, the slide *f* is pulled back and the plug let fall or pushed down by the rod *h*; the rod *h* is then taken out, the cap-ring *d'* taken off, and the sections of the core taken out singly. The ring *c* is taken off the casing, the spring-band *b* loosened, and the casing lifted off over the core; or the spring-band may be taken off and the halves of the casing removed singly.

I claim as my invention—

The combination of the base *e*, the sectional core *d*, the plug *e'* arranged to move downward in order to release the foot of the core, the rod *h*, the cap *d'*, and the thumb-screw *h'*, all arranged as described, for the purpose set forth.

PETER McINTYRE.

Witnesses:

WM. E. SIMONDS,
S. J. SIMONDS.