No. 780,579. PATENTED JAN. 24, 1905.

J. L. REHNSTROM.

RELEASING DEVICE FOR ROLLING MILL ROLLS.

APPLICATION FILED APR. 2, 1904.

Fig. 1

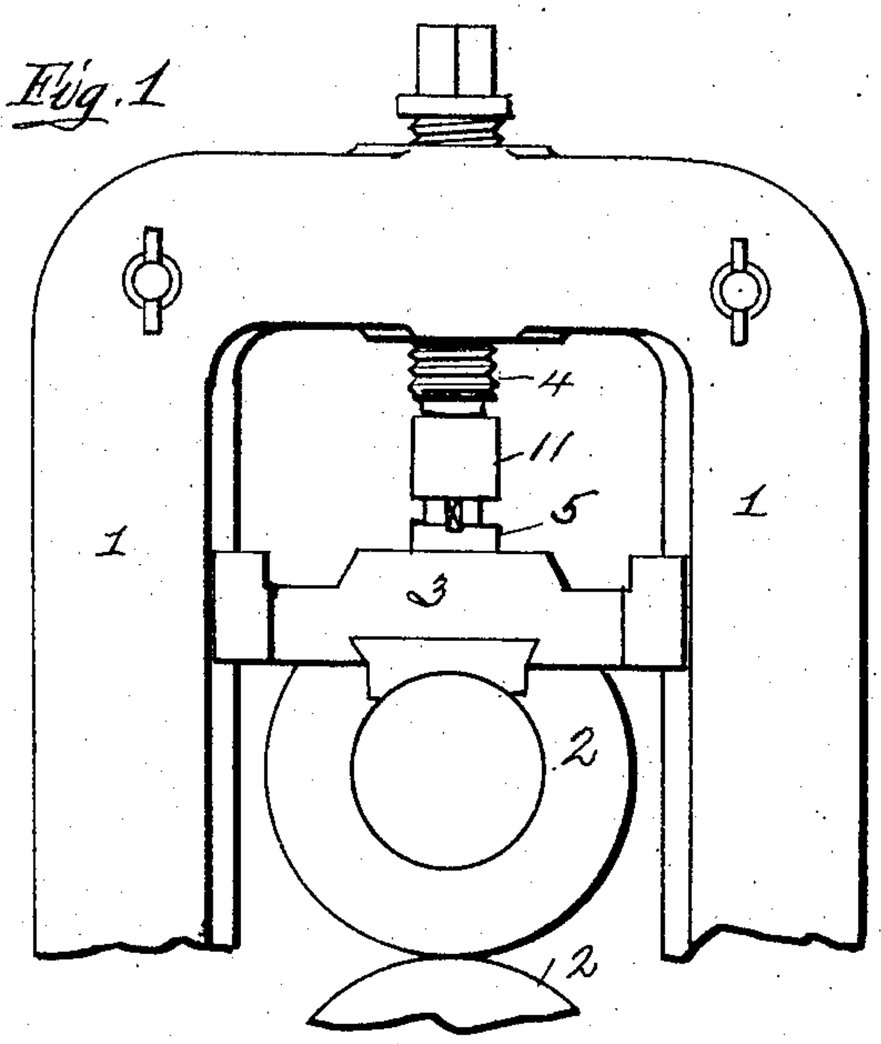


Fig. 2

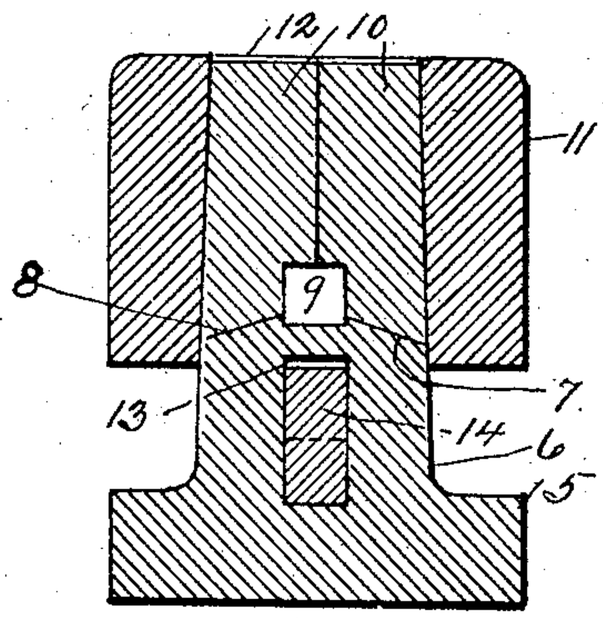


Fig. 7

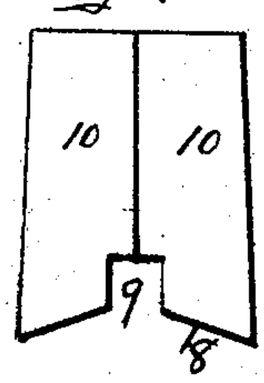


Fig. 8

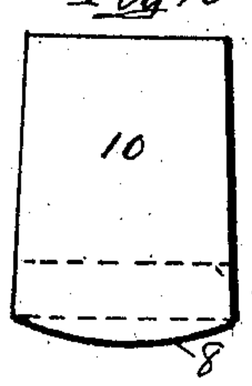


