

(No Model.)

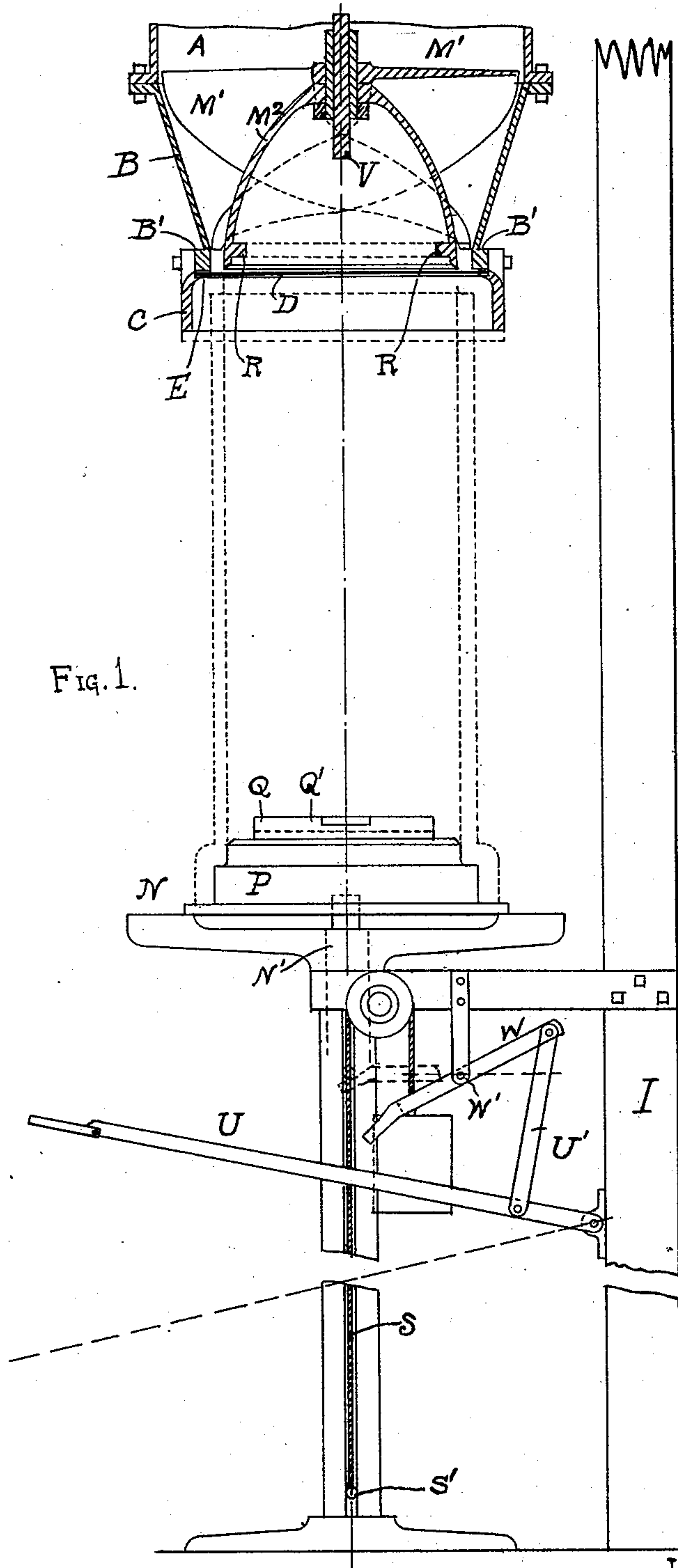
2 Sheets—Sheet 1.

J. SHARPE.

MACHINE FOR MAKING PIPES OF CEMENT, CLAY, &c.

No. 506,557

Patented Oct. 10, 1893.



Witnesses.
W. Wallace Christie
Wm M Drew.

Inventor.
Joseph Sharpe.
134 John F. Terry, Atty.

