

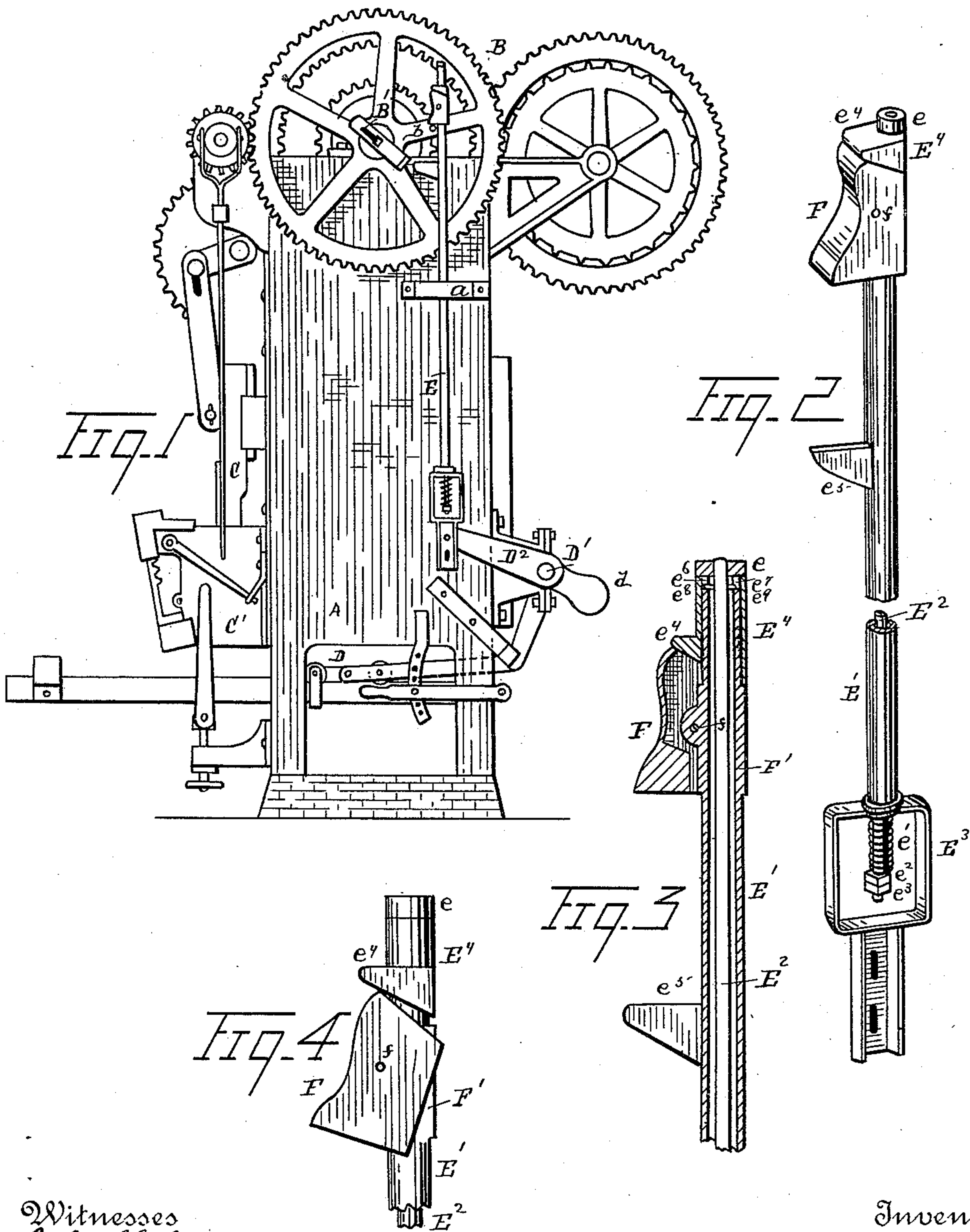
(No Model.)

