2 Sheets—Sheet 1.

S. POTTS.

Toy.

No. 202,754. Patented April 23, 1878.

Fig. 2

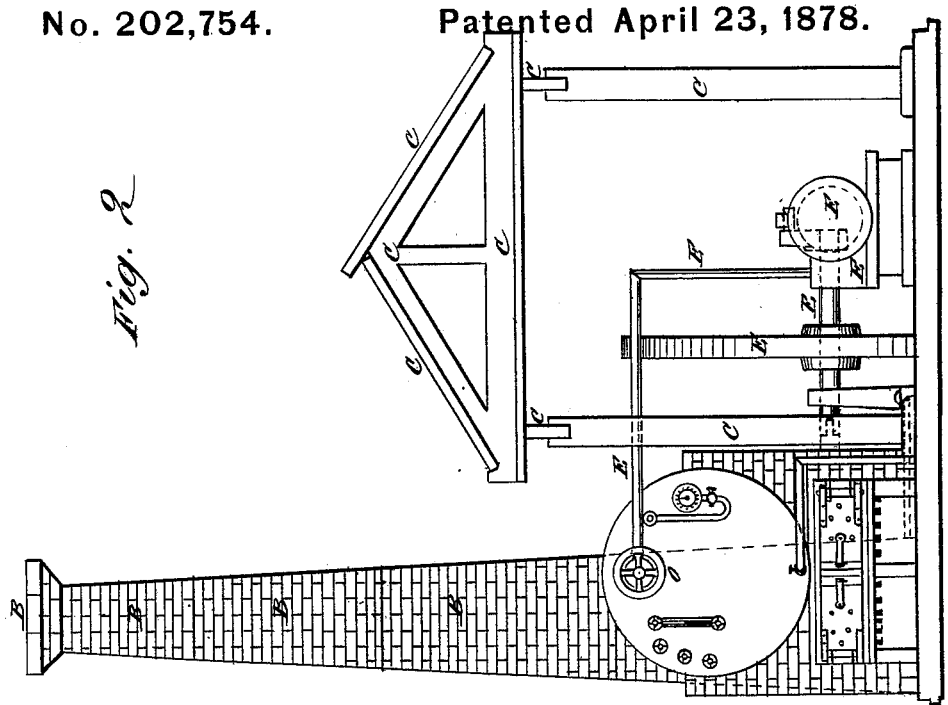
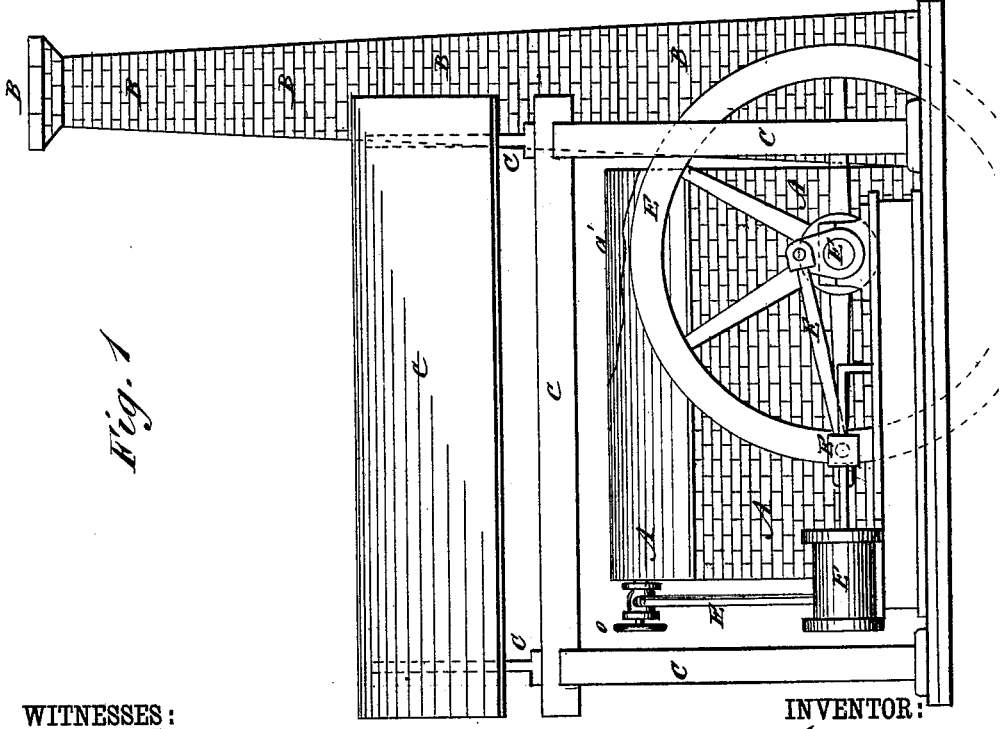