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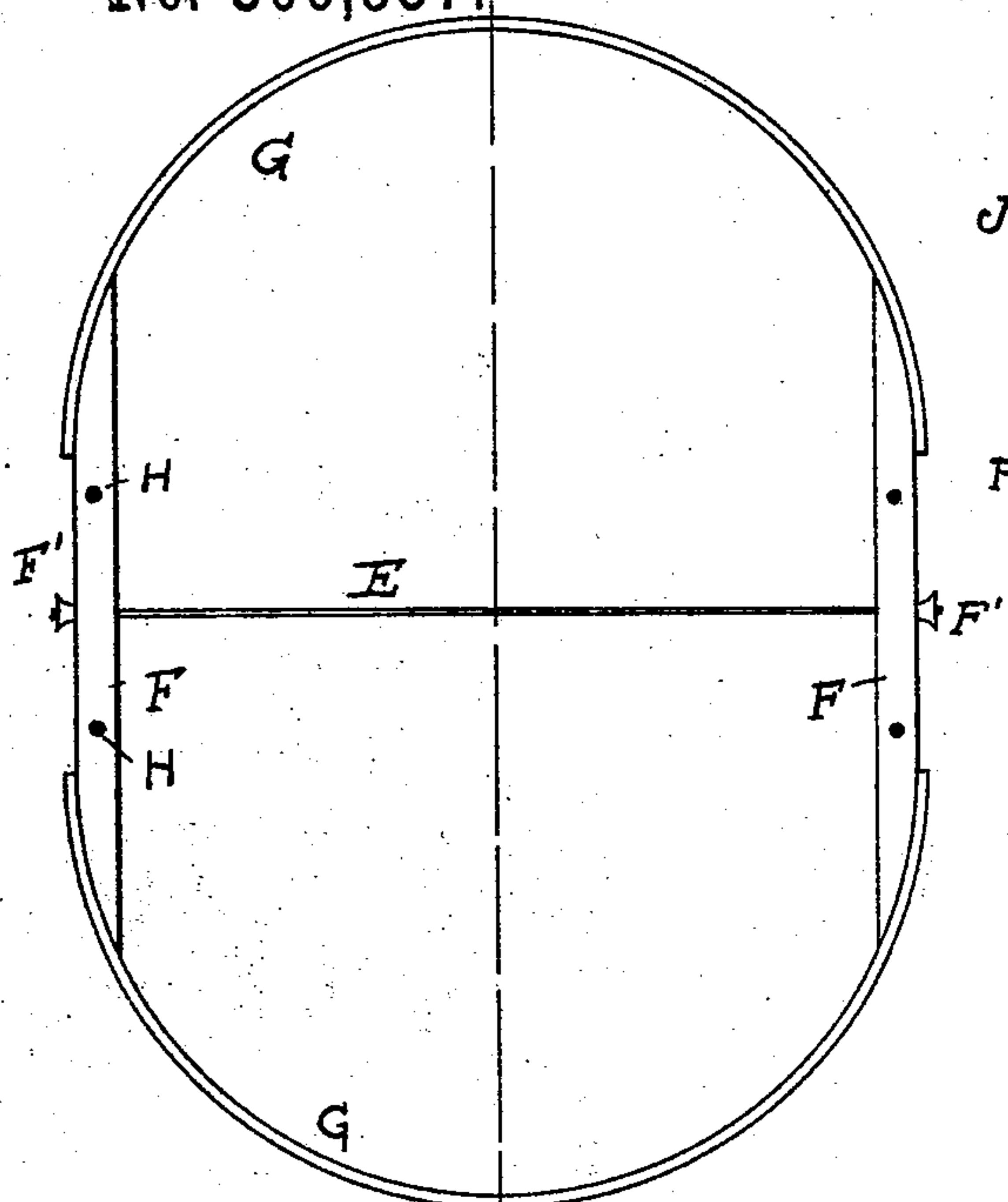


Fig. 2.

