

No. 617,763.

Patented Jan. 17, 1899.

H. NORRIS.

MACHINE FOR FLUTING, CORRUGATING, OR GROOVING TUBES.

(Application filed Aug. 25, 1898.)

(No Model.)

FIG. 1.

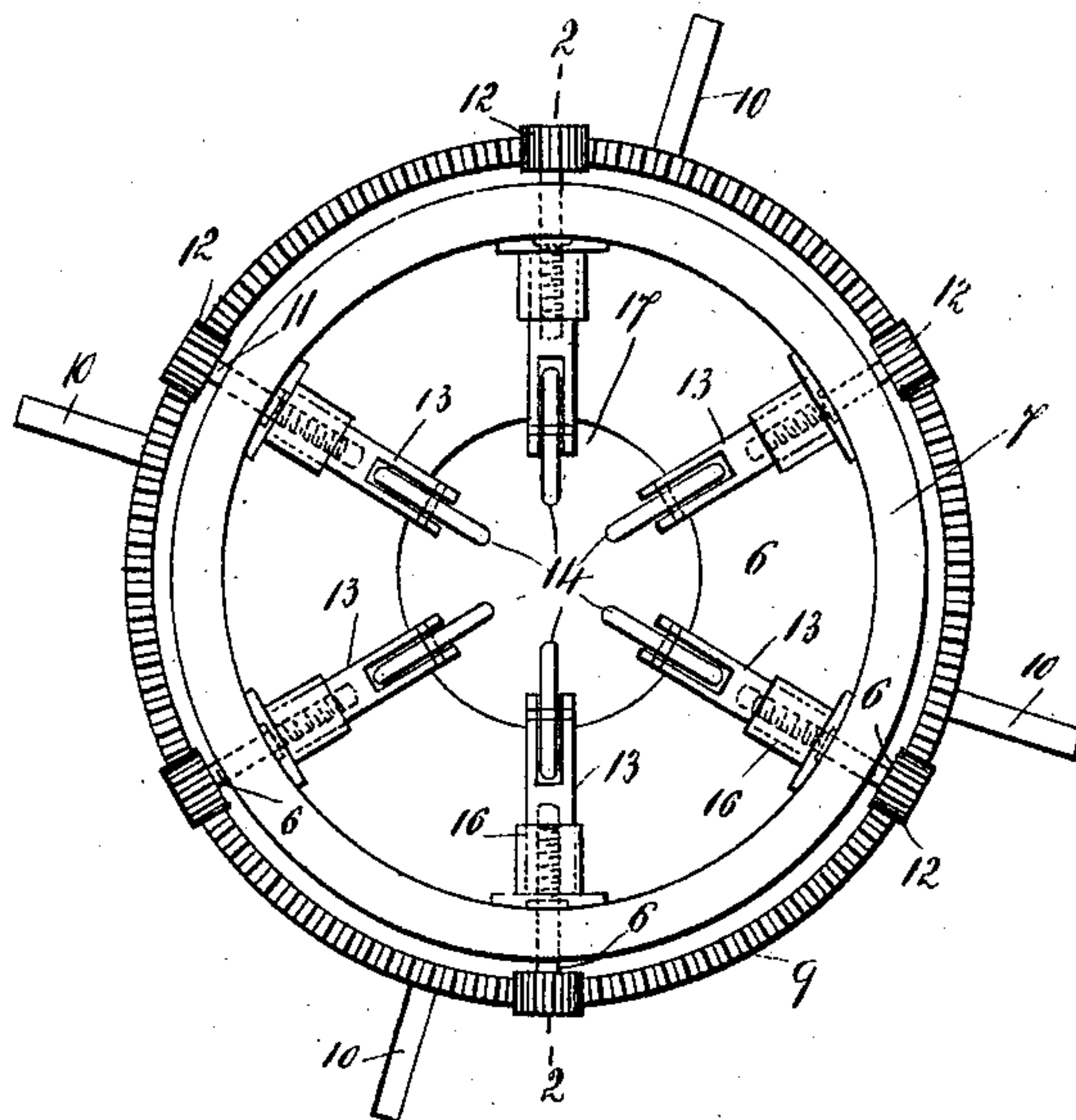
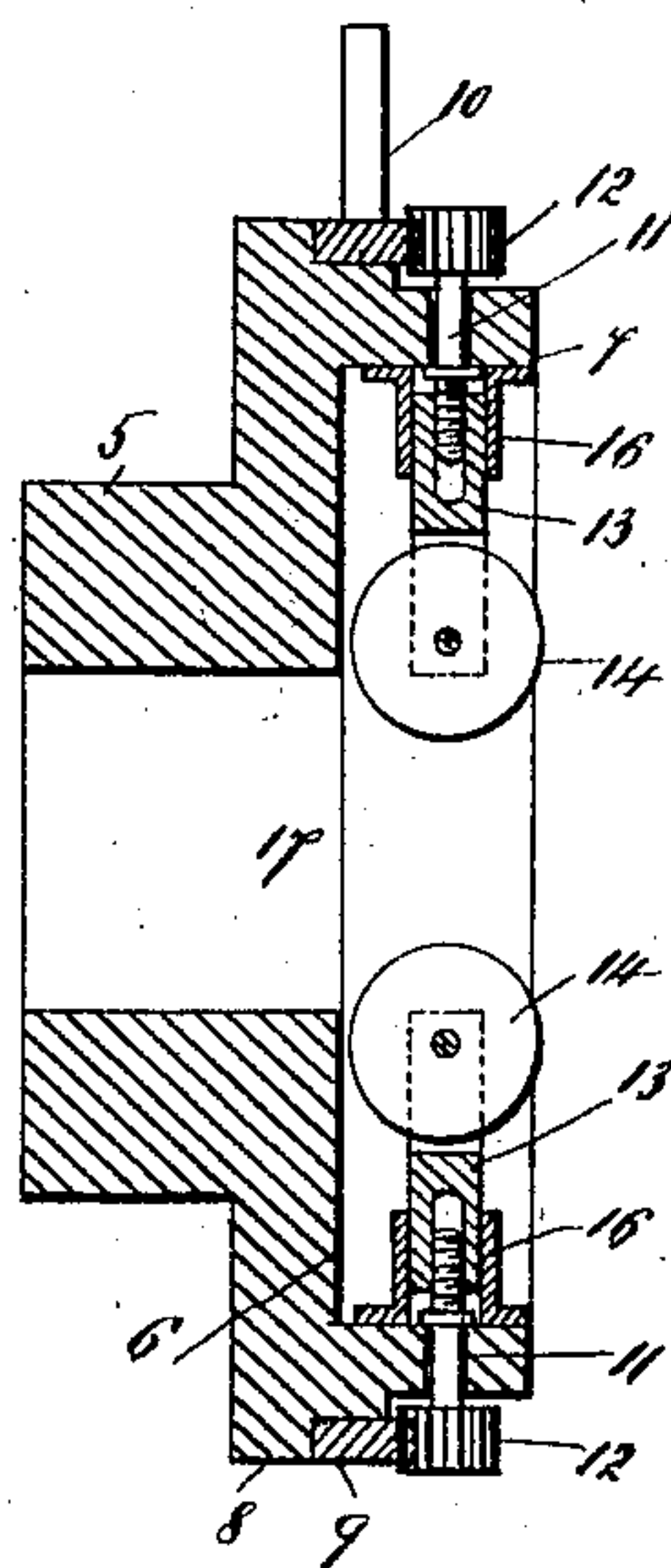


