

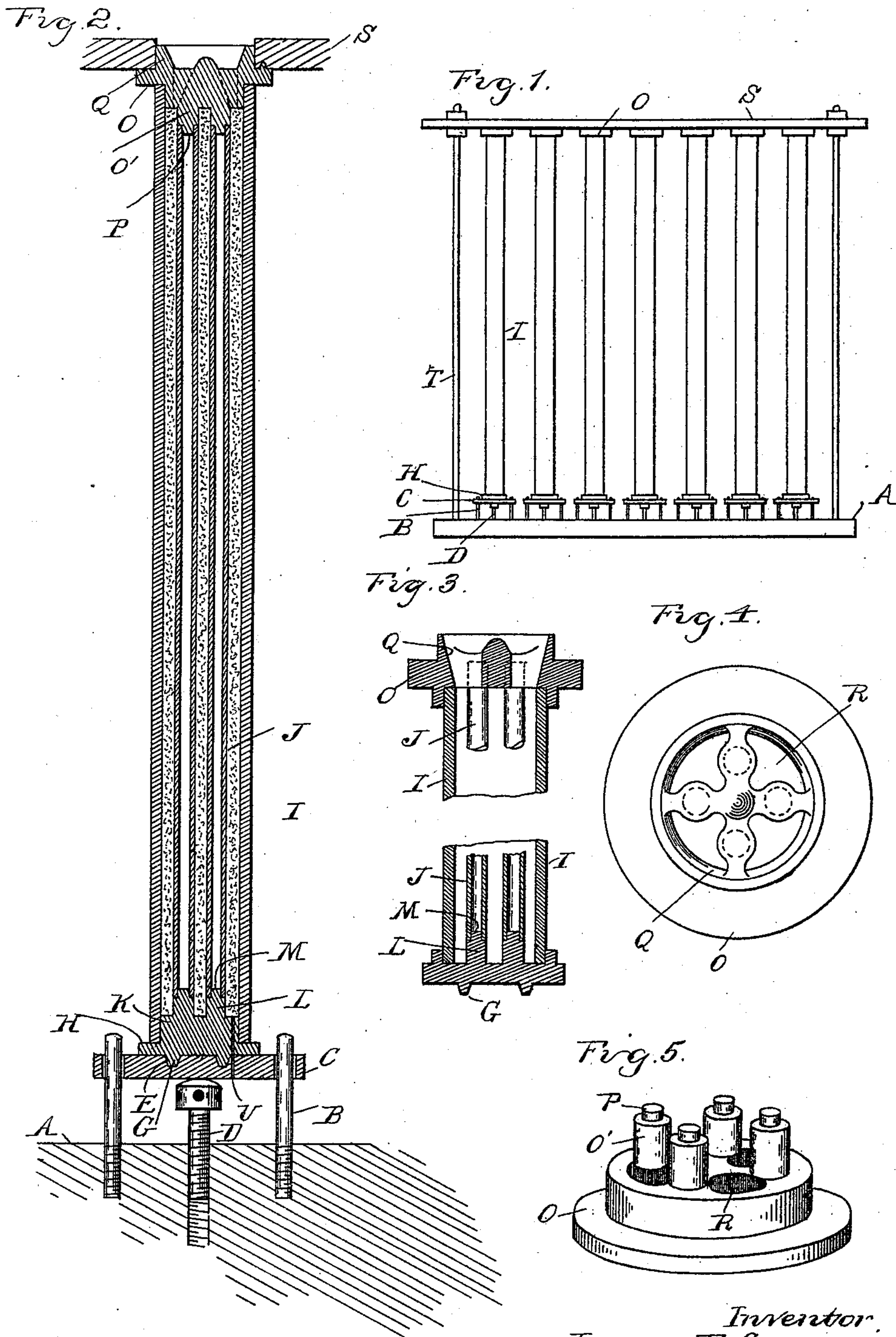
(No Model.)

J. F. CUMMINGS.

APPARATUS FOR MANUFACTURING CONDUIT SECTIONS.

No. 528,290.

Patented Oct. 30, 1894.



Witnesses  
A. L. Hobbie  
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# UNITED STATES PATENT OFFICE.

JAMES F. CUMMINGS, OF DETROIT, MICHIGAN, ASSIGNOR TO THE CUMMINGS  
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## APPARATUS FOR MANUFACTURING CONDUIT-SECTIONS.

SPECIFICATION forming part of Letters Patent No. 528,290, dated October 30, 1894.

