

(No Model.)

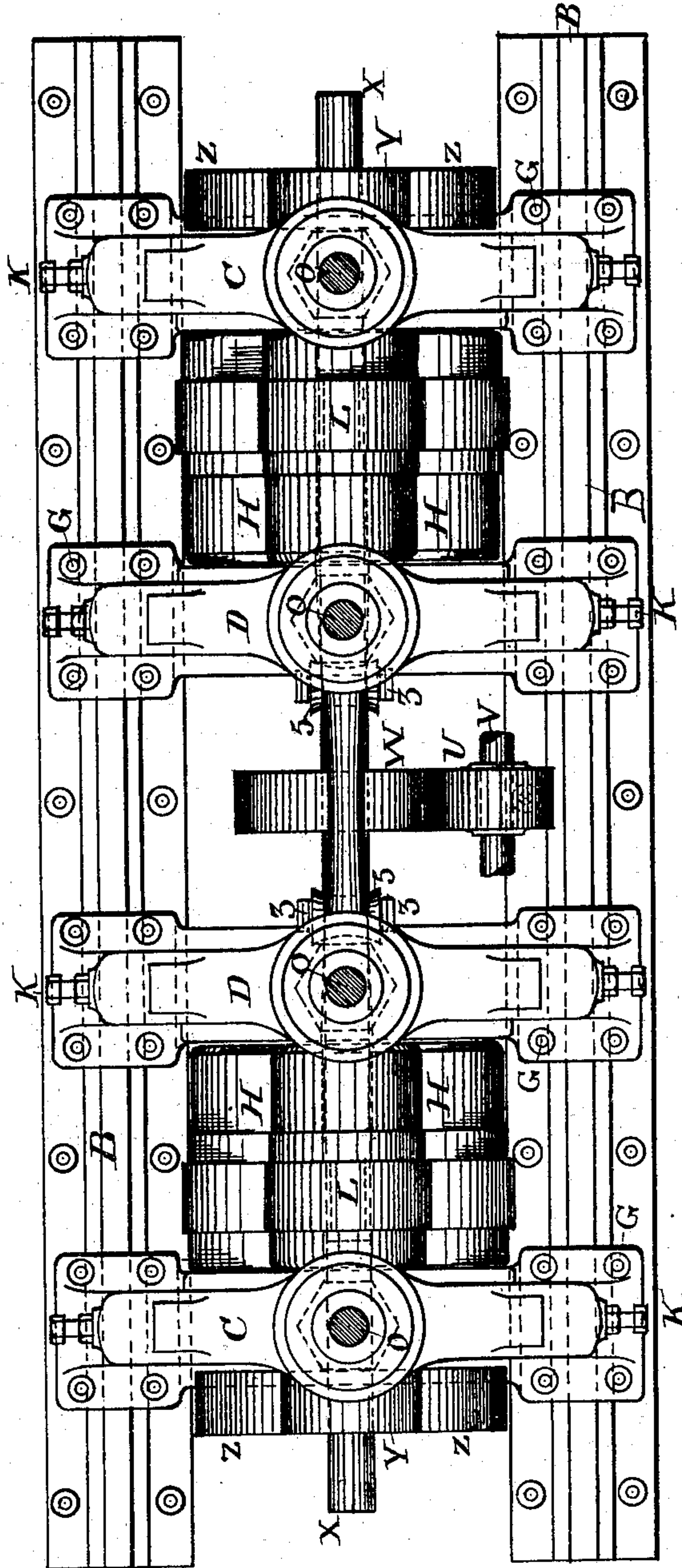
4 Sheets—Sheet 1.

B. F. & F. T. PEACOCK.  
ROLLING MACHINE.

No. 503,616.

Patented Aug. 22, 1893.

Fig. 1.



Witnesses  
Geo. L. Clark  
Geo. W. Harvey

Inventors  
Benjamin F. Peacock  
Francis T. Peacock.  
by Fenelon B. Brock  
Attorney

(No Model.)