A. F. CRAMER.

HOCK BAR FOR THE MOLD DELIVERY DEVICES OF BRICK MACHINES.

No. 427,973.

Patented May 13, 1890.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ANTHONY F. CRAMER, OF DETROIT, MICHIGAN.

HOOK-BAR FOR THE MOLD-DELIVERY DEVICES OF BRICK-MACHINES.

SPECIFICATION forming part of Letters Patent No. 427,973, dated May 13, 1890.

Application filed July 3, 1889. Serial No. 316,378. (No model.)

*To all whom it may concern:*

Be it known that I, ANTHONY F. CRAMER, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in a Hook-Bar for a Mold-Delivery Device for a Brick-Machine; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The object of my invention is to provide certain new and useful improvements in brick-machines, and has reference more particularly to improvements in a machine of this description embodied in Letters Patent No. 294,368, granted to me March 4, 1884, and relates to the construction, combination, and arrangement of the hook-bar with related parts for the operation of the discharge-carriage in common use with said machine to force out the molds. Owing to the liability of the molds or carriage becoming clogged or obstructed, so as to prevent their free and ready removal, it is evident that some provision must be made for the hook-bar to relieve itself on such an occurrence when the strain becomes too great, in order to prevent the otherwise inevitable breakage of the machine.

My invention to this end consists of the devices and appliances hereinafter more fully described and claimed, and clearly illustrated in the accompanying drawings, which form a part of this application, and in which—

Figure 1 is a side elevation of a machine to which my invention is applied. Fig. 2 is a separate view of the hook-bar. Fig. 3 is a vertical section of a portion of the same, and Fig. 4 is a separate view showing the position of the latch when at the point of being relieved.

I carry out my invention as follows: A denotes the casing of a pug-mill. B represents a series of gears usually employed to drive the various parts of the machine. C is a reciprocating plunger, and C' a press-box at the base of the machine. D is a reciprocating discharge-carriage beneath the machine to force outward the molds, which are located

beneath the press-box, and D' the rock-shaft connected with said carriage. These features constitute no part of my present invention, but may be of the ordinary construction.

E represents a hook-bar having a jointed engagement with the arm D<sup>2</sup> of the rock-shaft. This hook-bar I prefer to make of a hollow rod E', through which is sleeved a bar E<sup>2</sup>, headed at one end, as shown at e, and provided with a spring e' at the opposite extremity, the tension of which may be adjusted by means of an adjusting-nut e<sup>2</sup> and jam-nut e<sup>3</sup>. To permit the union of the spring and adjusting-nuts upon the end of said bar, the hook-bar may be constructed with a suitable yoke E<sup>3</sup>.

At the upper end of the hook-bar the rod E' is provided with a sliding collar or sleeve E<sup>4</sup>, provided with a shoulder e<sup>4</sup>, having an angular lower face, as shown, and arranged to reciprocate upon the upper end of the rod E', carrying with it in its upward movement the bar E<sup>2</sup>, the head of which rests upon the upper end of said collar. Beneath said collar a latch F is pivotally engaged upon the rod E', as shown at f. For this purpose the rod is preferably squared in any suitable manner, as by the provision of a square shoulder F', the latch preferably being three-sided to embrace said shoulder and by which it is maintained in a suitable position, the shoulder forming also a guide for the movement of the latch, which is pivoted thereto intermediate its extremities, so as to have a swinging movement thereon. The upper face of the latch is made slanting to correspond with the lower face of the adjacent collar. The lower face of the latch is projected from the rod E', so as to be readily engaged.

The hook-bar may be held in position upon the side of the casing A in any suitable manner, as by a guide a.