Fig. 1



WITNESSES:

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C. Sedgwick

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2 Sheets—Sheet 2.

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Toy.

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Fig. 3

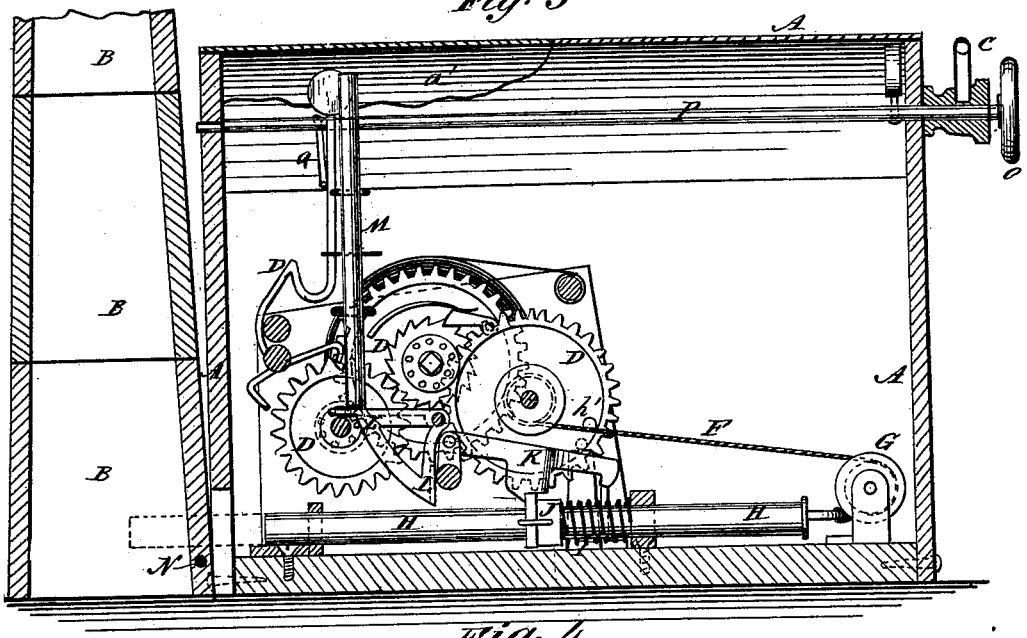
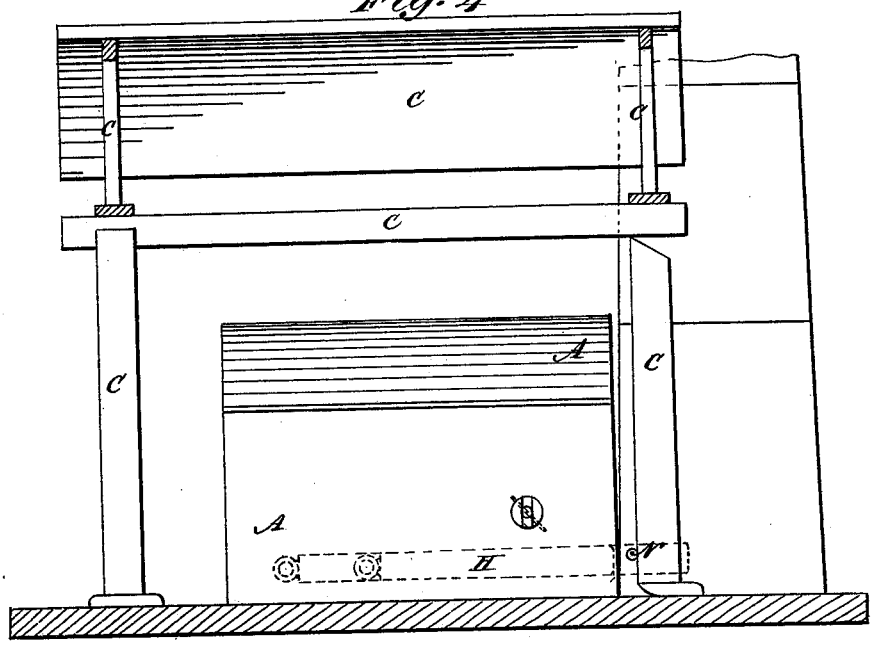