4 Sheets—Sheet 2.

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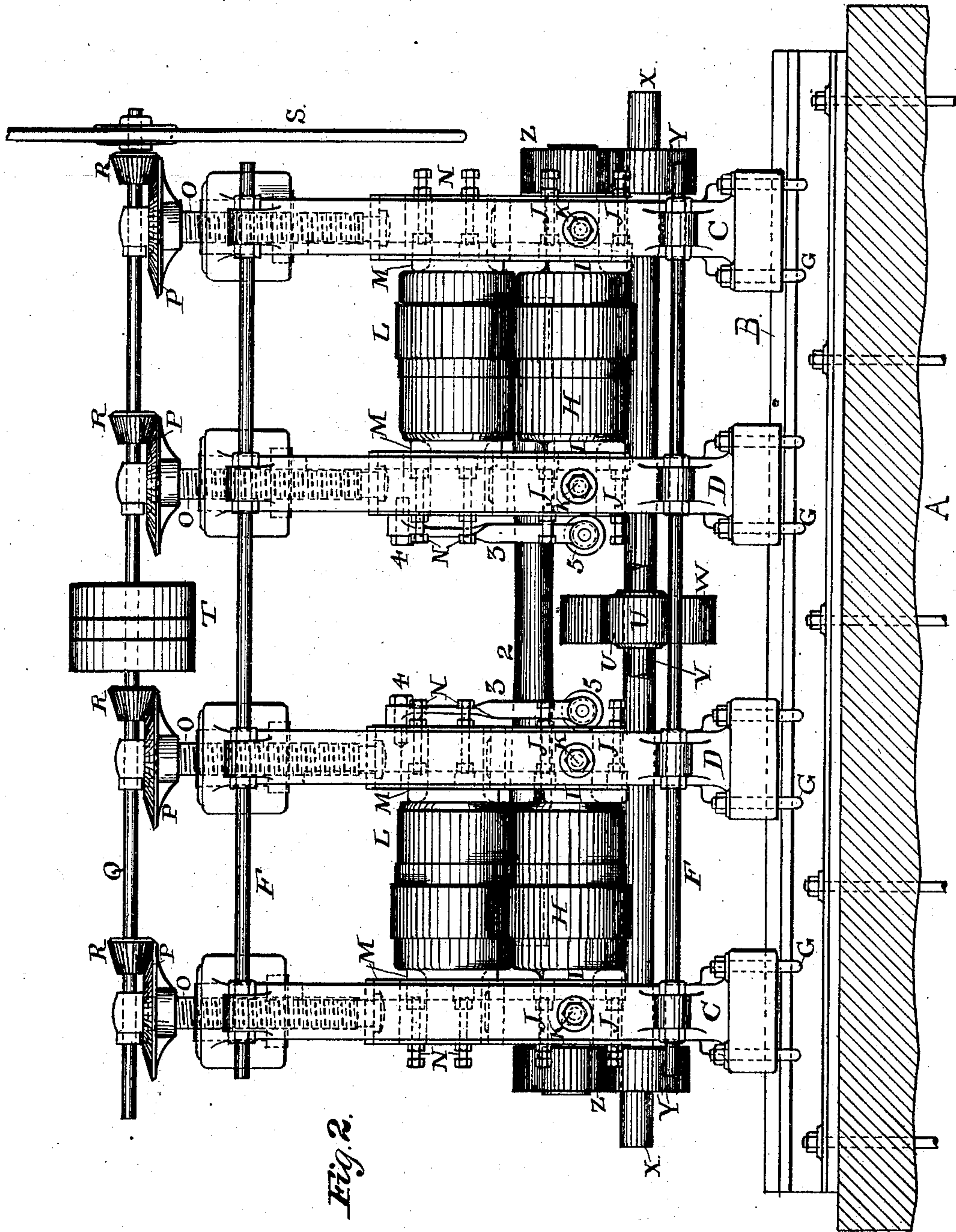


Fig. 2.

Witnesses  
Geo. L. Clark  
Geo. W. Harvey

Inventors  
Benjamin F. Peacock  
Francis T. Peacock  
by Daniel B. Brock  
Attorney



(No Model.)

