J. H. WELLS.

Gun Lock.

No. { 3,016. / 34,020. }

Patented Dec 24, 1861.

Fig. 1.

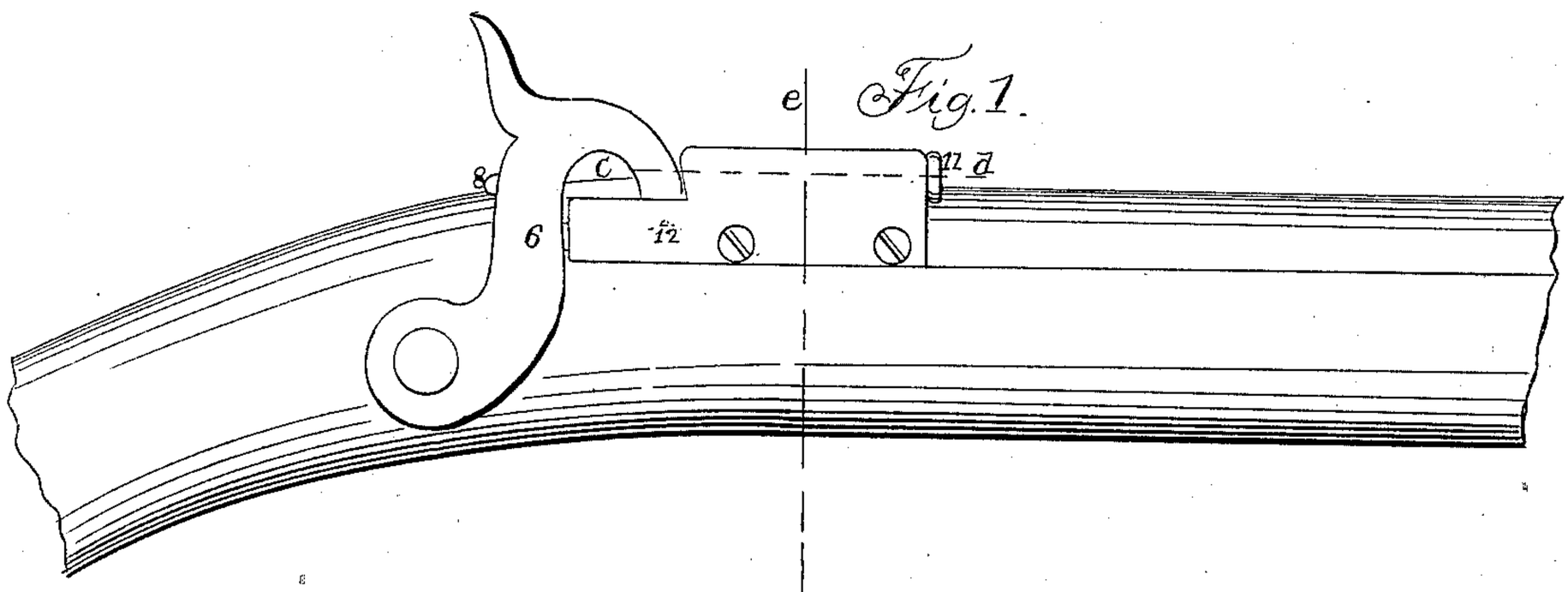

Fig. 2.

