

1,152,978.

Patented Sept. 7, 1915.

Fig. 1.

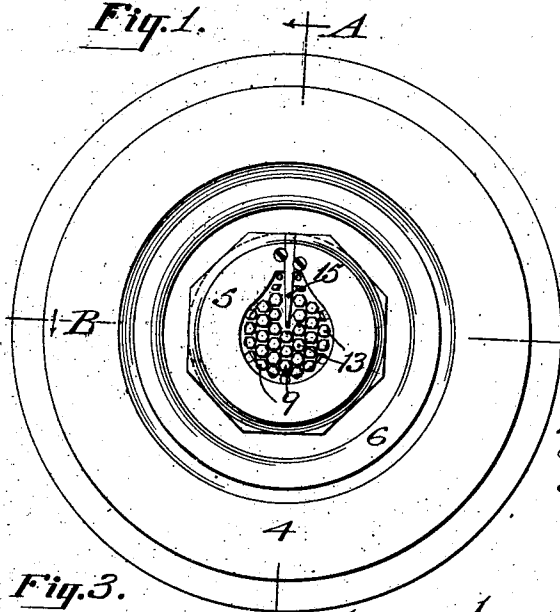


Fig. 2.

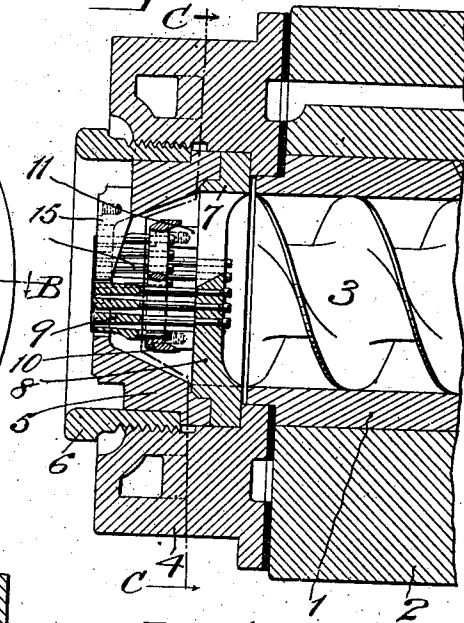


Fig. 3.

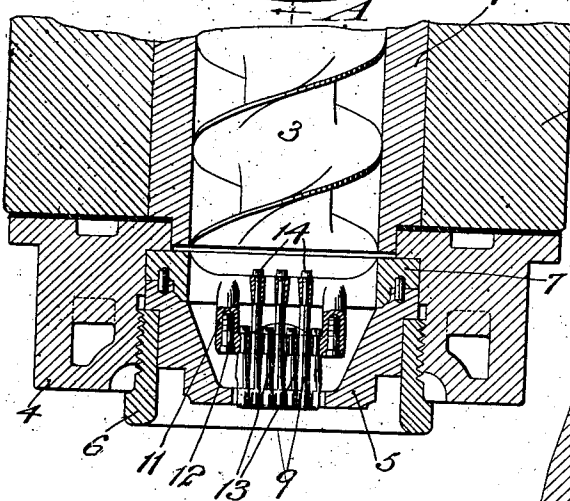


Fig. 4.

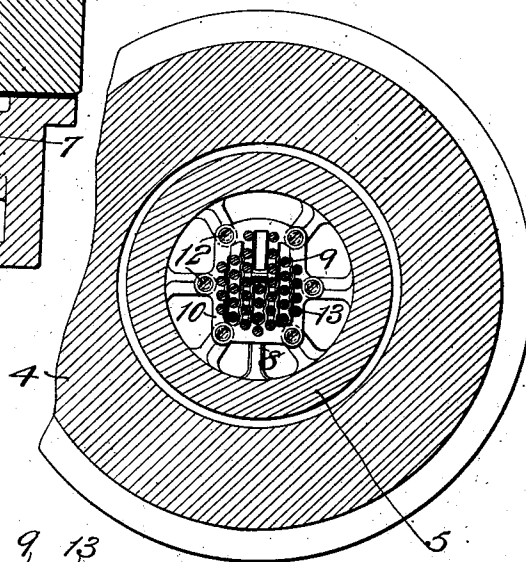
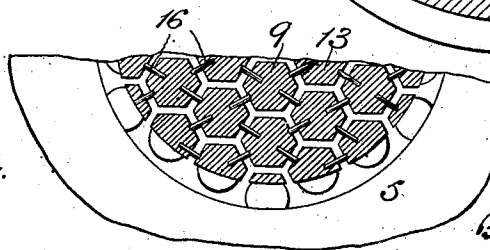


Fig. 5.