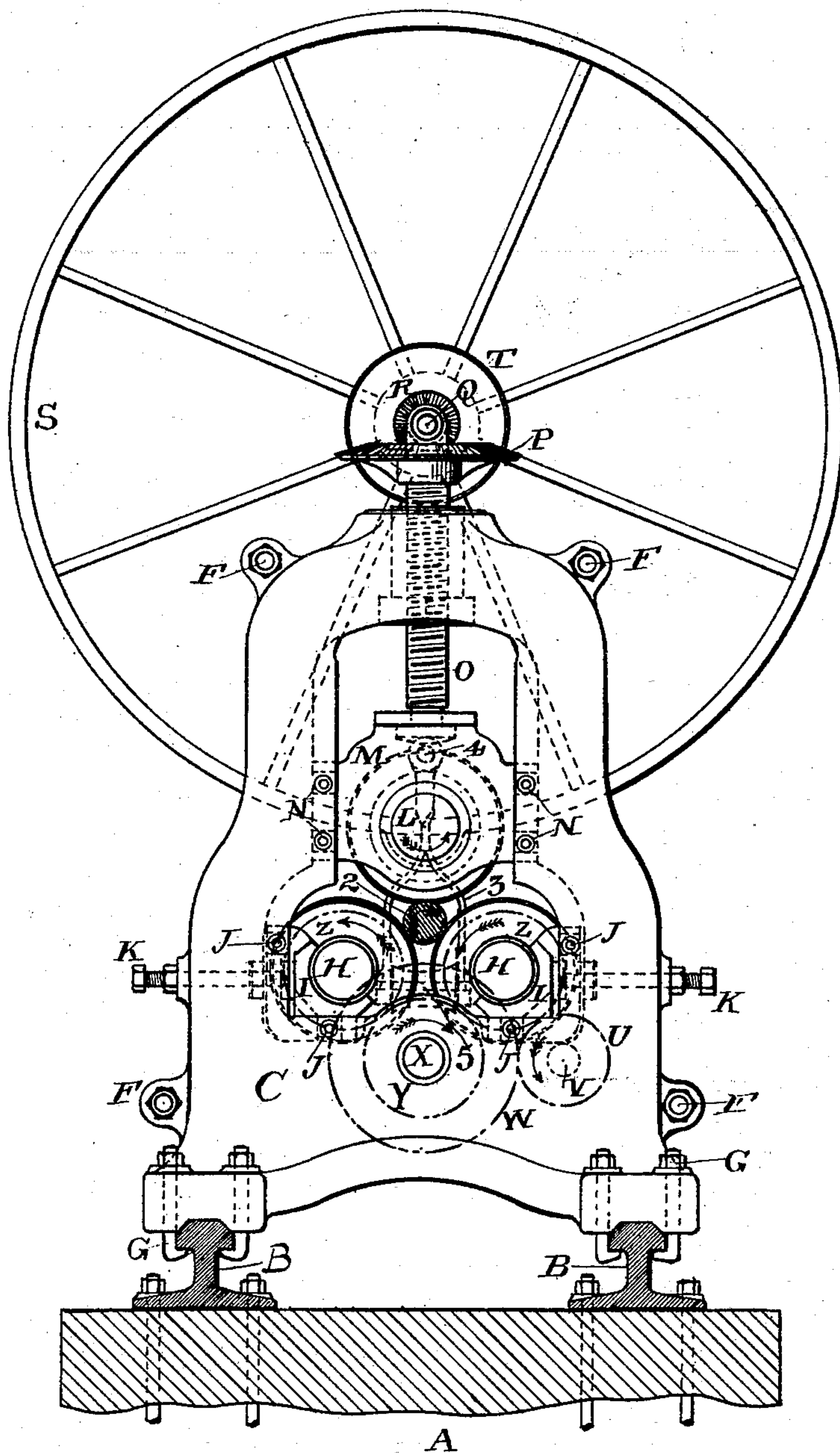
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B. F. & F. T. PEACOCK.  
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*Fig. 3.*



Witnesses  
Geo. L. Clark  
Geo. W. Harvey

Benjamin F. Peacock  
Francis T. Peacock  
by Melon R. Brock  
Attorney

(No Model.)