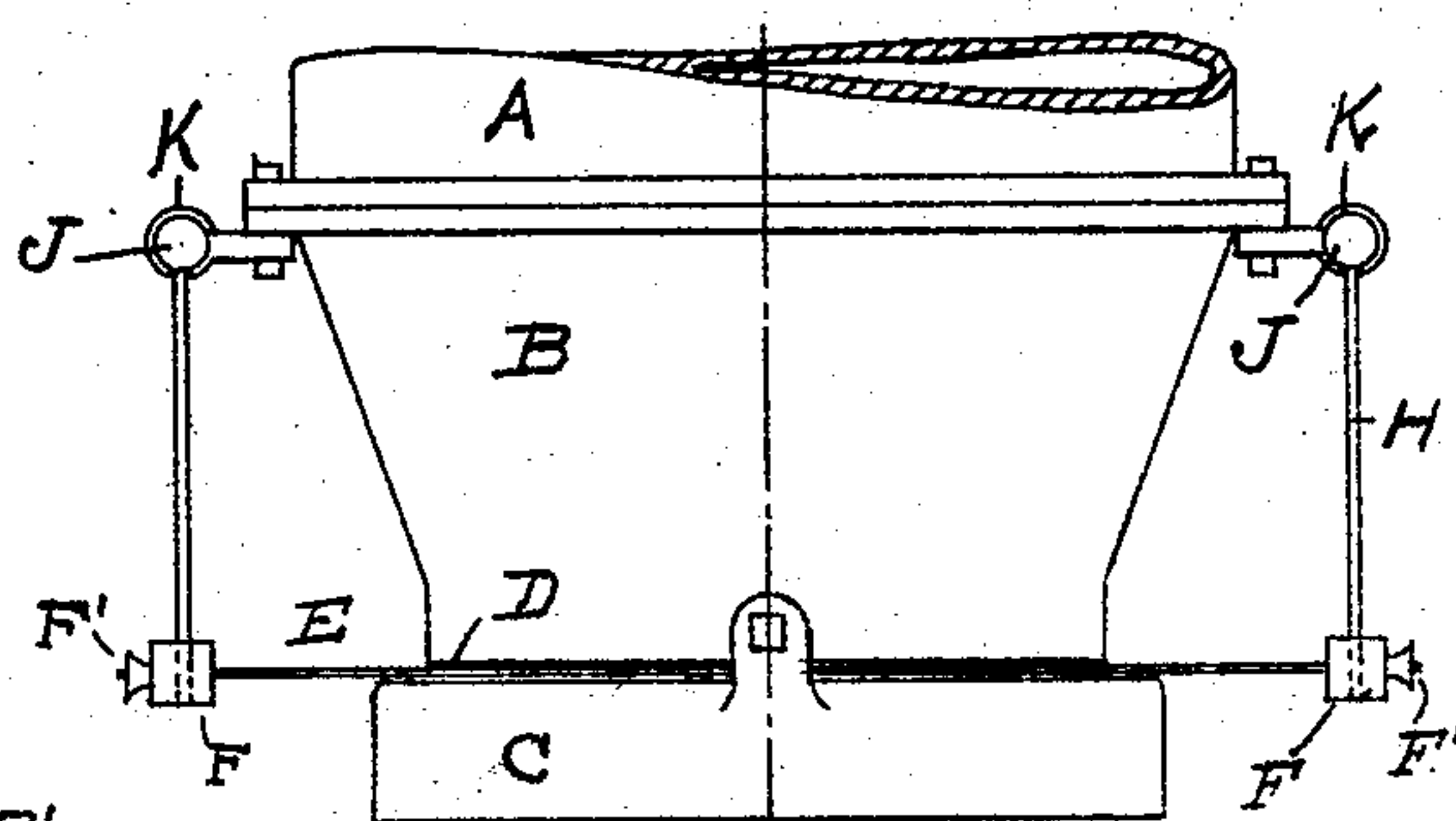


Fig. 4.