Fig. 3

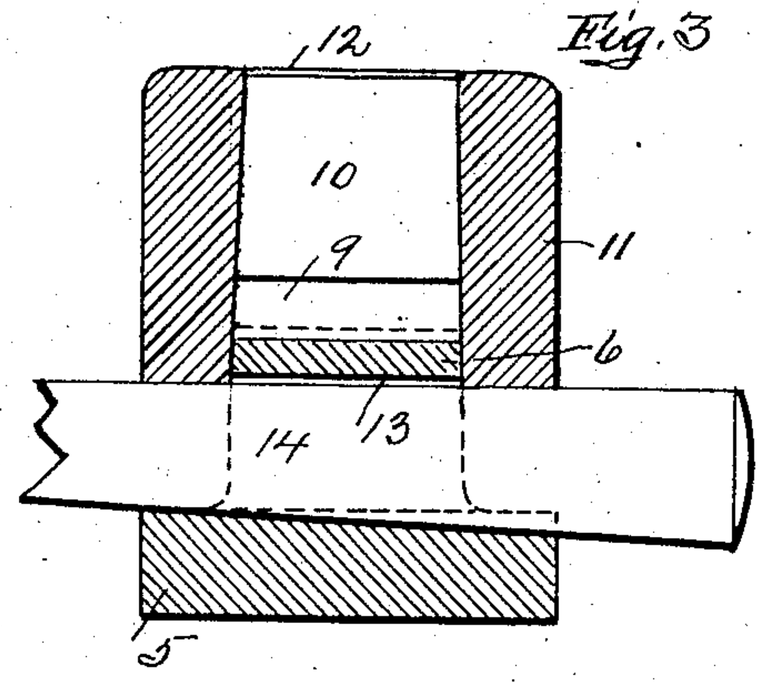


Fig. 5

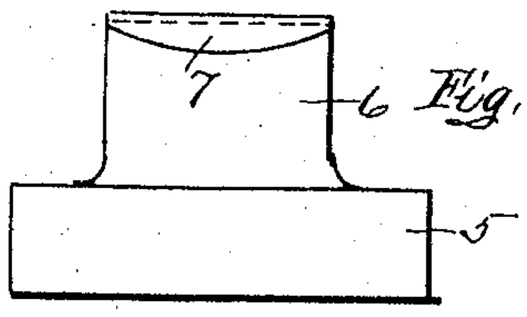


Fig. 6

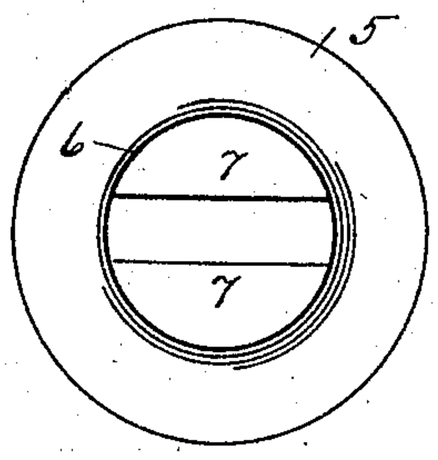
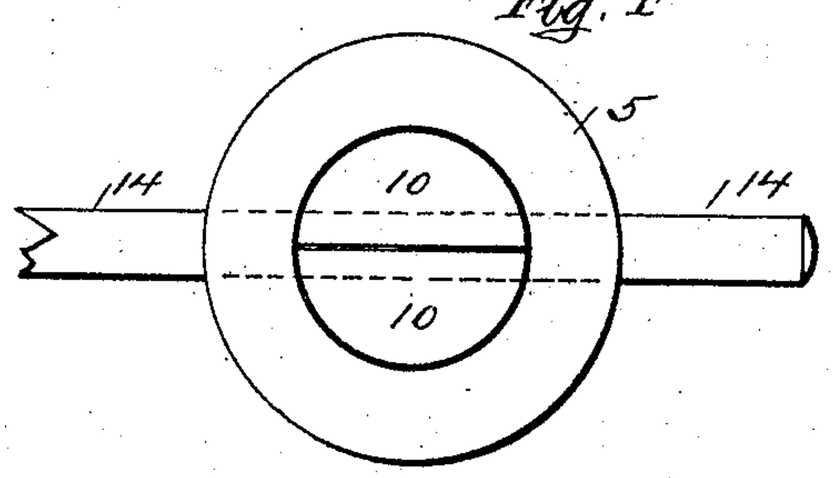


Fig. 4



Witnesses:
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No. 780,579. Patented January 24, 1905.

