

J. NAEGELEN.
BENDING ROLLS.
APPLICATION FILED SEPT. 14, 1908.

908,119.

Patented Dec. 29, 1908.

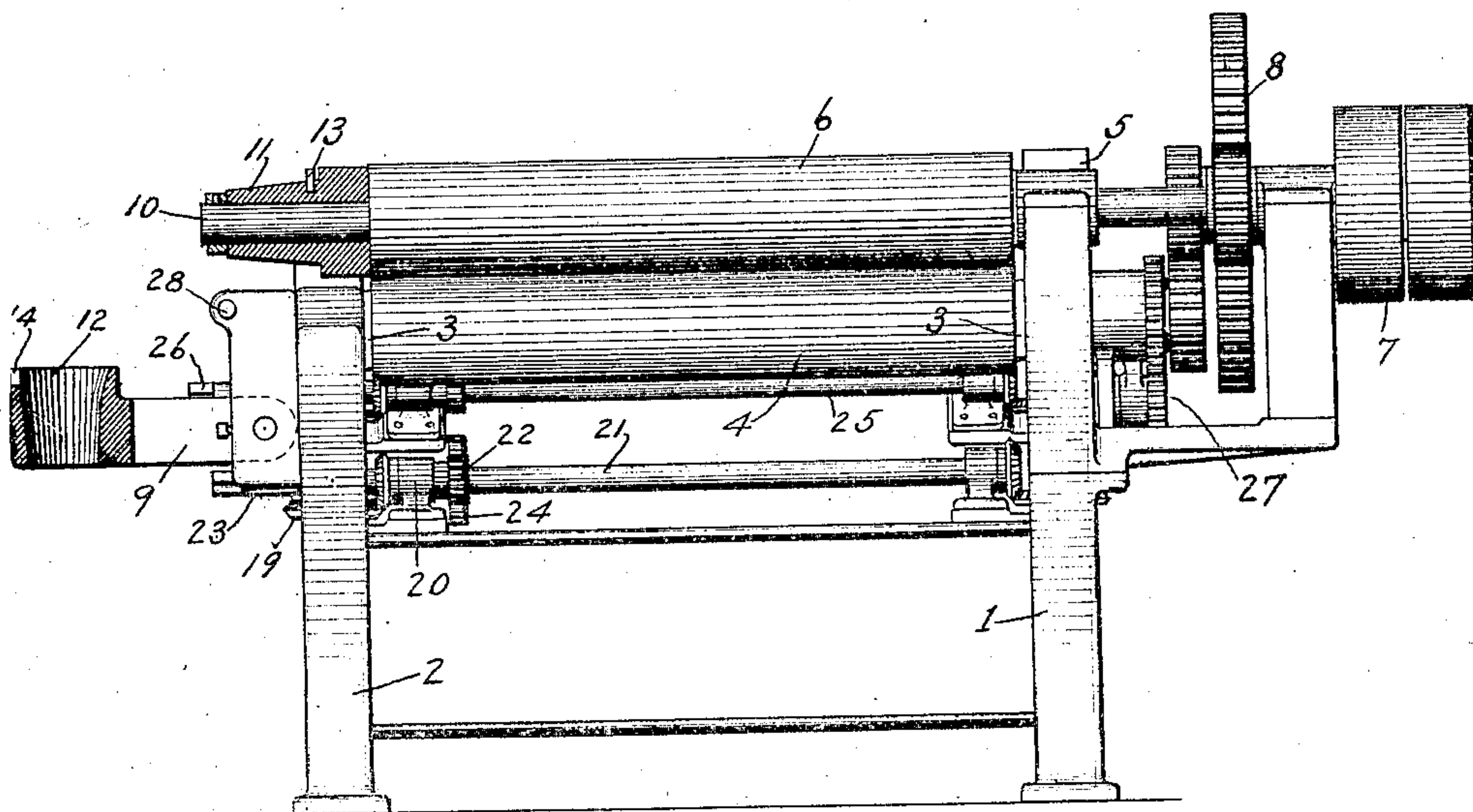


FIG. 1.