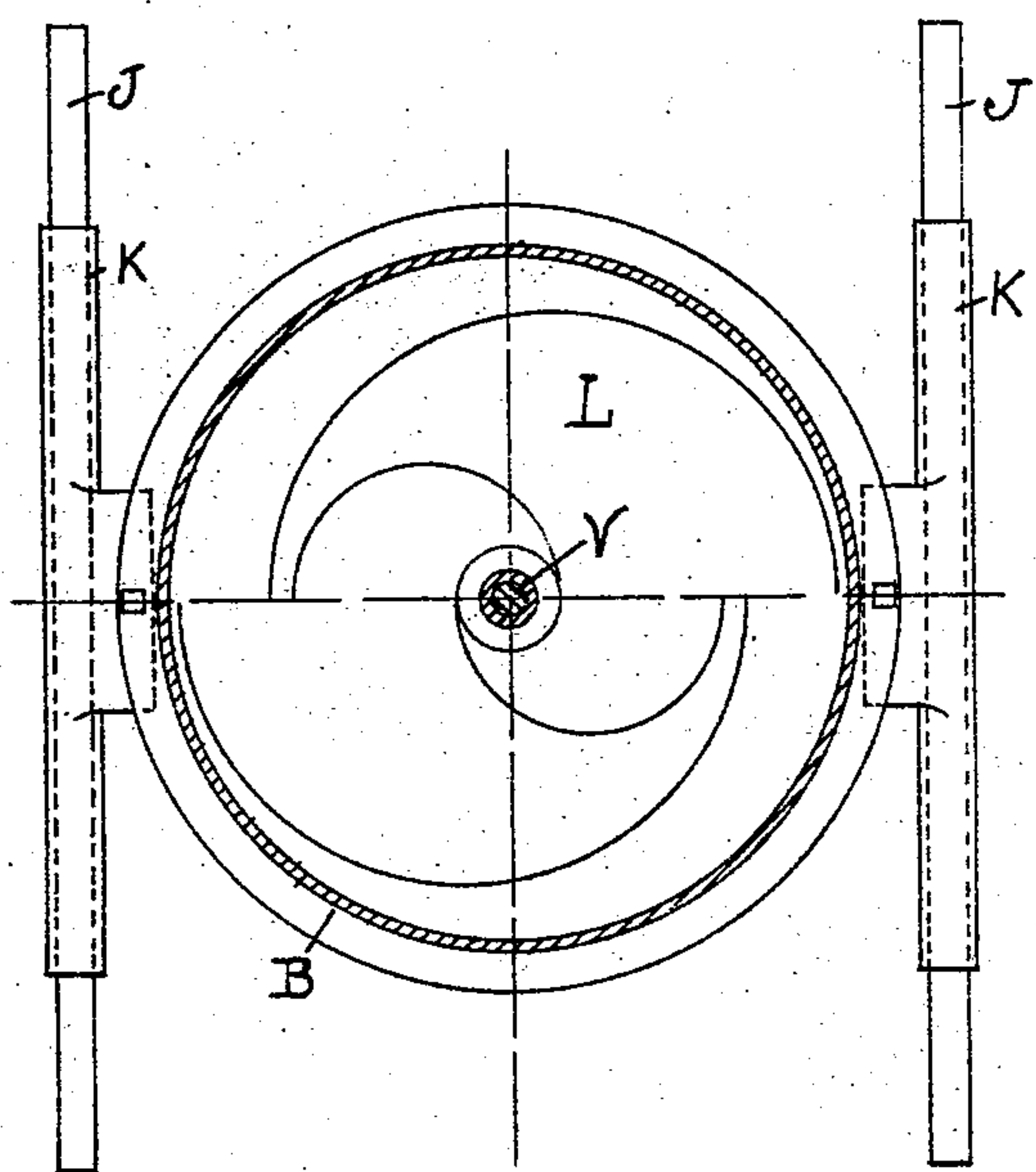


Fig. 3.

Witnesses.

W. Wallace Christie

Am M. Drew.

INVENTOR:

Inventor:
Joseph Sharpe
By John F. Kerr.
Atty.

UNITED STATES PATENT OFFICE.

JOSEPH SHARPE, OF PATERSON, NEW JERSEY.

MACHINE FOR MAKING PIPES OF CEMENT, CLAY, &c.

SPECIFICATION forming part of Letters Patent No. 506,557, dated October 10, 1893.