Fig. 4



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UNITED STATES PATENT OFFICE.

STACY POTTS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN TOYS.

Specification forming part of Letters Patent No. **202,754**, dated April 23, 1878; application filed March 13, 1878.

To all whom it may concern:

Be it known that I, STACY POTTS, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and Improved Toy, of which the following is a specification:

Figure 1, Sheet 1, is a view of the engine side of my improved toy. Fig. 2, Sheet 1, is a front view of the same. Fig. 3, Sheet 2, is a vertical longitudinal section of the same, taken through the boiler. Fig. 4, Sheet 2, is a vertical longitudinal section of the engine house or building, the engine and boiler attachment being removed, and showing the boiler in side view.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved toy called by me "The Careless Engineer," and which shall be so constructed that it may be made to illustrate, without any detriment to any of its parts, the results of an explosion caused by an engineer's carelessness, and which may also be used to illustrate the safety with which an engine may be run under the care of a careful engineer.

The invention consists in the combination of the cord, the guide-pulley, the sliding bar, the spiral spring, the collar, the latch, and the trip-pin with a clock-work, for projecting the said bar at a fixed time; in the combination of the cord, the guide-pulley, the sliding bar, the spiral spring, the collar, the angular lever, the rod, the latch, and the trip-pin with a clock-work, for projecting the said bar and the said rod together and at a fixed time; and in the combination of a clock-work provided with the projecting device with an imitation boiler, an imitation engine, and a knock-down structure, put together with loose unfastened joints, as hereinafter fully described.

A is a box or case, made to represent a boiler and its supporting brick-work, and which is made with a part, *a'*, of its cover detached, the division-line being made irregular to represent a fracture. At the rear outer corner of the boiler A is a pile of five (more or less) blocks, B, made to represent a stack or chimney. At the side of the boiler A is placed a building, C, three of the four posts of which have their upper ends slotted, to receive the plates that support the truss-girders upon which the roof is laid. The fourth post, which is placed at the rear inner corner of the boiler, near the stack B, has its upper end beveled to an edge for the plate to rest upon, and has the forward part of its base cut away, so that a very slight movement will throw it off its center, causing the whole structure to fall. Within the boiler A is placed an ordinary clock-work, D, the driving-shaft of which passes out through the side of the boiler, and has a wide flat tenon formed upon its end, to fit into a slot in the inner end of the crank-shaft of the engine E. The engine E is provided with representations of a fly-wheel, crank, connecting-rod, cross-head, slides, piston-rod, cylinder, valve-chest, and steam-pipe, to make it resemble an ordinary engine. To the shaft of the hour-wheel of the clock-work D, or to a drum attached to said shaft, is attached the end of a cord, F, which cord is wound upon the said shaft by winding up the said clock-work. The cord F passes around a guide-pulley, G, pivoted to the lower forward part of the boiler A, and the other end of the cord F is attached to the forward end of the bar H, which slides in guides attached to the inner surface of the bottom of the boiler A, so that its rear end may project through a hole in the rear end of the said boiler. The bar H is forced back by a spiral spring, I, placed upon its middle part, the forward end of which rests against the forward guide-bearing for the said bar H, and its rear end rests against the collar J, attached to the middle part of the said bar H.