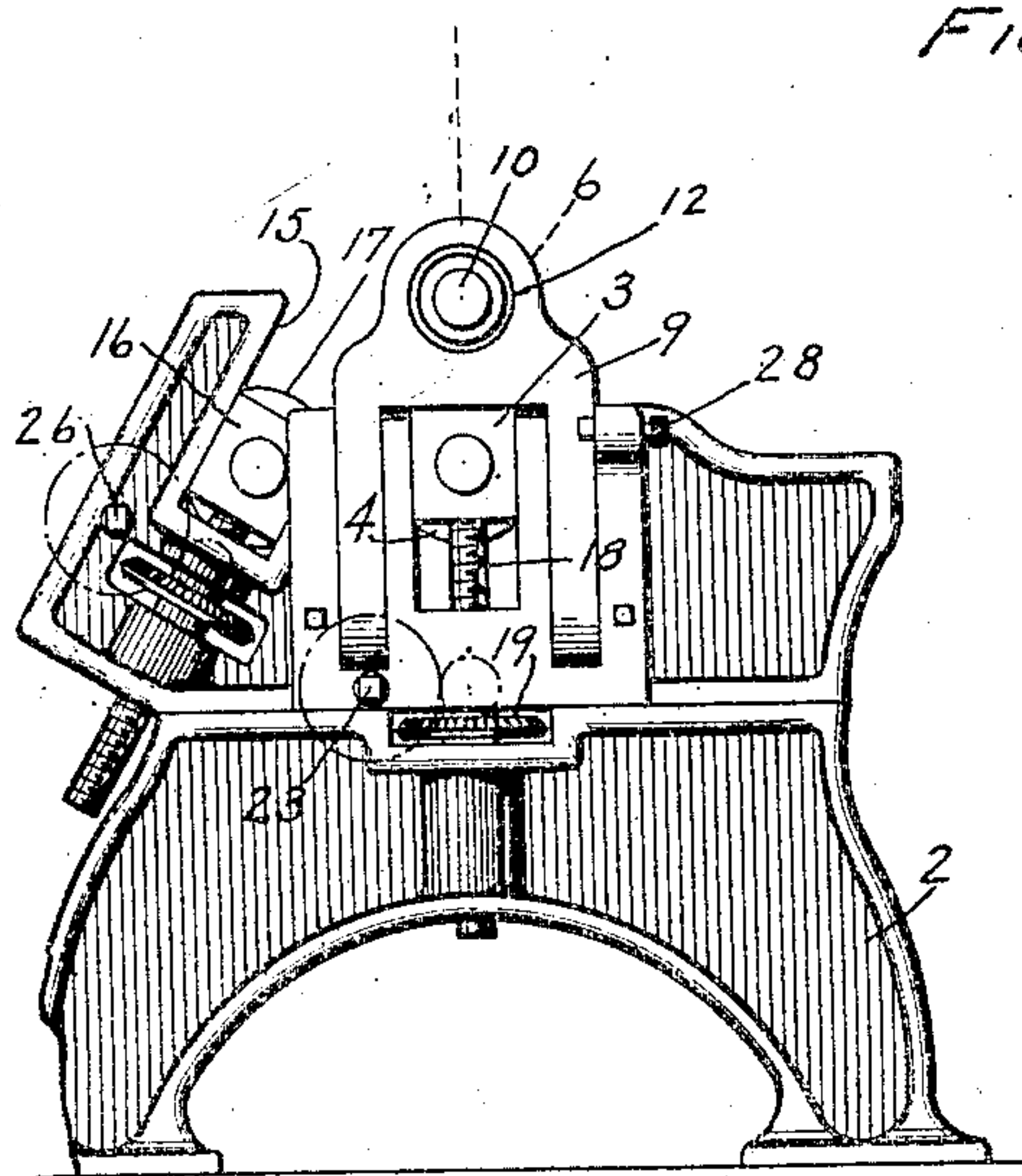


FIG. 2.