Application filed January 16, 1894. Serial No. 497,092. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES F. CUMMINGS, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Apparatus for Manufacturing Conduit-Sections, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a new and useful improvement in an apparatus for forming conduit sections and it consists in the construction and arrangement of parts hereinafter described and definitely pointed out in the claims.

In the drawings, Figure 1 is a side elevation of the apparatus, showing a series of conduit casings in position ready for filling. Fig. 2 is a vertical, central, longitudinal section through one of such tubes, and the frame. Fig. 3 is a similar section partly broken away in the middle, showing a slightly modified form. Fig. 4 is a plan view of the upper conduit or filling cap. Fig. 5 is a bottom perspective view thereof.

In the present state of the art it is customary to center the conduits in the conduit casing by ropes or spacing blocks and then to force in a hardening compound around the two, by means of a pump, or by partially filling the casing with the compound and then forcing in the ducts the spacing block. These methods are found to have a number of objections which my improved apparatus is designed to overcome.

The apparatus which I have shown consists of a suitable base A.

B are a series of guide pins and C are plates apertured to receive said pins and to be adjusted vertically thereon by means of a screw bolt D entering the base A. These plates are provided on their upper face with grooves or sockets E in which pins or flanges G on the lower face of the lower cap H of the conduit casing are adapted to engage.

I represents a conduit casing, preferably of metal pipe, and J are the ducts preferably of wood or similar non-conducting material, which are adapted to be secured in the casing

I have shown the casing and ducts as circular and this I deem the preferable shape,

although other cross sections may be employed.

The lower cap is provided with a central circular projection K adapted to enter the lower end of the casing, and with a series of nipples L terminating in plugs M of a size to fit the interior of the ducts, one for each duct and arranged in such relation to the casing as the ducts are intended to be in the finished conduit.

The casing is secured over the projections K, as shown in Fig. 2. The ducts are secured upon the nipples L with the plugs M engaging in the lower ends thereof. The upper end of the casing is then capped by the upper cap O, which is provided with a corresponding series of nipples O' having plugs P adapted to enter the upper ends of the ducts and with an enlargement Q adapted to fit into the upper end of the casing.

The upper cap is provided with one or more filling apertures R. When the casing and ducts have thus been assembled, the parts are clamped together by means of a clamping bar S resting on the caps O, the parts being clamped together by means of the clamping bolts T, as shown in Fig. 1. The material may now be poured into the apertures R and will fill the space within the casing around the ducts and around the nipples L and O'. The air therein may escape either through one of the apertures at the top or a small vent U may be formed at the bottom. When filled the ducts are allowed to remain until the material hardens or dries and then they may be removed from the frame.

The construction described is intended to form conduit sections in which the ducts are recessed a short distance into the end of the casing, the end being filled by suitable plugs or connecting sections.

In case it is desired to have one or both ends of the ducts project beyond the casing this can be accomplished by providing sockets for the ends of the ducts in the caps, as shown in Fig. 3 instead of having the nipples O' therefor.

What I claim as my invention is—

1. The combination of the frame, caps for the ends, the plugs on said caps adapted to enter the end of the ducts, means for clamp-



ing the caps upon the conduit section, the upper cap being provided with pouring apertures, substantially as described.

2. The combination of the base, the guides thereon, the lower capped plate C slidably engaging on said guides, means for adjusting said plate vertically, the lower capped plate K having a plug for the lower end of the casing and plugs and centering devices for the ducts, a corresponding top cap having pouring apertures and clamping devices, substantially as described.

3. The combination with a base and conduit casing, of caps for the ends of the casing, the upper cap having a fill opening therein, retaining means on the caps, ducts on the retaining means, and a clamp for retaining the casing in an upright position, substantially as described.

4. The combination with a base, of an adjustable plate thereon, a cap on the plate

having duct seats thereon, a casing on the cap, ducts on the seats, a cap on the upper end of the casing having corresponding duct seats on its under face, and fill openings and means for retaining the casing in an upright position, substantially as described.

5. The combination with a base, of a conduit casing thereon, a removable cap fitted to the lower end of the casing having a duct retaining seat, a duct on the seat, a removable cap fitting the upper end of the casing having fill openings therein and a corresponding duct with which the duct engages, and means for retaining the casing in an upright position, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES F. CUMMINGS.

Witnesses:

M. B. O'DOHERTY,  
O. F. BARTHEL.