Witnesses:-
Superior Barry.
George Barry.

Inventor:-
Vernon Royle
By Brown & Edward
his Attorneys

UNITED STATES PATENT OFFICE.

VERNON ROYLE, OF PATERSON, NEW JERSEY.

TUBING-MACHINE.

1,152,978.

Specification of Letters Patent.

Patented Sept. 7, 1915.

Application filed November 27, 1912. Serial No. 733,835.

To all whom it may concern:

Be it known that I, VERNON ROYLE, a citizen of the United States, and resident of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement in Tubing-Machines, of which the following is a specification.

My invention relates to a tubing machine and more particularly to a machine for simultaneously producing a plurality of tubes having their walls exteriorly connected.

The object is to provide for firmly supporting a gang or plurality of cores in close relation to one another, leaving a thin space between their exterior adjacent walls and so locating them within a die that the plastic material may be caused to flow around the several core members without serious hindrance.

In the accompanying drawings, Figure 1 is an end view of the machine, Fig. 2 is a vertical longitudinal section through the core, die, their supports and a portion of the feed screw, in the plane of the line A—A, Fig. 1. Fig. 3 is a longitudinal section of the same in the plane of the line B—B, Fig. 1. Fig. 4 is a transverse section in the plane of the line C—C, Fig. 2, and Fig. 5 is a partial enlarged transverse section near the discharge end of the die, showing the spacing pins for holding the core members in proper relation to one another near their free ends.

The feed screw cylinder is denoted by 1; its jacket by 2, the feed screw by 3, the die holder by 4, the die by 5 and the tubular nut for holding the die in position by 6.

Between the end of the cylinder 1 and the die, a core bridge 7 is held, and into the web 8 of this core bridge, a gang of cores 9 are secured, their free ends extending to the outer end of the die 5. A second core bridge 10 is superposed on the core bridge 7, by means of posts 11, extending outwardly from the bridge 7, into which posts screws 12 are tapped and extend through the margin of the bridge 10. A gang of cores 13 is secured in the bridge 10 and project outward to the outer end of the die 5, terminating in the plane of the outer ends of the gang 9. The core members of the gang 9 alternate with the core members of the gang 13, in such manner as to bring the outer ends of the two gangs in the desired relation to one another to produce the honey-

comb structure desired. The inner ends of the several core members are here shown reduced in size and passed through holes in the webs of the bridges and secured therein by means of nuts 14, screwed on their threaded inner ends. This arrangement permits a flow of plastic material first around one gang of cores, filling the space between the two bridges and finally around the members of both gangs at the mouth of the die. The cores may thus be firmly supported without unduly obstructing the flow of the plastic material. The particular grouping of the core members in the present illustration is suited to the manufacture of a honeycomb pneumatic tube section for tires. A V-shaped opening is made along the inner side of the tire section by locating a tapered projection 15 at the mouth of the die, as shown in Fig. 1. This opening is serviceable in applying the tire casing with this tube section therein to a wheel rim.

The cross sectional shape of the core members is here shown hexagonal, and the free ends of the core members are held in the desired relation to one another against any tendency to spring toward or away from one another under pressure of the plastic material by spacing pins 16, see Fig. 5, set in their walls and located in a plane a short distance back from their free ends a distance sufficient to permit the plastic material to unite after passing the pins before leaving the discharge end of the die.

The structure hereinabove described is not limited in its use to the manufacture of pneumatic tubes for tires, but may be used as well to manufacture multi-perforated tubes in general, whatever may be the particular grouping of the core members.

What I claim is:

1. In a tubing machine, a die, a double core bridge, a gang of core members extending from each member of the double core bridge, the core members of one gang intermingling with the core members of the other gang, the core members of the two gangs terminating in substantially the same plane within the die and spacing pins located in a plane a short distance back from the free ends of the core members.
2. In a tubing machine, a die, a core bridge, a gang of core members extending from the bridge into the mouth of the die,

and a tapered projection extending inwardly from the wall of the die partially across the mouth of the die among the core members to form an opening along one side of the finished tube to permit the latter to contract.

In testimony, that I claim the foregoing

as my invention, I have signed my name in presence of two witnesses, this 26th day of Nov. 1912.

VERNON ROYLE.

Witnesses:

HERBER ROYLE,
F. J. BRADLEY.