Application filed May 31, 1893. Serial No. 476,052. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SHARPE, of the city of Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Machines for Making Pipes of Cement, Clay, or Similar Substances, of which the following is a specification.

This invention relates to a new and improved machine of simple construction for making pipes with a socket at one end, from clay, cement, composition or any substance of a like or similar nature.

The invention consists in the novel construction and combination of the various parts and details as will be fully described and pointed out in the following specification and claims.

In the drawings accompanying this specification and forming a part thereof and in which drawings like letters of reference indicate like parts, Figure 1 is a side elevation of the improved machine for making pipes from clay, cement, &c., parts being broken away and others shown in section. Fig. 2 is a plan view of the cutting device. Fig. 3 is a horizontal section through the bottom of mold. Fig. 4 is a side view of the outer mold and of the cutting device.

In the drawings—A— is a cylindrical mold, to the lower end of which the funnel shaped or tapering bottom section —B— is bolted, which in turn has a mold —C— bolted to its bottom edge by means of bolts passed through lugs projecting from the top of said mold —C—, into the side of the section —B— near the bottom edge thereof. The inner diameter of the mold C is equal to the outer diameter of the socket to be formed on one end of the pipe to be produced. The mold —C— is bolted to the section —B— in such a manner that a horizontal annular slot —D— is formed between the top edge of the mold —C— and the bottom edge of the section B. Through this slot the cutting off wire —E— is passed and the ends of this wire pass through two side pieces —F— at opposite ends of the section —B—, and the wire can be drawn taut by nuts —F'— screwed on the ends of the wire and resting against the outer edges of the side pieces —F—. The side pieces —F— are connected by two semi-circular handle-

bands or hoops —G— as shown in Fig. 2. The side pieces —F— are suspended by means of arms —H— from rods —J— mounted to slide in sleeves —K— bolted to the sides of the section —B— at the top thereof, and these guide sleeves —K— have longitudinal bottom slots through which the arms —H— can slide or pass. The section —B— contains an auger shaped or screw presser —M'— mounted centrally therein between an inner mold —M²— and the outer mold —B— which presser, extending downward to the narrow opening between the inner and outer molds, revolves around the conical center mold —M²—. The exterior bottom diameter of the center mold —M²— is equal to the bore or inner diameter of the pipe to be made and the inner diameter of the bottom —B'— of the mold —B— is equal to the exterior diameter of the pipe to be made. The top of the bottom mold —C— is rounded on the inside to conform to the desired shape of the exterior of the socket to be made on one end of the pipe. A platform —N—, with a center pin —N'—, is attached to a suitable rod or shaft which operates vertically.

On the top of the platform —N— and centered on pin —N'— is an adjustable mold or core —P— for forming the interior of the socket or flange on one end of the pipe to be produced, said core or mold having a top piece —Q— provided with two opposite recesses —Q'— for receiving the lugs —R— projecting inwardly from the bottom of the center mold —M²—. A foot lever —U— pivoted to the frame —I— supporting the entire device is connected by a rod —U'— with a lever —W— pivoted at —W'— and having its other end so constructed as to grip the pin —S'— which passes through the vertical rod or shaft for forcing the platform —N— which holds the adjustable core mold —P— up into the socket mold —C— until the lugs —R— engage with the recesses —Q'—. The platform is raised by the hand until pin S', shown at the lower end of the vertical rod, can be engaged by the outer end of lever W, upon which the parts are forced or pressed into operative engagement for the purpose of causing the adjustable core mold —P— to rotate with the inner mold —M²— which is secured to the shaft —V—, whereby the cement or other