The adjacent gear B is provided with a dog or spur b, so located and arranged that upon the revolution of said gear it will engage the latch of the hook-bar, as shown in Fig. 1. Said gear or the shaft upon which it is engaged is also provided with an arm B', which may have an adjustable engagement therewith, as shown, so arranged that upon the further rotation of said gear the arm will en-



gage the hook-bar and crowd it away from engagement with the dog *b* and relieve it therefrom. Accordingly I prefer to provide the hook-bar with an arm *e*<sup>5</sup>, located at a desired point to receive the impact of the arm *B*' to relieve the hook-bar from the gear.

It will be obvious that when the dog *b* engages the latch *F* the hook-bar *E* will be lifted thereby, thereby also lifting the arm of the rock-shaft *D*' and thrusting forward the discharge-carriage *D*.

In the ordinary and unobstructed operation of the machine it will be seen that the tension of the spring *e*' may be so adjusted as to prevent the lifting of the collar *E*<sup>1</sup> and the swinging of the latch *F*, in which case as the gear rotates the dog *b* will simply ride out from underneath the latch, the latch being crowded off therefrom. At the same time it is clear, should any obstruction occur to produce an undue tension on the hook-bar, the adjusted tension of the spring will be overcome, permitting the collar to be lifted by the latch, which will be tilted into the position shown in Fig. 4, relieving the latch from the dog, the upper point of the latch forcing upward the collar *E*<sup>1</sup>, carrying with it the bar *E*<sup>2</sup> and compressing the spring *e*'. When the latch is relieved from the dog, the spring will restore the latch to its normal position, and the rock-shaft being weighted, as shown at *d*, will return to normal position, retracting the carriage. The latch and hook-bar being thus constructed and arranged, it is evident that the strain is relieved whenever any obstruction occurs which would otherwise result in damage to the machine. The hollow rod *E*' may be recessed, as shown at *e*<sup>6</sup> *e*<sup>7</sup>, and the bar *E*<sup>2</sup> be provided with pins *e*<sup>8</sup> *e*<sup>9</sup> to seat in said recesses and hold the bar in proper relation to said rod. As so constructed and arranged, it is evident that the hook-bar may very readily be adjusted as required. As the tension of the spring may need readjustment, I prefer to locate it at the base of the hook-bar, so that it is readily accessible.

What I claim as my invention is—

1. In a brick-machine, the hook-bar herein described, consisting of a rod *E*', having in

combination therewith a spring-bar, a sliding collar *E*<sup>1</sup>, engaging said spring-bar, and a swinging latch to engage said collar, substantially as described.

2. In a brick-machine, the hook-bar herein described, consisting of a rod *E*', having in combination therewith a spring-bar, a sliding collar *E*<sup>1</sup>, engaging the spring-bar, and a swinging latch *F*, said collar and latch having angular adjacent faces, substantially as described.

3. In a brick-machine, the hook-bar herein described, consisting of a rod *E*', provided with a spring-bar located therein, a sliding collar sleeved upon said rod and engaging said spring-bar, a swinging latch engaged upon said rod, substantially as described.

4. In a brick-machine, the hook-bar herein described, consisting of a rod *E*', a bar *E*<sup>2</sup>, located therein, provided with a retracting-spring *e*' at one extremity, a sliding collar engaging said spring-bar, and a swinging latch to engage said collar, substantially as described.

5. In a brick-machine, the hook-bar herein described, consisting of a rod *E*', having in combination therewith a bar *E*<sup>2</sup>, a sliding collar to engage the upper end of said bar, a swinging latch to engage said collar, said bar provided at its lower end with a spring, and an adjusting device to regulate the tension of said spring, substantially as described.

6. In a brick-machine, the combination, with the rock-shaft, of a hook-bar herein described, consisting of a rod *E*', a spring-bar, a sliding collar engaging said spring-bar, and a swinging latch to engage said collar, substantially as set forth.

7. In a brick-machine, the combination, with the driving-gears and a discharge-carriage, of a hook-bar consisting of a rod *E*', a spring-bar, a sliding collar engaging said spring-bar, and a swinging latch to engage said collar, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

ANTHONY F. CRAMER.

Witnesses:

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