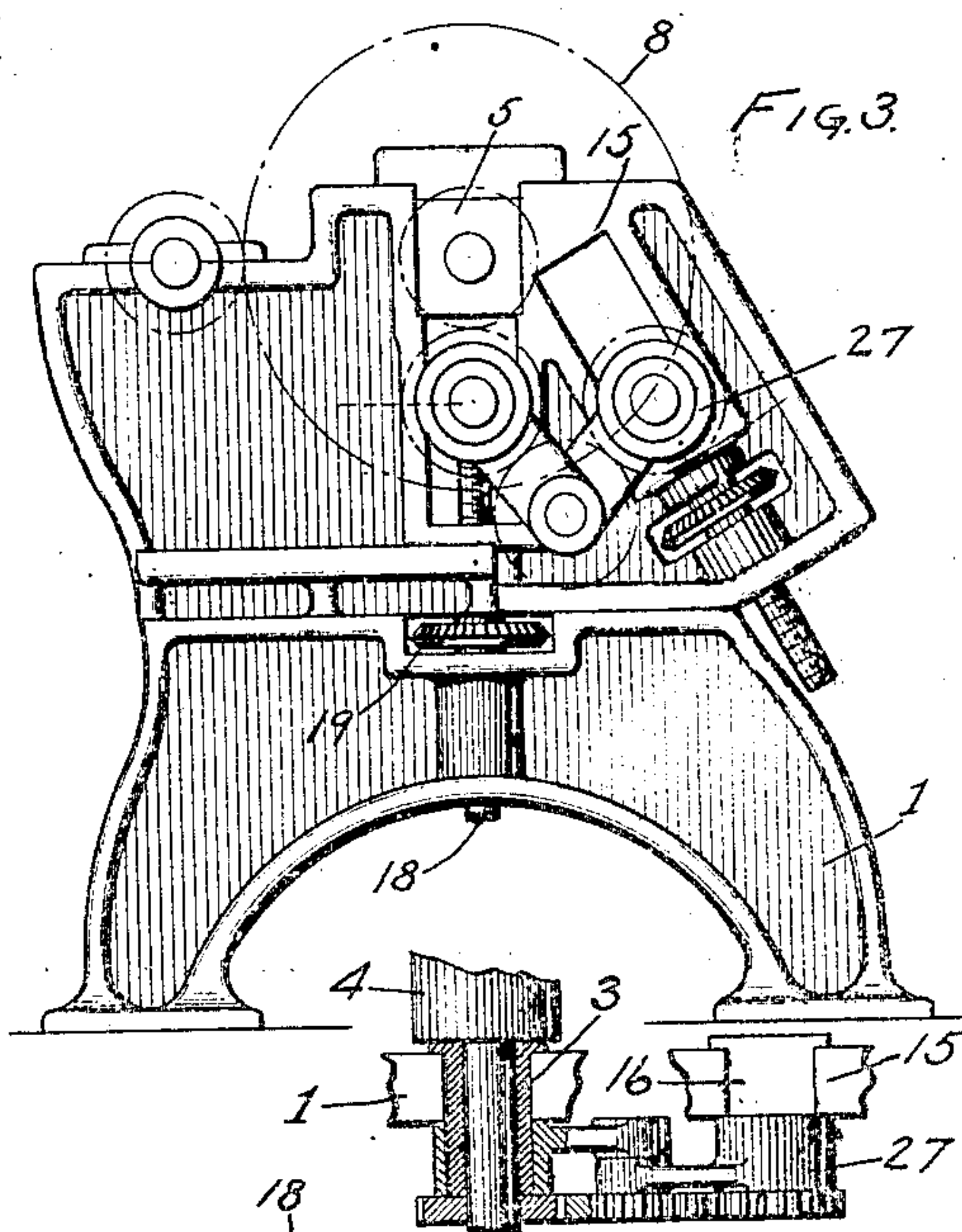


FIG. 3.