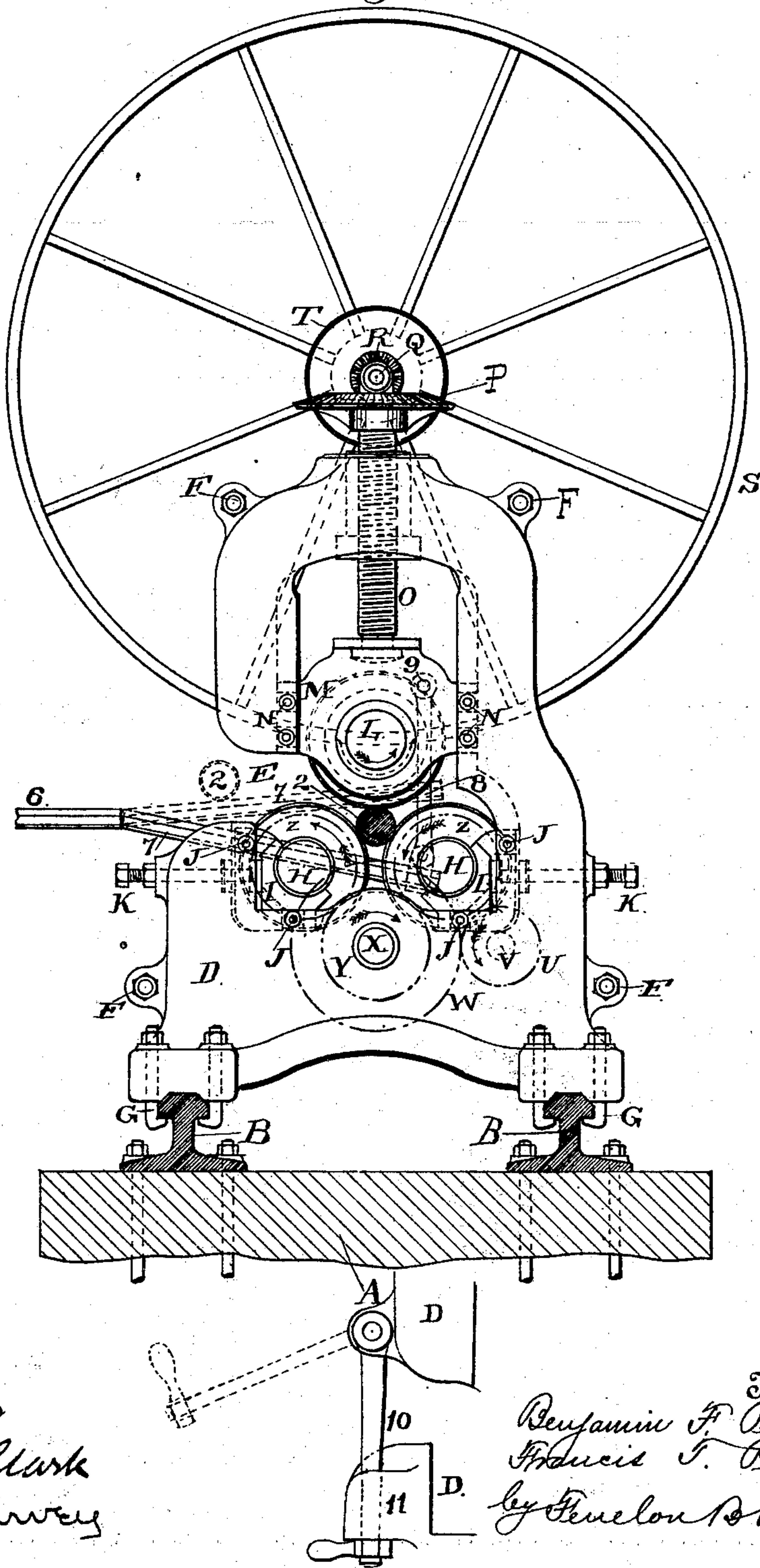
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*Fig. 4.*



Witnesses  
Geo. L. Clark  
Geo. W. Harvey

Inventors  
Benjamin F. Peacock  
Francis T. Peacock  
by Samuel B. Brock  
Attorney



# UNITED STATES PATENT OFFICE.

BENJAMIN F. PEACOCK, OF ANNISTON, ALABAMA, AND FRANCIS T. PEACOCK,  
OF SPARROW'S POINT, MARYLAND.

## ROLLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 503,616, dated August 22, 1893.

Application filed July 30, 1892. Serial No. 441,755. (No model.)

*To all whom it may concern:*

Be it known that we, BENJAMIN F. PEACOCK, residing at Anniston, in the county of Calhoun, State of Alabama, and FRANCIS T. PEACOCK, residing at Sparrow's Point, in the county of Baltimore, State of Maryland, citizens of the United States, have invented certain new and useful Improvements in Rolling-Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to make and use the same.

Figure 1 represents a plan view and partial horizontal section of a machine to which we have applied our improvements. Fig. 2 is a side elevation of a machine embodying our invention. Fig. 3 is an end elevation of one of the standards or housings of our machine. Fig. 4 is an end elevation of one form of housing or standards which are also used in the machine.

Our invention is primarily intended for the rolling of the seats and bearings for car-axles. We may however use our invention in the manufacture of any style or form of axle. The invention, moreover, in its adaptation, is capable of a much wider field in the arts, as it may be used for rolling and reducing all forms of shafting, rods, tubes, bars, and analogous work of that character.

