No. 738,991. PATENTED SEPT. 15, 1903.

J. FAWELL.

GEARING FOR ROLLING MILLS.

APPLICATION FILED MAR. 18, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 1.

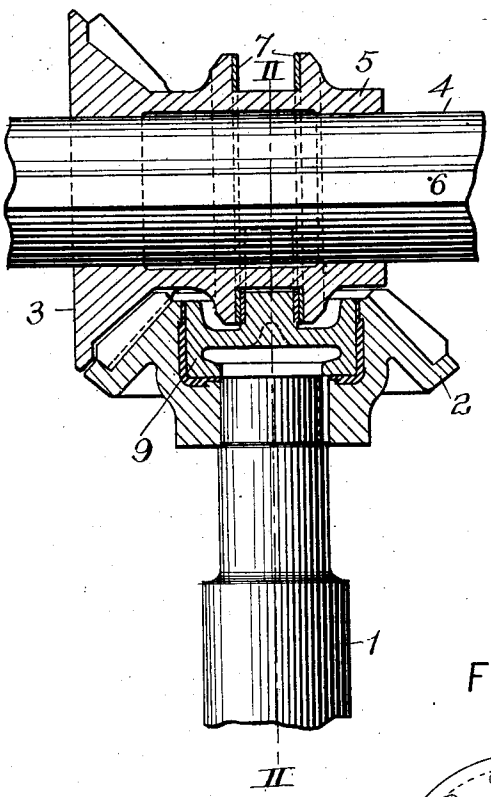


FIG. 2.

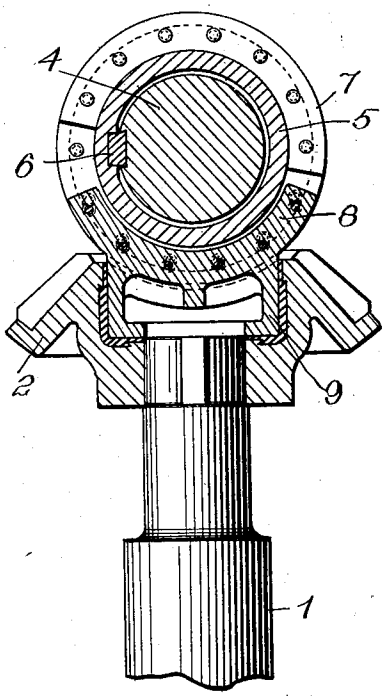
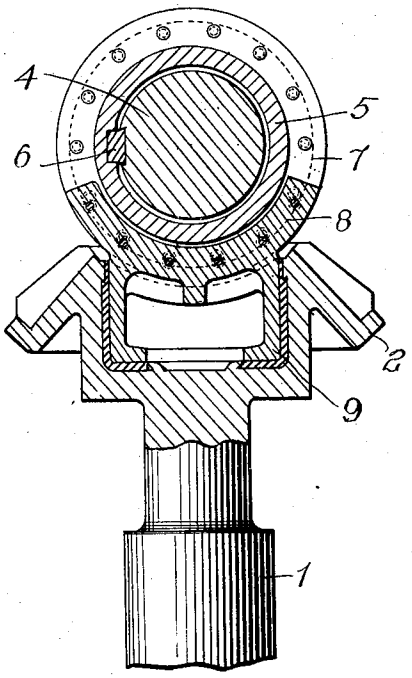


FIG. 3.



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NO MODEL. 2 SHEETS—SHEET 2.

FIG. 4.