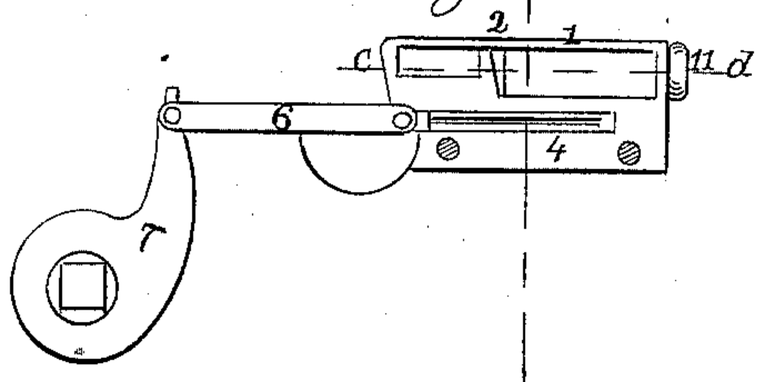

Fig 6

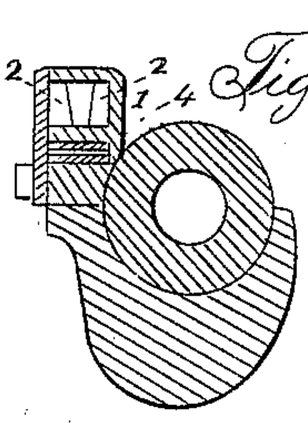

Fig. 4.

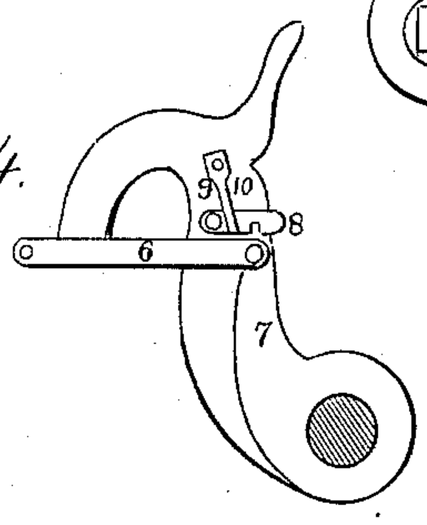

Fig. 3.

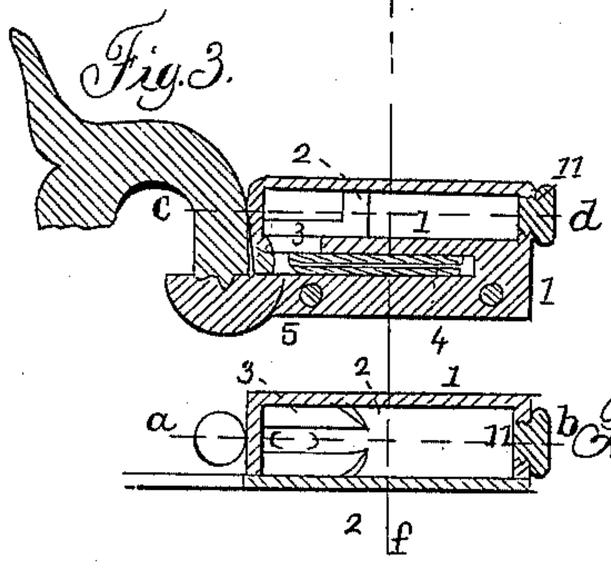

Fig. 5.

Witnesses { I. N. Grangw. / E. G. Morris }

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By Thos. P. McCown
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UNITED STATES PATENT OFFICE.

JOHN H. WELLS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN AUTOMATIC PRIMERS FOR FIRE-ARMS.

Specification forming part of Letters Patent No. **34,020**, dated December 24, 1861.

To all whom it may concern:

Be it known that I, JOHN H. WELLS, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvement in Primers for Fire-Arms, the construction and operation of which I have described in the following specification and illustrated in its accompanying drawings with sufficient clearness to enable competent and skillful workmen in the arts to which it pertains or is most nearly allied to make and use my invention.

My said invention is intended to employ small globules or the pills of fulminating composition as a primer, and is so constructed as to feed them with regularity from a hopper in which they are placed in bulk, or, in other words, poured in without any reference to their arrangement therein, to a cavity under the hammer, where they are exploded to ignite the powder in the arm.