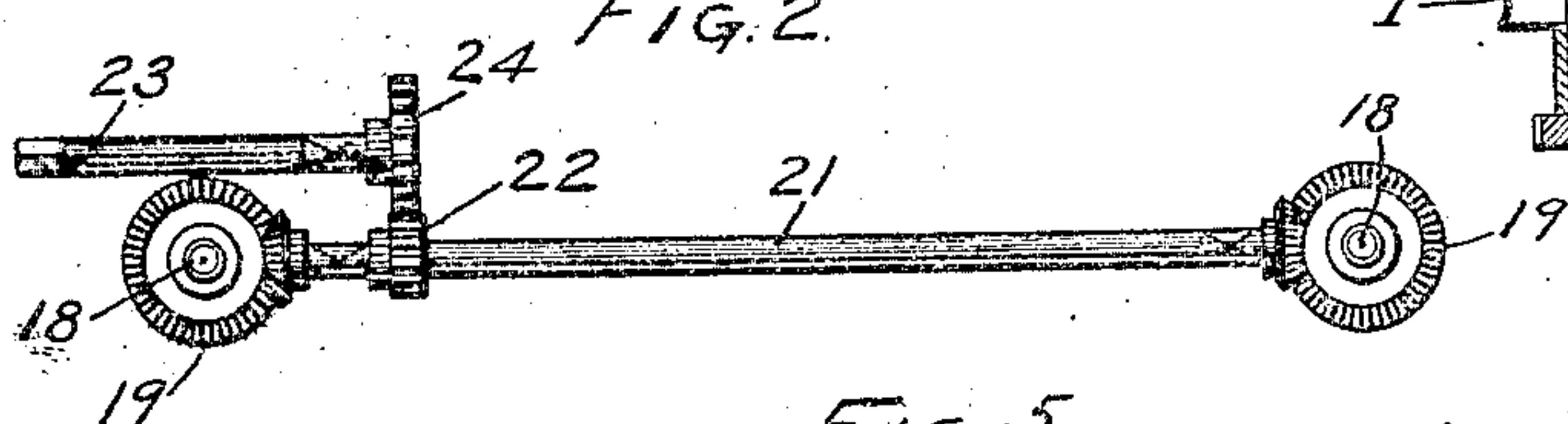


FIG. 4.

FIG. 5.

Jacob Naegelen

Witnesses:
E. H. Speer
M. S. Belden

Inventor
by *James W. See*
Attorney

UNITED STATES PATENT OFFICE.

JACOB NAEGELEN, OF MIDDLETOWN, OHIO, ASSIGNOR TO THE AMERICAN ROLLING MILL COMPANY, OF MIDDLETOWN, OHIO.

BENDING-ROLLS.

No. 908,119.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed September 14, 1908. Serial No. 453,034.

To all whom it may concern:

Be it known that I, JACOB NAEGELEN, a citizen of the United States, residing at Middletown, Butler county, Ohio, have invented certain new and useful Improvements in Bending-Rolls, of which the following is a specification.

This invention, pertaining to improvements in bending rolls, will be readily understood from the following description taken in connection with the accompanying drawing in which:—

Figure 1 is a front elevation of my improved rolls, the buckle-bearing and its bushing appearing in vertical section: Fig. 2 an elevation of the tail end of the machine: Fig. 3 an elevation of the head end of the machine, the driving gearing and its supporting bracket being omitted: Fig. 4 a plan, part horizontal section, of the expansion gearing: and Fig. 5 a diagrammatic plan of the roll-adjusting mechanism.

In the drawing:—1, indicates the head housing: 2, the tail housing: 3, the bearings for the lower pinching roll, arranged to slide vertically in the housings: 4, the lower pinching roll journaled in these bearings: 5, the fixed bearing in the head housing for the top pinching roll: 6, the top pinching roll having its head journal mounted in this bearing: 7, the driving pulleys for the machine: 8, the gearing connecting the driving pulleys with the two pinching rolls: 9, the buckle-bearing pivoted to the tail housing on a horizontal pivot and adapted to swing up and engage and support the tail journal of the top pinching roll: and 10, the tail journal of the top pinching roll.

