No. 713,767. Patented Nov. 18, 1902.

T. A. JUDGE.

COILING CHAMBER FOR COILING METAL STRIPS INTO TUBES.

(Application filed May 23, 1902.)

(No Model.)

Fig. 1.

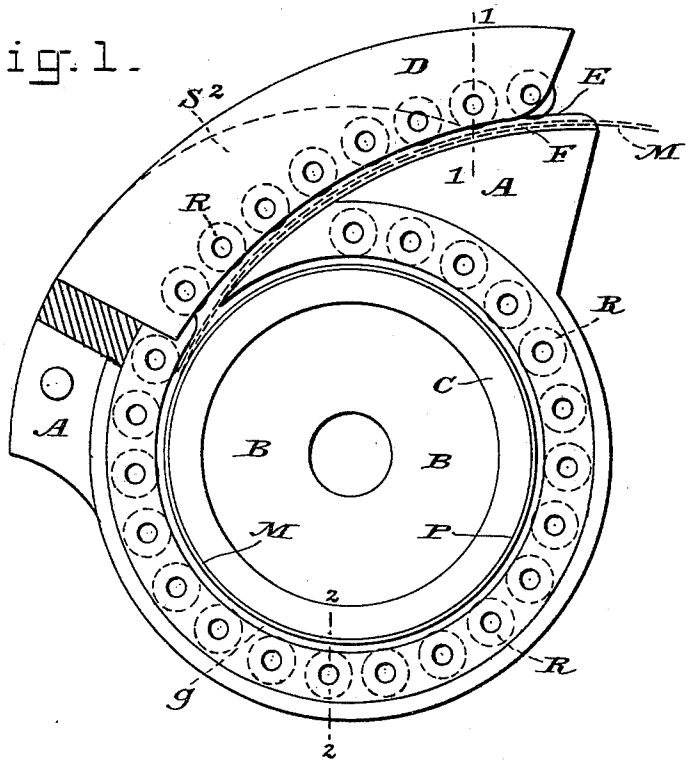
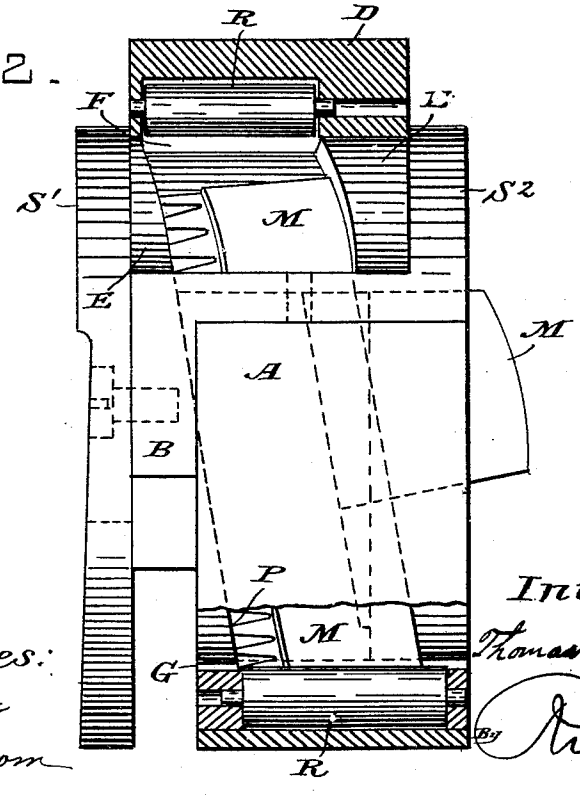



Fig. 2.




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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

THOMAS ALFRED JUDGE, OF SHEFFIELD, ENGLAND.

## COILING-CHAMBER FOR COILING METAL STRIPS INTO TUBES.

SPECIFICATION forming part of Letters Patent No. 713,767, dated November 18, 1902.

Application filed May 23, 1902. Serial No. 108,656. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS ALFRED JUDGE, a subject of the King of Great Britain, residing at Sheffield, county of York, England, have invented certain new and useful Improvements in Means for Coiling Metal Strips, of which the following is a specification.

My invention relates to the construction of a coiling-chamber for use in the manufacture of metallic cylinders or tubes from long strips of steel or other material, which are set down or stepped longitudinally upon one edge. It is illustrated in the annexed sheet of drawings.

Figure 1 is a front elevation with a piece of the casting removed from the front side to show the detachable cap; Fig. 2, a side elevation of same, shown partly in section and with a short length of steel coil passing through it.

It consists of an outer casing A, preferably of circular form or approximating thereto, a back plate B, and a central cylinder C, having upon its periphery a raised helical path P, and around the central cylinder and at a sufficient distance to permit the passage of the strip which is to be coiled are fixed a circle of rollers R, which compel the said strip to assume a circular form and to travel up the helical path P as it is forced forward. These rollers may be provided with ball or roller bearings, if desired. Between the sides S′ and $S^2$, I place a removal cap-piece D, also provided with rollers R, which rests upon raised parts E, between which the strip of metal M enters at F.

The space G (seen in Fig. 2) is the entrance for molten solder to pass into the central cylinder C and the coiled strip, the lower part of apparatus being immersed in a bath of molten solder when at work. The width of this space G is indicated by dotted line *g* in Fig. 1.

In Fig. 1 the side $S^2$ is removed to show the side of the cap-piece D, with its rollers. The side S′ is formed by the upper part of the back plate B for convenience of manufacture.

Having now particularly described my invention, what I consider novel and desire to claim is—

1. A coiling-chamber for use in the manufacture of metallic cylinders or tubes, consisting of an outer casing of suitable form, inclosing a central cylinder projecting from a back plate, and having a helical pathway upon its periphery surrounded by guide rollers, as hereinbefore described and shown.

2. In a coiling-chamber for use in the manufacture of metallic tubes from continuous strips, a central cylinder C, having upon its periphery a projecting helical path P, and surrounded with a circle of rollers R, the said rollers being arranged helically as a series to lie opposite the helical path P, as hereinbefore described and set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

THOMAS ALFRED JUDGE.

Witnesses:

ROBT. F. DRURY,

BERNARD E. DRURY.