Our invention consists, with the above objects in view, in the following construction and combination of the parts which will first be fully set forth and described in detail, and the features of novelty then pointed out in the claims.

In the following description we shall refer to the product of the machine, or the material which it fashions, for the sake of brevity, as an "axle" it being understood that that word is an equivalent to any forging of which the machine is capable, as above indicated.

In the drawings—A represents the foundation bed of the machine.

B are the bed-tracks upon which the housings are adjusted, bolted to the foundation in any suitable manner.

C are the outer or end housings of the double set of rolls, and D, the inner housings of the same. The outer housings are shown more particularly in Fig. 3, and the inner housings

in Fig. 4. The outer housings C are arranged so that the axle may be inserted or withdrawn endwise through the same. The inner housings D are opened on one side, at E, so that the axle may be inserted and withdrawn when desired through the housings. The housings C D are provided with rods or bars F which are screw-threaded and have also nuts, by means of which each of the housings may be independently adjusted sidewise along the tracks B.

G are bolts having hooked lower ends which engage the tracks B and hold the housings firmly thereon. Two sets of rolls triangularly arranged, three in each set, are preferably used for forging the bearings or seats for the axles.

H are the two lower sets of rolls mounted in bearings I, carried by the housings C and D.

J are bolts by means of which an endwise adjustment of the rolls H is secured, and K are bolts for adjusting said rolls sidewise, or to and from each other.

L is the top roll in each set. These rolls are carried in bearings M which have vertical movements in suitable guideways in the housings C and D. N are bolts by means of which an endwise adjustment of the rolls L may be had in the bearings M.

To secure the free vertical adjustment to the top rolls L the following mechanism is preferably used: O are screws working in suitable bearings in the top of the housings C and D, and connected to the bearings M in each housing. P is a bevel-gear keyed to the screw O so as to turn therewith. Q is a shaft at right angles to the screws O and extending across the top thereof above the bevel-gears P. R is a series of bevel-pinions which mesh with the gear P of all the screws O, whereby both rolls L may be simultaneously adjusted vertically. This adjustment of the rolls L may be effected by hand by means of the large wheel S, or by power, by means of the fast and loose pulleys T, or other known means. The rolls are driven by means of the pinion gear U and shaft V, carried by suitable bearings not shown, which mesh with the gear W keyed to the long shaft X which extends through all the housings of the machine. On the opposite ends of shaft X are



keyed gears Y which mesh with gears Z, the latter being splined to the shafts of the rolls H. A rotary motion is communicated to the upper rolls L through the medium of the axle 2, when the rolls L are let down in contact therewith. Where the axle 2 is inserted and withdrawn endwise through the housings C and D we employ stirrup-supports 3 which are pivoted at their upper ends, at 4, to the bearings M, in the housings D, so as to have an up and down movement in connection with said bearings. 5 are rolls having bearings in and forming the bottom of the stirrups 3.

When it is desired to insert an axle into the machine for rolling the seats or bearings, the shaft Q is rotated so as to lift the rolls L thereby carrying upwardly the rolls 5 on the stirrups 3. The axle is then inserted endwise by being rolled upon and supported by the stirrup-rolls 5. When the axle is in position the shaft Q is again rotated so as to lower the rolls 5 and the rolls L, so that the axle 2 will rest upon the lower rolls H, the rolls 5 passing below and out of contact with the axle 2. When the axle is finished the reverse movement of the rolls L and 5 takes place, the latter coming in contact with the axle and raising it from contact with the rolls H so that it may be withdrawn endwise from the rolls 5.

When it is desired to insert and remove the axle sidewise to and from the machine, the following mechanism is employed: 7 is a track or way for supporting the axle in its treatment by the machine. 6 is an extension of the way or track which is pivoted at its outer end and its inner end carried and supported by a link 8 which is pivotally connected to the track 7 at its lower end and to the bearings M at its upper end, by a pivot 9.

In Fig. 4 the axle 2 is shown being rolled by the rolls L and H. When the axle is finished and it is desired to remove the same the shaft Q is rotated so as to raise the rolls L and the bearings M, which causes the link 8 to move upward, raising the track 7, thereby engaging the axle 2 and raising it as the rolls L move upward until the angle is such, as shown in dotted lines, that the axle may be rolled downward and outward from the machine onto the track or support 6. A reverse movement takes place when the unfinished axle is placed in the machine for finishing or forging.