UNITED STATES PATENT OFFICE.

JOHN L. REHNSTROM, OF McKEESPORT, PENNSYLVANIA.

RELEASING DEVICE FOR ROLLING-MILL ROLLS.

SPECIFICATION forming part of Letters Patent No. 780,579, dated January 24, 1905.

Application filed April 2, 1904. Serial No. 201,294.

To all whom it may concern:

Be it known that I, JOHN L. REHNSTROM, a citizen of the United States, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Releasing Devices for Rolling-Mill Rolls, of which improvement the following is a specification.

This invention relates to an improved releasing device for rolling-mill rolls; and it consists in the certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is an end elevation of a portion of a housing and pair of rolling-mill rolls, showing my improved device arranged in position thereon, the said device being constructed and arranged in accordance with my invention. Fig. 2 is an enlarged central sectional elevation of the device detached from the rolls. Fig. 3 is a similar sectional view taken at right angles to that above described. Fig. 4 is a plan view. Fig. 5 is a side elevation of the base portion of the device. Fig. 6 is a plan view of the same. Fig. 7 is a side elevation of the divided central portion of the device. Fig. 8 is a front elevation of the same.

To put my invention into practice with a set of rolling-mills 2, arranged in suitable housings 1 and provided with bearings 3 and adjusting or temper screws 4 in a manner common in this class of mills, I arrange beneath the screws 4 and the top of the bearing or saddle 3 a means whereby the pressure may be released from the said screws should the rolls become accidentally locked, due to various causes—such as not giving the rolls sufficient draft, wrongly entering the piece operated upon, and such other accidents of like nature common in all rolling-mills—whereby an enormous pressure is placed upon the screws and other parts, rendering said screws difficult and sometimes impossible to release or breaking or wrecking the machinery.

To remedy the above-described evil and provide a means whereby the pressure may be relieved from the temper-screws 4, I provide two devices, the one identical with the other, and arrange one beneath each screw, resting upon the saddle 3, as will be seen by reference to Fig. 1 of the drawings. Each of these devices consists of an annular base-piece 5, having an integral upwardly-extending tapering shank 6, the top surface of which is inclined, 7, from the center outwardly and the said shank formed with a keyway 13. Arranged upon the top of this shank 6 is a sectional tapering cylinder 10, each section of which is formed with an inclined base 8 and a cut-out portion, which portions when placed together register with a cut-out portion in the top of the shank 6, and thereby form a recess 9. If desired, a key can be inserted into this recess to prevent turning of the cylinder-sections upon the adjustment of the screw 4. The inclinations of said base 8 correspond to that of the top of the shank 6. Surrounding this sectional cylinder 10 and a portion of the shank 6 is a cast-iron ring 11, (or of other suitable material,) which serves as a means of holding the sections 10 in position. This ring 11 is purposely made of a weak or inferior material than the other parts of the device and when in position rests either upon the inclined or tapering sides of the cylinder 10 and shank 6 or upon a long tapering key 14, passed through the keyway 13 of said shank.

In operation the weight of the screws rests upon the sectional portion 10, and should the rolls become locked it is only necessary to drive the key 14 forward, thereby elevating the ring 11, permitting the sections 10 to spread to relieve the pressure upon the screws, as is obvious. Should the pressure be such as to cause any of the parts to reach the breaking-point in either the rolls, housing, or other parts, the ring 11, being of an inferior material and the weaker part, will break or burst asunder, permitting the sections to fall apart.

Various slight modifications and changes may be made in the details of construction without departing from the spirit of the invention. Therefore I do not wish to confine myself to the exact construction shown and described.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device for the purpose described, the combination consisting of the base portion 5, having an integral tapering shank 6, a keyway formed through said shank, the inclined top 7, the longitudinally-divided sectional cylindrical portion 10, the base of which corresponds to the inclined top of said shank, the ring 11 of weaker material surrounding said sectional portion, having a tapering bore and engaging with the shank 6, and the tapering key 14 arranged to bear upon the under side of said ring, as and for the purpose described.

2. A device of the type set forth comprising a base-piece, an upwardly-extending shank carried thereby and having its top tapered, a longitudinally-divided sectional cylinder having its under face tapered and fitted on top of said shank, a ring of weaker material surrounding said cylinder, and means for raising said ring.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN L. REHNSTROM.

In presence of—
H. J. LEVIS,
FRED. O. HENZI.