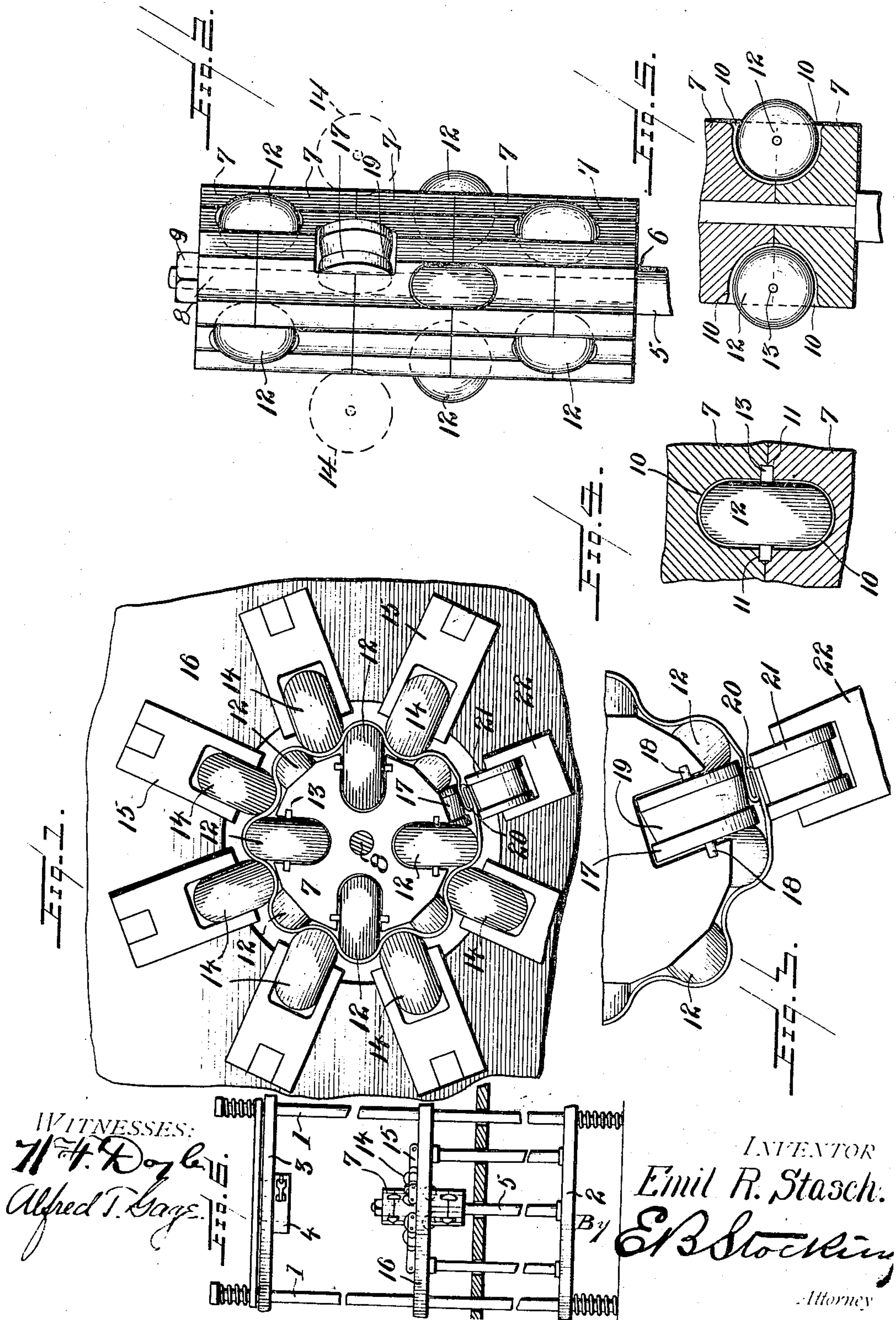


No. 841,277.

E. R. STASCH.
CORRUGATING MANDREL.
APPLICATION FILED JULY 13, 1906.

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WITNESSES:
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EMIL R. STASCH, OF CORNING, NEW YORK.

CORRUGATING-MANDREL.

No. 841,277.

Specification of Letters Patent.

Patented Jan. 15, 1907.

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To all whom it may concern:

Be it known that I, EMIL R. STASCH, a citizen of the United States, residing at Corning, in the county of Steuben, State of New York, have invented certain new and useful Improvements in Corrugating-Mandrels, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a corrugating-mandrel, and particularly to a structure adapted for use in connection with the machine shown in my allowed application filed May 5, 1906, Serial No. 315,362.