We have termed our invention a multiple rolling machine as being peculiarly appropriate to the work which it is chiefly designed to perform. We may roll more than one axle at the same time by increasing the length of the machine and providing additional sets of rolls for that purpose. All the features of our invention however which are germane to one set of rolls we desire to claim in connection therewith, and also in addition, to claim the same in connection with two or more sets of rolls.

We intend using this machine in connec-

tion with an improved composite axle made from a sectional pile, for which we have received Letters Patent. We purpose rolling the wheel-seats or journals of the car-axles, either hot or cold. By means of this manipulation and rolling we dispense with the necessity, and the consequent cost, of turning the wheel-seats and journals. At the same time we obtain all the advantages of cold-rolled iron or steel, both in strength and wearing properties. The rolls H and L are turned to any shape required according to the work performed. The gear-wheels Y are adjustable longitudinally upon the shaft X in order to permit the adjustment of the housings C and D. We roll the wheel-seats and journals on both ends of a car-axle at the same time, and without the rolls coming in contact with any other portion of the axle. We can of course roll more than two sets of journals or projections on a shaft by suitably modifying the machine.

Our machine enables us to manufacture a superior axle both in points of strength and wearing surfaces at a much less cost than the common car-axles now on the market are made, besides turning out a larger output from a given outlay in the plant.

There are various methods in which our machine may be modified in its structure and still come within the scope of our invention. These structural changes will suggest themselves to any mechanic skilled in the art. Our invention is designed to cover such obvious changes.

We claim—

1. The combination of two sets of rolls arranged in an axial line with each other and separated so as to leave a clear space between the sets of rolls, housings for the same, bearings carried in the housings, mechanism for adjusting both of the lower sets of rolls in the line of their length, mechanism for adjusting both of the lower sets of rolls laterally or transversely, and mechanism for adjusting the top roll of each set of rolls vertically.

2. The combination of housings, having rolls mounted therein, means for independently adjusting each of the rolls longitudinally and transversely in the housings, and means for adjusting the housings upon the bed.

3. A housing adapted to move along a foundation bed, having bearings for a set of rolls and provided with a lateral opening through the housing for feeding the forging to the rolls, combined with a track or way pivoted at one end and connected to the upper roll at the other, whereby the forging may be laterally fed to and removed from the rolls.

4. A housing adapted to be adjusted upon a bed, having bearings for a set of rolls, the top one of which is adjustable and provided with a forging-support adapted to move up and down therewith.

5. The combination of two sets of hous-



ings, beds upon which the same are adjusted, a set of rolls carried in each housing, adjustable bearings in said housings for the upper roll, and forging-supports carried by said upper roll so as to move therewith.

5 6. The combination of two separate sets of rolls, housings for the same, adjustable bearings in the housings for the top rolls of the sets, and forging-supports carried thereby, 10 adjusting screws for said bearings, and gear-connections for the screws whereby said bearings are simultaneously adjusted.

15 7. A set of rolls triangularly disposed, mechanism for vertically adjusting the top roll, mechanism for adjusting each of the lower rolls in the line of its length, and mechanism for laterally or horizontally adjusting each of the lower rolls.

20 8. The combination of a set of rolls, housings for the same, means for vertically moving the top roll or rolls, a track or way pivoted at one end and connected to the vertically moving roll or rolls at the other, whereby the inner end of the way or track is moved 25 up and down in connection with the top roll or rolls.

9. The combination of two or more hous-

ings having bearings for one or more sets of rolls of three rolls each, journal-bearings in the housings for the two lower rolls of each set, means for laterally and longitudinally adjusting said journal-bearings in the housings independently of one another, a vertically moving bearing for the top roll of each set, means for laterally and simultaneously adjusting each of said top rolls, and means for driving said rolls. 30 35

10. The combination of a set of rolls, housings for the same, means for vertically moving the top roll or rolls, and a stirrup support connected to and moving up and down with the top roll or rolls, whereby the forging may be fed axially and longitudinally into the rolling machine, adjustably supported therein by said stirrup support or supports and similarly removed therefrom axially or longitudinally. 40 45

In testimony whereof we affix our signatures in presence of two witnesses.

BENJAMIN F. PEACOCK.  
FRANCIS T. PEACOCK.

Witnesses:

J. F. CREEN,  
S. S. SENSABAUGH.