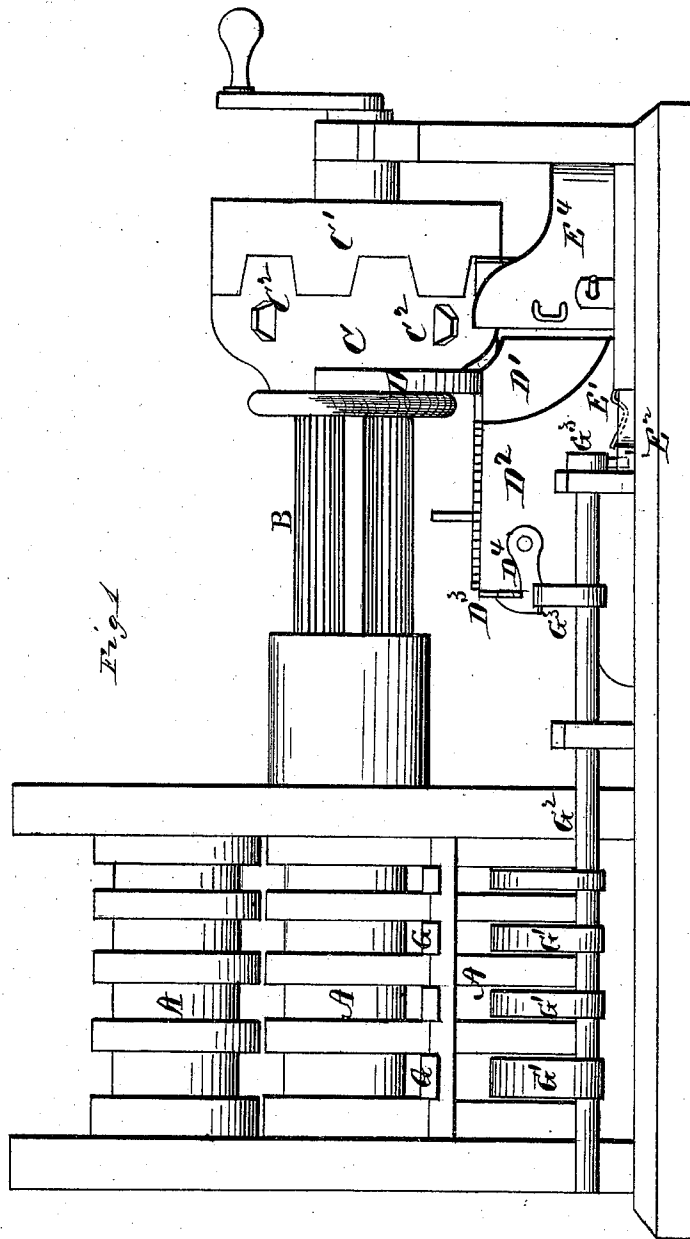


J. S. BRIGGS, D. W. JOHNS & J. ALBERTSON.
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No. 150,516.

Patented May 5, 1874.



WITNESSES.

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By

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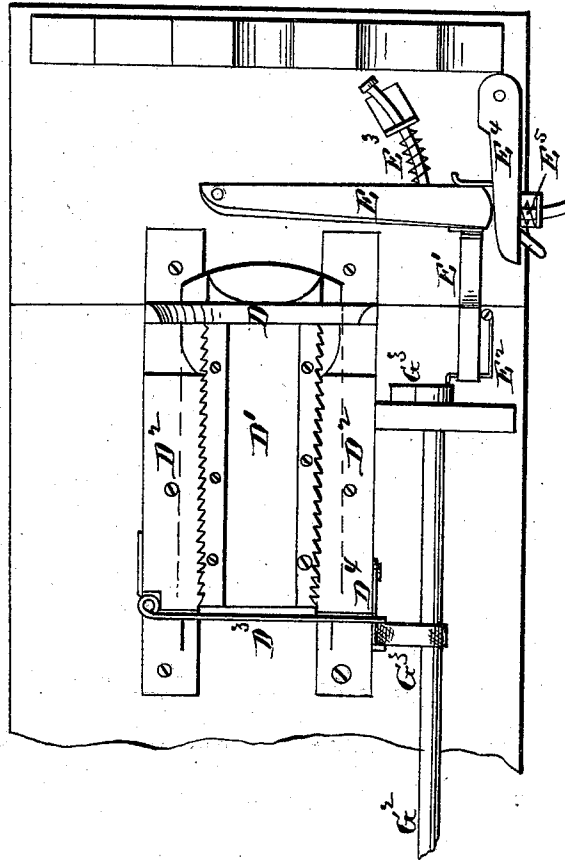
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Fig 2



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UNITED STATES PATENT OFFICE.

