

T. SHAW.

Relief Devices for Rolling-Mills.

No. 147,521.

Patented Feb. 17, 1874.

Fig. 1.

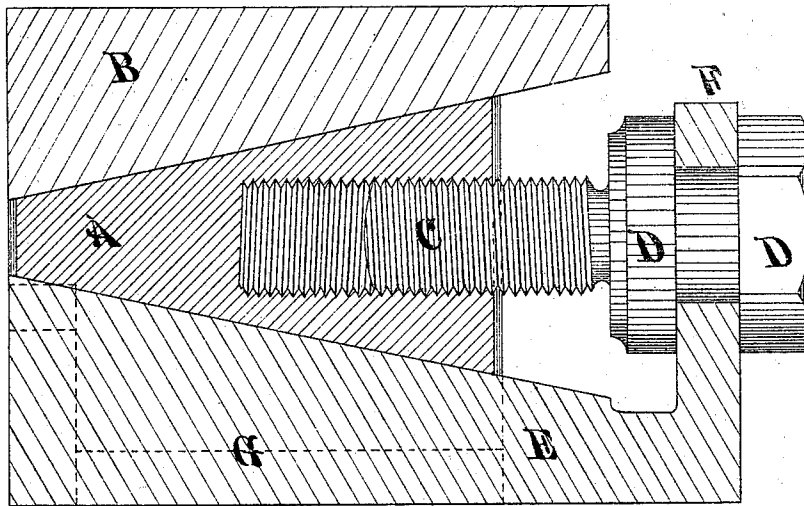
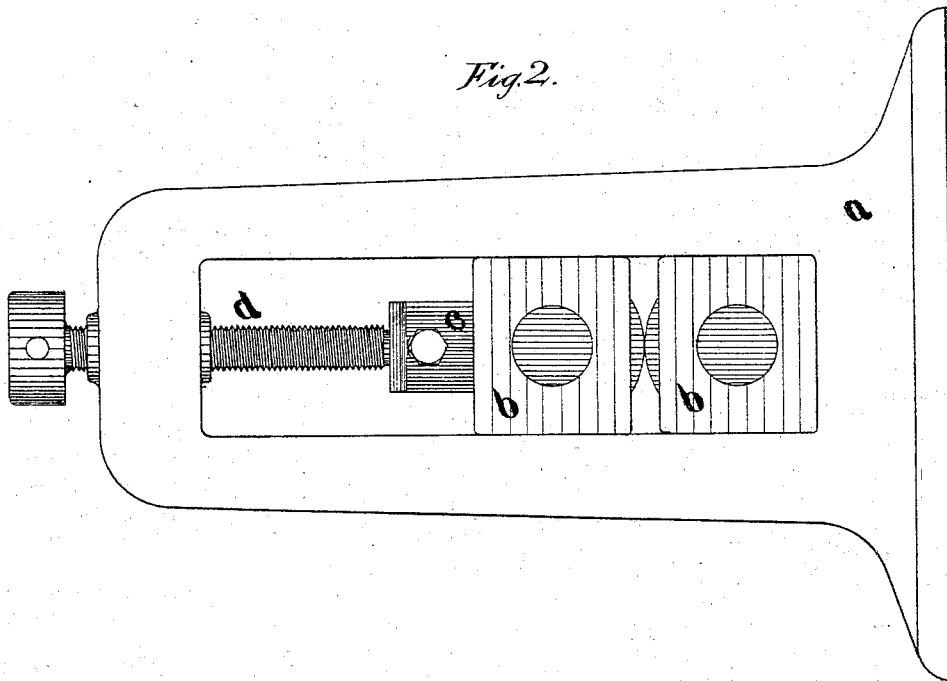


Fig. 2.



Witnesses,

Wm. E. Garwood

Samuel P. Brown

Inventor,

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UNITED STATES PATENT OFFICE.

THOMAS SHAW, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN RELIEF DEVICES FOR ROLLING-MILLS.

Specification forming part of Letters Patent No. **147,521**, dated February 17, 1874; application filed October 23, 1873.

To all whom it may concern:

Be it known that I, THOMAS SHAW, of the city and county of Philadelphia, Pennsylvania, have invented a new and Improved Relief-Block for Rolling-Mills; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention consists in the construction and arrangement of a wedge relief-block, to be inserted between the adjusting-screw at top of housing, and one of the journal-boxes of the rolls, in the manner and for the purpose as hereinafter described.

The object of the invention is to relieve the screw-rolls and housings of the severe strain when metal is caught and locked between the rolls, by using the force of the strain between journals to eject an obtuse wedge, at the will of the operator, as hereafter described.

In order to enable others to use and practice my invention, I will proceed to describe its construction and operation.

On reference to the accompanying drawings, which form part of the specification, Figure 1 is a longitudinal vertical section through center of relief-block, and Fig. 2 shows its location in the mill.

A, Fig. 1, is a wedge-block, the angles of which are sufficiently obtuse so as to cause the wedge to be squeezed outward whenever pressure is applied; but the angle should be acute enough so as not to give any great force to its outward tendency. This angle will vary with the material employed in its construction. With steel, three inches to the foot is a sufficient angle for each side of wedge A. The base angle-plate E is planed to a correspond-

ing angle, upon which wedge A is supported. Said base-plate E terminates on its outer end in a flange, F, which is bored and slotted for the reception of screw C, which screw is held in position by its collars D D, the outer collar being of hexagonal form, to permit of the application of a wrench. The said screw C enters the wedge A and controls and resists its outward movement. The top plate B rests upon wedge A, and is of corresponding angle, and is provided with side wings reaching down to dotted line G, for the purpose of preventing any lateral movement of plate B, independent of plate E. *a*, Fig. 2, is the housing of an ordinary pair of rolls, of which *b b* are the journal-boxes, and *d* the screw for forcing down the rolls through the medium of relief-block *e*.

Whenever any mass of iron is wedged between rolls, instant relief can be effected by turning screw C, permitting the wedge A to retreat, and thus relieve the machinery of dangerous and troublesome pressure.

It will be evident that the angle of wedge can be slightly modified without any alteration in the result, and that the relief-block might be placed underneath the bottom journal *b* with equal good effect.

I am aware that wedges are a common device for the purpose of adjustment.

What I claim, and desire to secure by Letters Patent, is—

The described relief device, in combination with journal-bearing *b* and adjusting-screw of housing *d*, for the purpose set forth.

THOMAS SHAW.

Witnesses:

ANDW. J. BOSWELL,
WILLIAM GARWOOD.