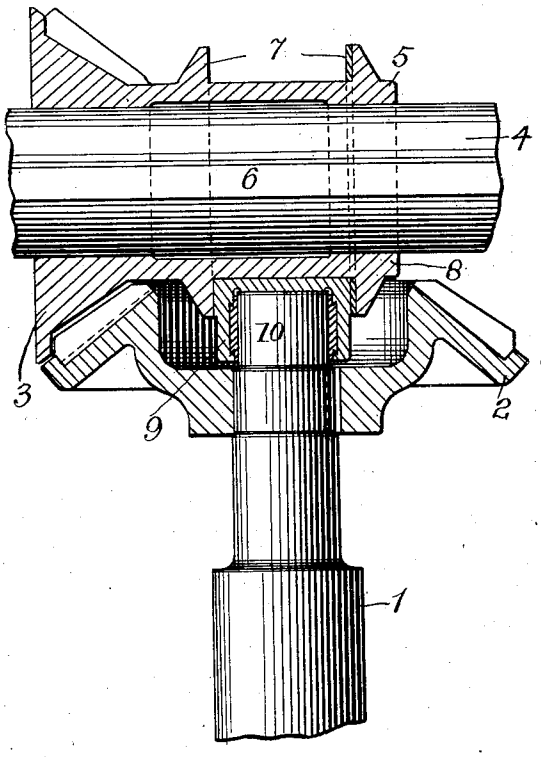
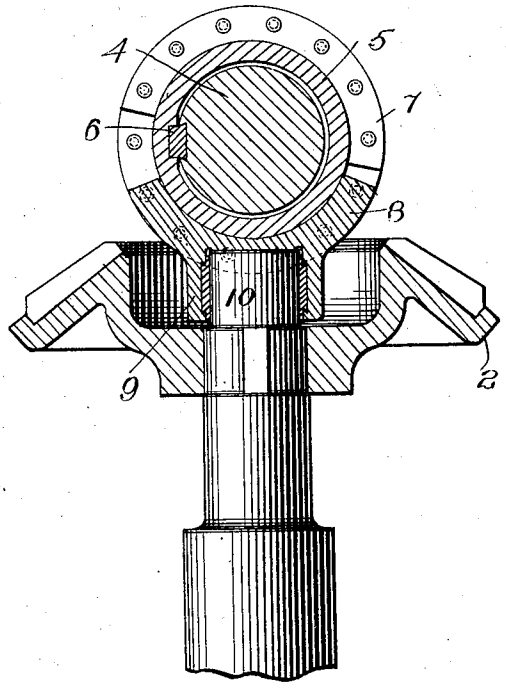


FIG. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH FAWELL, OF PITTSBURG, PENNSYLVANIA.

GEARING FOR ROLLING-MILLS.

SPECIFICATION forming part of Letters Patent No. 738,991, dated September 15, 1903.

Application filed March 18, 1903. Serial No. 148,371. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH FAWELL, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Gearing for Rolling-Mills, of which improvements the following is a specification.

The invention described herein relates to certain improvements in universal mills, and has for its object a construction whereby the proper alinement between the vertical rolls and their driving-shaft may be maintained, while permitting of the easy and quick removal of the shaft when desired.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 shows in sectional elevation portions of a vertical roll and its driving-shaft with driving and alining connections. Fig. 2 is a sectional elevation on a plane indicated by the line II II, Fig. 1. Fig. 3 is a view similar to Fig 2, illustrating a modification of my improvement. Figs. 4 and 5 are views similar to Figs. 1 and 2, illustrating a further modification.

In the practice of my invention the vertical roll 1 is provided with a miter-wheel 2, adapted to intermesh with a corresponding wheel 3 on the driving-shaft 4. The wheel 3 is provided with a sleeve 5, extending some distance along the shaft, so as to form a broad bearing for the wheel on the shaft, and the wheel and shaft are so connected by a key 6 as to permit the wheel and sleeve to move along the shaft while rotating therewith. The sleeve is provided with flanges 7, extending around the same and forming between them a seat for the reception of a concave saddle 8, formed on a block 9. This block, as shown in Figs. 1 and 2, is adapted to project into a socket or recess formed in the miter-wheel 2 and has a bearing against the side walls and bottom of such recess. By reason of this construction the sleeve 5 and the miter-wheel 2, which is formed integral with or secured to the vertical roll, are firmly locked together, so as to prevent any such movements of the miter-wheels as will tend to separate them. As shown in Figs. 1 and 2, the miter-wheel 2 is keyed to the neck of the vertical roll 1, but may be formed integral with such neck, as shown in Fig. 3. As the saddle extends only partially around the sleeve, it will be understood that the shaft, with its sleeve and wheel, may be readily lifted from the saddle and out of connection with the vertical roll and its miter-wheel.

As shown in Figs. 4 and 5, the saddle-block 9 may be provided with a socket or recess for the reception of a journal 10, formed on the upper end of the vertical roll.

It is characteristic of my improvement that the roll and its driving-shaft are always maintained in such alinement as to secure the proper engagement of the power-transmitting wheels, and as the saddle is opened at its top, extending only partially around the sleeve, the driving-shaft can be easily removed and replaced.

I claim herein as my invention—

1. A rolling-mill having in combination a vertical roll, a driving-shaft, intermeshing miter-wheels on said roll and shaft, an alining block engaging the roll and provided with an open-topped saddle engaging the miter-wheel on the shaft, substantially as set forth.

2. A rolling-mill having in combination a vertical roll, a driving-shaft, intermeshing miter-wheels on said roll and shaft, an alining block arranged in a recess in the miter-wheel on the roll and provided with an open-topped saddle engaging a peripheral seat in the miter-wheel on the driving-shaft, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JOSEPH FAWELL.

Witnesses:
W. H. MCFADDEN,
F. E. GAITHER.