15 The invention has for an object to provide a mandrel formed of sections between which the bearing-rollers are pivotally mounted, each of said sections having a recessed space to receive the rollers and their journals, together with the particular mounting of said rollers in successive vertical planes and descending horizontal planes, so as to increase the capacity of a mandrel of predetermined size.

25 A further object of the invention is to provide an improved construction and arrangement of seaming-roller mounted upon the mandrel and cooperating with the corresponding roller upon the carriage, said seaming-roller being provided with a peripheral groove having a wall to engage and retain the pipe against any rotary movement upon the mandrel.

5 Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

10 In the drawings, Figure 1 is a detail plan of the mandrel and corrugating-rollers, which travel together. Fig. 2 is a detail elevation of the mandrel. Fig. 3 is an enlarged plan of the seaming-rollers. Fig. 4 is an enlarged section through the roller-bearing in the mandrel. Fig. 5 is a detail section at right angles to Fig. 4, and Fig. 6 is a side elevation showing the mounting of the mandrel and the cooperating corrugating-rollers to travel in fixed relation to each other.

15 Like numerals of reference indicate like parts in the several figures of the drawings.

20 The numeral 1 designates supporting standards or ways, upon which a carriage 2 is slidably mounted, said ways being provided at their upper ends with the holding-block 3, adapted to sustain the pipe to be corrugated

in position, and also provided with a crimping device 4, of any desired character. This carriage is provided with a stem 5, formed at its free end with a shoulder 6, upon which the sections 7 of the mandrel are supported, while the extended end 8 of this stem is provided at its end with the holding-nut 9 for clamping the sections of the mandrel in fixed relation to each other. Each of these sections 7 is provided with a concaved recess 10 and a bearing-recess 11, adapted to receive a portion of the roller and its journal, respectively, when the same are introduced between the sections, and thus to hold the roller against any possible displacement, owing to the fact that the journal-bearing is inset from the periphery of the sections so that less than one-half of the roller 12 projects from the recess thus formed, while the bearings 13 are firmly clamped between the walls of the sections 7.

25 In order that a mandrel of given diameter may accommodate the largest possible number of rollers for effecting the corrugating-work, these rollers are arranged in parallel longitudinal planes and in successive transverse planes extending from the free end of the roller. It will thus be seen that a mandrel which owing to its circumference cannot accommodate eight corrugating-rollers in a single transverse plane can be used with eight of such rollers by disposing the same in successive transverse planes. The cooperating corrugating-rollers 14, carried by the pivoted supports 15 upon the platform 16 of the carriage, are mounted in the same manner as described in my application above referred to and disposed between each of the mandrel-rollers, so that both sets of rollers travel in relatively fixed relation to each other during the corrugating action, and the preliminary bending, as well as the final finishing-work, is accomplished by the rollers 12 upon the mandrel at each side of the rollers 14 upon the carriage-frame.

30 A seaming-roller 17, provided with journals 18, is mounted between two of the sections of the mandrel in the same manner as the corrugating-rollers and is provided with a peripheral groove 19, against which the seam 20 of the pipe-body is adapted to abut to prevent a rotary or slipping movement of the pipe during the seaming action by the cooperating roller 21, carried by the frame 22, mounted on the carriage. These seaming-

rollers are in fixed relation to each other and in the movement of the pipe through the machine effectually close the seam and prevent a rotary slipping of the pipe.

5 In the operation of the invention the tube or pipe to be corrugated is inserted in the machine and held at one end thereof by the crimping device or other means, while the carriage supporting both the mandrel and
10 coöperating rollers travels longitudinally for the length of the tube, and the portion of the pipe beyond the travel of the carriage is finished by the crimping device at the held end of the tube.

15 Having now described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

20 1. A mandrel composed of a series of superposed sections each provided with a roller and journaling-recess, and means for clamping said sections together.

2. A mandrel composed of a series of superposed sections each provided with a roller and journaling-recess, and means for
25 clamping said sections together, said recess being inset from the periphery of the mandrel.

3. A mandrel provided with corrugating-rollers mounted therein in parallel longitudinal planes and successive transverse planes, and coöperating rollers supported upon the carriage in planes intermediate of the longitudinal planes of the mandrel-rollers and movable with said mandrel. 30

4. A corrugating - mandrel composed of sections each recessed to receive a roller, said rollers being disposed successively in parallel longitudinal planes and different transverse planes. 35

5. A corrugating-machine having a mandrel provided with rollers disposed in series in different transverse planes, in combination with a carriage traveling with said mandrel and carrying coöperating rollers all disposed in a single transverse plane in planes
45 intermediate of the longitudinal planes of the mandrel-rollers.

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

EMIL R. STASCH.

Witnesses:

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