When the clock-work is fully wound up, the collar J strikes against the inclined or rounded rear side of the shoulder of the latch K, raises the said latch, and passes the said shoulder, which shoulder then drops in the rear of the upper edge of the collar J, and holds the bar H until the clock-work has run down, when a pin, *h'*, attached to a wheel of the clock-work, lifts the latch K, and allows the spring I to throw the bar H back with force. As the bar H moves back, the collar J strikes the lower arm of the bent lever L, which is pivoted at its angle to the frame of the clock-work D, and which is strengthened by joining the ends of its arms by a bar. When the lever L is left free its lower arm rests against a rod of

the clock-work frame, so as to hold its upper arm in a horizontal position. Upon the horizontal arm of the lever L rests the lower end of the upright rod M, which passes up through guides attached to the clock-work frame, and which is made of such a length that its upper end may stand just below the loose detached part *a'* of the boiler-cover when the clock-work is wound up. To the lower part of the lowest block of the stack B is attached a rod or arm, N, which extends so as to rest against the forward or inner side of the inner rear post of the building C. The front of the boiler A is provided with the hand-wheel O of the throttle-valve, and with the representation of an ordinary gage, steam-pipe, &c. The hand-wheel O is attached to the forward end of the shaft P, which passes longitudinally through the upper part of the boiler A, and has an arm, Q, attached to it, which, when the hand-wheel O is turned in one direction, locks the escapement of the clock-work D, and thus prevents the said clock-work from running, and when the said hand-wheel O is turned in the other direction the escapement will be released and the clock-work will begin to run.

In using the toy the connections between the boiler A and the engine E are made, and the stack B and the building C are erected, in the manner hereinbefore described. The clock-work D is fully wound up, and the hand-wheel O is turned to release the clock-work, which begins to run, and gives motion to the fly-wheel and engine. The engineer is then taken away from his post and placed anywhere about in the building, to show his carelessness. When the clock-work D runs down, the latch K will be raised, which releases the bar H and allows it to fly back. The effect is, that the bar H knocks down the stack B, the arm N knocks down the building C, and the rod M knocks off the detached part *a'* of the boiler-cover, illustrating the destructive effects of a boiler-explosion.

If the explosion is not required, the winding up is stopped before the collar J interlocks with the latch K. In this case the clock-work D will run down without any disturbance.

In the drawings the toy is represented as being made in the form of a stationary engine and mill; but it may be made in the form of a locomotive engine and tender or car, or in the form of a marine engine and ship's cabin.

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

1. The combination of the cord F, the guide-pulley G, the sliding bar H, the spiral spring I, the collar J, the latch K, and the trip-pin *h'* with a clock-work, D, for projecting the said bar H at a fixed time, substantially as herein shown and described.

2. The combination of the cord F, the guide-pulley G, the sliding bar H, the spiral spring I, the collar J, the angular lever L, the rod M, the latch K, and the trip-pin *h'* with the clock-work D, for projecting the bar H and the rod M together and at a fixed time, substantially as herein shown and described.

3. The combination of a clock-work provided with the device F G H I J K *h'* L M with an imitation boiler, A, an imitation engine, E, and a knock-down structure put together with loose unfastened joints, substantially as herein shown and described.

STACY POTTS.

Witnesses:
E. H. BAILEY,
ALBERT POTTS.