FIG. 2.



WITNESSES

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HARRY NORRIS, OF BIRMINGHAM, ENGLAND.

MACHINE FOR FLUTING, CORRUGATING, OR GROOVING TUBES.

SPECIFICATION forming part of Letters Patent No. 617,763, dated January 17, 1899.

Application filed August 25, 1898. Serial No. 689,459. (No model.)

To all whom it may concern:

Be it known that I, HARRY NORRIS, a subject of the Queen of Great Britain, residing at Birmingham, in the county of Warwick, England, have invented certain new and useful Improvements in Machines for Fluting, Corrugating, or Grooving Tubes, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to means for fluting, grooving, or corrugating metal tubes; and the object thereof is to provide an improved machine for this purpose which is simple in construction and operation and well adapted to accomplish the result for which it is intended, while being also comparatively inexpensive.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in which—

Figure 1 is a plan view of my improved machine, and Fig. 2 a transverse section thereof on the line 2 2.

In the practice of my invention I provide a suitable frame or support 5 of any desired form or construction and which is provided at its upper end with an annular plate or head 6, above which and near the outer perimeter thereof is a vertical flange or rim 7, and said plate or head is also provided with a projecting circular flange 8, on which is supported a ring 9, the upper side of which is provided with gear-teeth, as shown in Fig. 1, and this ring 9 is provided with outwardly-directed arms or handles 10, any desired number of which may be employed and four of which are shown.

Passing radially through the flange or rim 7 at regular intervals are shafts 11, six of which are shown, and these shafts are provided at their outer ends with pinions 12, which are operated by the ring 9, and said shafts are screw-threaded at their inner ends, and mounted thereon are radially-movable blocks 13, each of which is provided at its inner end with a slot in which is mounted a wheel or roller 14.

The radially-movable blocks 13 fit in keep-

ers 16, which, as shown in the drawings, are secured to the inner surface of the flange or rim 9; but said keepers may be secured to the plate or head 6, if desired, and the frame or support 5 is provided with a central circular opening 17.

The radially-movable blocks 13 operate as plungers and are provided with screw-threaded longitudinal bores in their outer ends, into which the inner ends of the screw-threaded shafts 11 pass, and by turning the ring 9 said plungers may be forced inwardly or drawn outwardly, as will be readily understood, the direction of the movement thereof depending on the direction in which the ring 9 is turned.

The gear-ring 9 may be supported in any desired manner, and the operation of the device will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof. In practice the tube to be grooved, fluted, or corrugated is passed through the open space between the wheels or rollers 14 and at the same time the ring 9 is revolved or turned in the desired direction and the rings or rollers 14 form the required grooves, corrugations, or fluting in said tube.

It will thus be seen that I accomplish the object of my invention by means of a device which is simple in construction and operation, and it will be apparent that changes and modifications of the construction described may be made without departing from the spirit of my invention or sacrificing its advantages.

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A machine for the purpose herein described, comprising a suitable frame or support having a central opening, an upwardly-directed annular flange or rim connected with said frame or support, radial keepers connected with the inner side of said flange or rim, radially-movable blocks or plungers mounted in said keepers, said blocks or plungers being provided with screw-threaded bores, radial shafts passing through said flanges or rims, and through said blocks or plungers, said shafts being provided at their

inner ends with threads which correspond with the threads formed in the central bores of said blocks or plungers, pinions mounted on the outer ends of said shafts and outside of said flange or rim, and a gear-wheel supported beneath said pinions and operating in connection therewith to revolve said shafts, said blocks or plungers being also provided at their inner ends with wheels or rollers, substantially as shown and described.

2. A machine for the purpose herein described, comprising a suitable frame or support having a central opening, an upwardly-directed flange or rim surrounding said central opening, a gear-wheel mounted outside of said flange or rim, radial keepers mounted inside of said flange or rim, radially-movable blocks or plungers mounted in said keepers and provided with central screw-threaded bores, screw-threaded shafts passing through said flange or rim and through said blocks or plungers, and provided at their outer ends with pinions which operate in connection with said gear-wheel, said blocks or plungers being provided at their inner ends with wheels or

rollers, and means for operating said gear-wheel, substantially as shown and described.

3. A machine for the purpose herein described, comprising a suitable frame or support having a central opening, a vertical flange or rim surrounding said opening, radial keepers connected with the inner side of said flange or rim, radially-movable blocks or plungers mounted in said keepers and provided with screw-threaded central bores, radial shafts passing through said flange or rim and through said blocks or plungers, said shafts being also screw-threaded, wheels or rollers connected with the inner ends of said blocks or plungers, and means for operating said shafts, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 9th day of August, 1898.

HARRY NORRIS.

Witnesses:

WILLIAM STREET,

GEORGE CULLIS BENDALL.