JOHN S. BRIGGS, DAVID W. JOHNS, AND JAMES ALBERTSON, OF NEW ALBANY, INDIANA.

IMPROVEMENT IN DEVICES FOR AUTOMATICALLY EFFECTING THE STOPPAGE OF THE ROTATION OF ROLLS.

Specification forming part of Letters Patent No. 150,516, dated May 5, 1874; application filed March 23, 1874.

To all whom it may concern:

Be it known that we, JOHN S. BRIGGS, DAVID W. JOHNS, and JAMES ALBERTSON, of New Albany, in the county of Floyd and in the State of Indiana, have invented certain new and useful Improvements in Rolling - Mills; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in an automatic attachment for instantly uncoupling a train of rolls while they are in motion, for the purpose of preventing collars and breakages of all kinds, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a front elevation of a train of rolls with our attachment connected therewith, and Fig. 2 is a plan view of a part of the mechanism.

A A represent a train of rolls for a rolling-mill, constructed in any of the known and usual ways. B is the driving-shaft of one of the rolls A, which shaft is provided with a crab or crab-coupling, C C'. The part C' of the crab is fixed upon that part of the driving-shaft to which the power is applied; and the part C of the crab is movable laterally upon that part of the driving-shaft which is immediately connected with the roll, so that it may be thrown in and out of gear with the part C'. The hub of the crab C is provided with a circumferential groove, in which a curved or forked arm or flange, D, attached to a slide, D¹, is placed between two stationary guides, D² D³. The slide D¹ is held between the guides, so as to keep the two parts of the crab in gear, by means of a hinged bar, D³, and a hook or latch, D⁴, for holding said hinged bar close up against the end of the slide. Under the crab is a hinged slide, E, the upper edge of which is curved to correspond with the curv-

ature of the crab. This slide is held in proper position by a hinged catch-bar, E¹, pivoted or hinged in the bed of the machine, and held up by a latch, E². When this latch is released the catch-bar drops down, and a spring, E³, throws the slide E outward. E⁴ represents another hinged slide, which is pressed outward and held by the slide E when this is pressed inward; and when the slide E springs outward, as above described, the slide E⁴ is, by a spring, E⁵, thrown inward to catch on the inner side of the slide E, and prevent the same from being moved inward again. On the outer circumference of the part C of the crab are beveled lugs C², which when the slide E is pressed inward, and held as above, do not come in contact with said slide; but, when the slide is thrown outward and held by the slide E⁴, said beveled lugs will operate against the slide E, and move the crab C on the driving-shaft away from the crab C', and thereby stop the revolutions of the rolls. In the train of rolls are the ordinary guides G, and below the same are false guides G¹ attached to a horizontal rocking shaft, G², which is provided with two arms, G³ G³, arranged to operate upon the two latches D⁴ and E².

The rolls being in operation, whenever a bar of iron starts to collar on the roll it will throw out the top guide, and follow the rolls until it strikes the false guides G¹, which will cause the shaft G² to revolve, and the arms or triggers G³ G³ will strike and release the latches D⁴ and E², causing the slides E and E⁴ to fly out and lock themselves, whereby the lugs C² are caused to strike the slide E, thereby uncoupling the crab while in motion. The latch D⁴ having released the hinged bar D³ allows the crab C and slide D¹ to move inward.

By this device a train of rolls are almost instantaneously uncoupled while in motion, thereby preventing collars and breakages of all kinds.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the hinged slides E

and E⁴ with their respective springs E³ and E⁵, catch-bar E¹, latch E², and lugs C² on the crab, substantially as and for the purposes herein set forth.

2. The combination, with the crab C, of the fork D, slide D¹, guides D², hinged bar D³, and latch D⁴, all substantially as and for the purposes herein set forth.

3. The combination, with the rolls A, of the false guides G¹, shaft G², and arms or triggers G³, for operating the latches D⁴ and E², sub-

stantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 27th day of February, 1874.

JOHN S. BRIGGS.
DAVID W. JOHNS.
JAMES ALBERTSON.

Witnesses:

THOMAS G. JACKSON,
THOMAS J. FULLENBEE.