All of the parts thus far referred to are and may be constructed and arranged for operation as usual and subject to the usual modifications of such constructions.

Proceeding with the drawing:—11, indicates a tapering bushing loose on the tail journal of the top pinching roll and held against endwise displacement by a collar on the outer end of the journal: 12, a tapering bore in the buckle-bearing, adapted to engage and fit the exterior of the bushing: 13, a pin projecting outwardly from the tapering bushing: and 14, a notch in the buckle-bearing adapted to engage the pin 13 when the buckle-bearing is in active position.

When the buckle-bearing is down, as shown in Fig. 1, then curved sheets may be

readily withdrawn endwise of the rolls, and when the buckle-bearing is swung up into place the tapering bore of the buckle-bearing readily engages over the tapering portion of the bushing and the pin and notch arrangement prevents the bushing from turning in the buckle-bearing. The wear at the tail journal of the top pinching roll takes place entirely on that bearing and in the bore of the bushing and may, when occasion demands, be compensated for by replacing the tapering bushing, the bore of the buckle-bearing being free from wear.

Proceeding with the drawing:—15, indicates diagonal slots in the two housings to receive the bearings of the bending roll: 16, the bearings for the bending roll, adjustable in these slots: 17, the bending roll: 18, non-rotary screws projecting downwardly from the bearings of the lower pinching roll: 19, bevel gears forming nuts on these screws, the gears being housed against vertical movement in the housings: 20, bearings supported by and at the inner surface of the housings in the common vertical plane of screws 18: 21, a shaft journaled in these bearings provided at its ends with bevel gears engaging the bevel gears 19: 22, a pinion fast on this shaft: 23, a shaft supported by the tail-housing, parallel with shaft 21 and having, exterior to the tail-housing, a crank-receiving head: and 24, a gear on the inner end of shaft 23, engaging with pinion 22. By turning shaft 23, through the medium of a crank, the lower pinching roll is raised and lowered.

Proceeding with the drawing:—25, indicates a shaft mounted in the housings near the bending roll: 26, a crank-receiving shaft geared to the shaft 25, shafts 25 and 26 having the same provision and operation in connection with the bending roll that shafts 21 and 23 have to the lower pinching roll: 27, expansion gearing connecting the lower pinching roll and the bending roll whereby the three rolls are simultaneously driven: and 28, a latch-pin for holding the buckle-bearing in elevated position.

I claim:

1. Bending rolls comprising, a pair of housings, a lower pinching roll, a bending roll, adjustable bearings carried in the housings for the lower pinching roll and the bending roll, means for adjusting the bearings, a top pinching roll having its head-journal mounted in a bearing carried by the head hous-

ing of the machine, a tapering bushing on the tail journal of the top pinching roll, a buckle-bearing having its base mounted on the tail-housing of the machine on a pivot-axis at
5 right angles to the axis of the rolls and having in its upper end a tapering bore adapted to engage the tapering exterior of the bushing, and a latch to serve in retaining the buckle-bearing in upward position with its
10 tapering bore in engagement with the bushing, combined substantially as set forth.

2. Bending rolls comprising, a pair of housings, a lower pinching roll, a bending roll, adjustable bearings carried in the housings for
15 the lower pinching roll and the bending roll, means for adjusting the bearings, a top pinching roll having its head-journal mounted in a bearing carried by the head housing of the

machine, a tapering bushing on the tail journal of the top pinching roll, a buckle-bearing 20 having its base mounted on the tail-housing of the machine on a pivot-axis at right angles to the axis of the rolls and having in its upper end a tapering bore adapted to engage the tapering exterior of the bushing, a cooperating 25 pin and notch on the buckle-bearing and bushing to positively prevent rotation of the bushing, and a latch to serve in retaining the buckle-bearing in upward position with its tapering bore in engagement with the bush- 30 ing, combined substantially as set forth.

JACOB NAEGELEN.

Witnesses:

C. W. DAVIS,
H. O. MILLER.