material is forced out into the mold —C— over the core —P— and a socket is thereby formed on one end of the pipe to be produced. The screw-presser —M'— revolving forces the cement or clay composition down into the space between the inside of the mold —C— and the exterior surface of the core or mold —P— thus shaping the socket of the pipe. The downward pressure on the platform increases when said space is filled and the socket is formed and the operator who has his foot on the lever —U— notices this increased pressure and removes his foot and the clay or other material of cement composition, for example, is forced through the ring shaped slot between the bottom of the center mold —M— and the ring or bottom portion —B'— of the outer mold —B— thereby pressing the platform —N— and the core —P— downward, and in so doing a pipe is formed the inner diameter of which is equal to the exterior bottom diameter of the center mold —M²— and the exterior diameter of which is equal to the inner diameter of the ring portion —B'—. The adjustable core mold —P— ceases to rotate with the center mold —M²— as soon as it is lowered a sufficient distance for the recesses —Q'— to become detached or released from the lug —R—. The platform gradually descends as the pipe is formed and when the pipe has the desired length it is cut off by moving the cutting of wire —E— across the bottom of the section —B'—. The cutting off wire remains in this position until the next pipe is formed which is in turn cut off by moving the cutting off wire back again, and so on. When the complete pipe is removed, the platform is raised and another socket and pipe formed.

With this description of my invention, what I claim is—

1. An improved machine for making pipes, consisting of an outer mold, and a screw presser in combination with a centrally mounted conical shaped inner mold, a bottom section or socket mold secured to the bottom edge of said outer mold, the inside of said bottom mold being so constructed as to conform to the exterior shape of a pipe socket, the bottom mold being so secured to the outer mold as to leave a horizontal annular slot between the lower edges of the inner and outer molds and the top edge of the socket mold, and a cutter suitably hung and secured and adapted to work from side to side in said horizontal annular slot, the whole constructed substantially as shown and described and for the purpose specified.

2. An improved machine for making pipes, consisting of an outer mold, and a screw presser, in combination with a centrally mounted conical shaped inner mold, a bottom section or socket mold secured to the bottom edge of said outer mold, the inside of said bottom mold being so constructed as to conform to the exterior shape of a pipe socket, the bottom mold being so secured to the outer mold

as to leave a horizontal annular slot between the lower edges of the inner and outer molds and the top edge of the socket mold, and a cutter suitably hung and secured and adapted to work from side to side in horizontal annular slot an adjustable core mold mounted on a platform and adapted to move toward and from said bottom or socket mold, the top of said adjustable core having recesses and the conical shaped inner mold being provided with projecting lugs on the inside thereof said lugs being adapted to engage the recesses on the top of said adjustable core, as described and shown and for the purposes specified.

3. In an improved machine for making pipe, the combination of the outer mold B, B', the inner mold M² provided with projecting lugs R, the bottom or socket mold C, the adjustable core P provided with recesses Q' adapted to engage with said lugs R, substantially as shown and described and for the purposes specified.

4. In a pipe making machine, the combination with the outer mold B, B', inner mold M² and screw presser M', of the bottom socket mold C, secured to said outer mold so as to leave a horizontal annular slot D, adapted to receive and permit the operation of a cutter, a rod or shaft the top of which forms a center pin, a platform mounted on said shaft and an adjustable core on said platform over said center pin, said shaft, platform and core adapted to move vertically into and from said socket mold C, substantially as shown and described and for the purposes specified.

5. In an improved machine for making pipe, the combination of a screw presser with an outer and inner mold and a bottom socket mold, the interior diameter of which equals the outer diameter of a socket to be formed on pipe to be produced, said bottom or socket mold being secured to the outer mold in such a manner as to leave a horizontal annular slot between the upper molds and said bottom mold, said slot being adapted to receive and permit the operation of a cutter, and a cutter adapted for the purposes specified, substantially as shown.

6. In a machine for making pipe the combination with the mold B, the mold C, said molds being secured together so as to form the horizontal annular slot D, of a cutter adapted to work in said annular slot, said cutter consisting of the wire E, sides F, the handle bands G, said wires secured to the sides by nuts F', the sleeve K secured to the mold and having longitudinal slots therein, rods J in said sleeves, arms H upon which the sides are suspended, secured to the rods, and adapted to slide on the sleeves, substantially as and for the purposes specified.

In testimony whereof I hereunto set my hand this 27th day of May, A. D. 1893.

JOSEPH SHARPE.

Witnesses:

J. WILSON SHARPE,
HENRY W. VENNER.