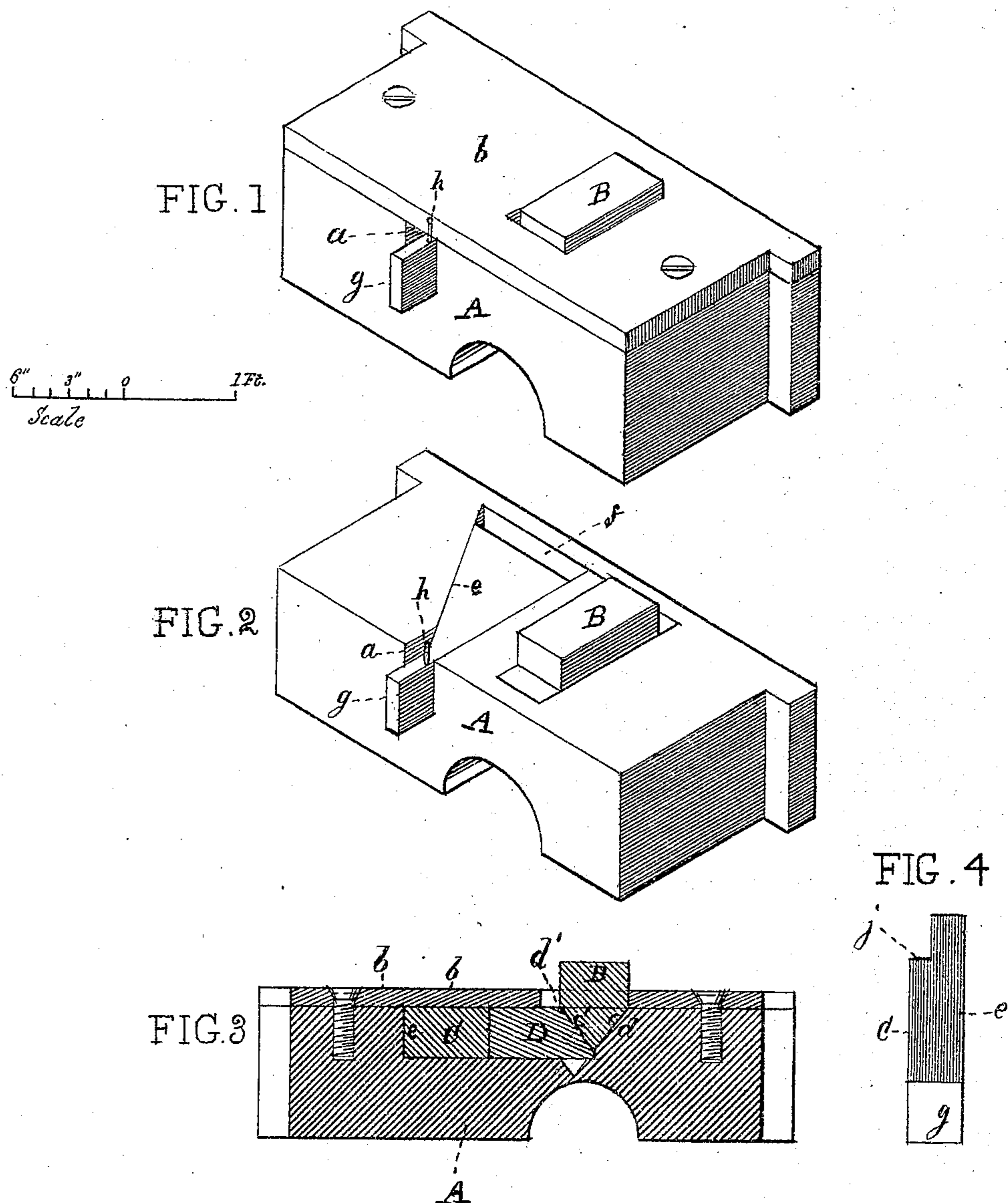


WILLIAM H. BROUGH.

Improvement in Saddle Box for Relieving Pressure from Rolls in Rolling Mills.

No. 119,692.

Patented Oct. 10, 1871.



WITNESSES

Thomas J. Dewley.
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UNITED STATES PATENT OFFICE.

WILLIAM HENRY BROUGH, OF COATESVILLE, PENNSYLVANIA.

IMPROVEMENT IN SADDLE-BOXES FOR RELIEVING PRESSURE FROM ROLLS IN ROLLING-MILLS.

Specification forming part of Letters Patent No. 119,692, dated October 10, 1871.

To all whom it may concern:

Be it known that I, WILLIAM HENRY BROUGH, of Coatesville, in the county of Chester and State of Pennsylvania, have invented certain Improvements in Saddle-Box to Relieve Pressure on Rolls of Rolling-Mills, of which the following is a specification:

The invention consists in the combination and arrangement of a vertical and horizontal wedge and intermediate key with the saddle-box, so arranged that the head of the vertical wedge shall bear against the set-screw in the head of the housing so as to admit of the dropping of said wedge as the horizontal wedge is slackened, whereby the bearing is borne upward to slacken the upper roll when the pile or plate sticks, thus allowing of the passage of the iron and the prevention of the breaking of one or both of the rolls.

Figure 1 is an isometrical view of the saddle-box with the improvement connected therewith. Fig. 2 is a like view of the same with the cap-plate *b* removed. Fig. 3 is a longitudinal section at the line *x x* of Fig. 1. Fig. 4 is an edge view of the wedge C.

Like letters in all the figures indicate the same parts.

A is the saddle-box, which has a recess, *a*, to receive the vertical wedge B, the horizontal wedge C, and intermediate key D. The said parts are held in position by means of the cap-plate *b*. The vertical wedge B has double inclines *c c'*, which fit, respectively, the stationary incline *d* of the saddle-box and the incline *d'* of the intermediate key D. The edge *e* of the wedge C is angular, as represented in Fig. 2, and when the wedge is drawn tight, as seen in the drawing, leaves a space, *f*, in the recess to admit of the slacking of the wedge. The head of the vertical wedge B projects upward above the box, as represented in the drawing, far enough to admit of various adjustments, and also to leave a space between the box and the upper side of the slot

in the housing, in which the box is situated, for the elevation of the latter to relieve the roll of the strain incidental to the swelling of the iron when stuck. The outer end of the horizontal wedge C has a projection, *g*, to receive a blow or other force to send the wedge backward, and thus allowing the sliding of the intermediate key D and consequent dropping of the vertical wedge B, whereby the end of the roll is relieved. The projection *g* is provided with a pin, *h*, for steadying the wedge and keeping it in position, so that it may not be started by the shaking of the mill, and be held securely until the wedge receives the blow for slackening the wedge B; then the pin is broken off by the blow, admitting of the sliding back of the wedge C.

I have described a single box, but it must be understood that there is one at each end of the roll, constructed as described.

The blow may be given by a sledge or by means of a weighted lever or hammer so hung as to admit of giving an instantaneous blow when relieved of its fastening by the attendant.

The wedge has a shoulder, *j*, seen in Fig. 4, which comes against a shoulder on the bottom of the recess *a* to arrest the wedge in its backward movement.

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

The combination and arrangement of the double-acting wedges B and C moving in planes at right angles to each other and the intermediate key D with the saddle-box A having a recess, *a*, and incline *d*, and with the housing, substantially in the manner and for the purpose above described.

In testimony that the above is my invention I have hereunto set my hand and seal this 9th day of August, 1871.

WILLIAM HENRY BROUGH. [L. S.]

Witnesses:

STEPHEN USTICK,
THOMAS J. BEWLEY.

(65)