My improvements consist in first combining with a fire-arm a hopper for containing said pills and a slide or equivalent device for carrying them therefrom to the place of discharge, said parts being so constructed and arranged as to receive the pills in bulk without arrangement other than to pour them into the hopper, and to feed them singly to the point of explosion as they are required for the discharge of the arm, substantially as hereinafter set forth; second, the device hereinafter described for connecting the hammer with the slide which brings the said pills to the point at which they are ignited by the blow of the hammer, in such a manner as to allow the slide to be conveniently disconnected from the hammer, and thereby secure the gun from being discharged by the accidental drawing back of the hammer or the pulling of the trigger, as hereinafter more fully set forth; third, the construction of the hopper or chamber for the percussion-pills in two compartments, so formed and arranged with reference to each other and so combined with the slide as to insure certainty of action when the gun is put into any of the ordinary positions for firing, and that, too, without its being necessary to give great depth to the hopper or reservoir, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a side elevation of my priming apparatus applied to a rifle or other small-arm, only such parts of the arm itself being represented as are deemed desirable to facilitate a clear understanding of the combination. Fig. 2 is a like elevation, the hammer and the side plate which covers a portion of the working mechanism and forms one side of the hopper being removed to give a clear view of parts beyond them. Fig. 3 is a vertical longitudinal section, showing the parts beyond the line *a b* in Fig. 5. Fig. 4 is an inside elevation of the hammer and some other parts, showing the detachable catch by which the slide is connected to the hammer, and illustrating the mode of its operation. Fig. 5 is a horizontal longitudinal section, showing the parts which lie below the line *c d* in Figs. 1, 2, and 3. Fig. 6 is a sectional elevation, showing the parts which lie at the left hand of the line *e f*, as drawn across Figs. 1, 2, and 3.

1 is the outside wall or casing of the receptacle for the percussion-pills. It is made of brass or any other suitable metal; or perhaps the composition of caoutchouc known as "hard rubber" might answer a quite as good or better purpose in its construction. The internal construction of this casing or reservoir is such as to partially divide it into two compartments, from the smaller one of which the pills are fed to the slide, which moves them into position to be fired. An inspection of the horizontal section, Fig. 5, and of the vertical longitudinal section, Fig. 3, will give a clear illustration of the construction of the interior of the hopper, and will aid materially in giving an understanding of the operation of the parts. The smaller portion of the chamber is provided with plates or fins 2 2, which at the end next the larger portion of the chamber form a partial bar or partition between the two portions of the reservoir for the priming-pills. It will be observed that these fins converge toward each other as they approach toward the larger part of the chamber, so as to give a converging boundary to the opening from the smaller to the larger portion of the chamber, but on the other side are chamfered upon the outside, so as to allow the pills to fall freely away from the opening, a narrow opening being left between these fins from one chamber to the other, said opening being just sufficiently large to allow the pills to pass

freely through it. The object of this construction is to allow the pills to pass freely, without clogging, from the large portion of the chamber to the smaller one by giving them in that direction an abrupt entrance and an expanding throat or opening through which to pass, but to cause them to clog and prevent their passage in the other direction by means of the converging throat, which causes them to ride or obstruct each other. An elongated opening or slot, 3, is made in the bottom of the smaller chamber, through which the pills pass to the slide 4, which carries them into the position for firing. This slide fits into a recess under the bottom of the hopper, and is split the greater portion of its length, as shown in the drawings, to allow it to fit with a spring-pressure. This slide 4 is provided with a cavity, 5, sufficiently large to receive one pill at a time and discharge it with freedom and certainty. This slide is connected by the connecting-rod 6 to the vibrating arm 7, which is placed between the hammer and the barrel, and which when operated turns or vibrates on the same center as the hammer.

To give motion to the slide 4, a small catch, 8, is attached to the hammer by a pivot, 9, on which it may be turned upward so as to raise it from the vibrating arm 7, or turned downward so as to catch upon the end of this arm, and thus cause the cocking of the gun to draw back the slide 4, and the letting down of the hammer to slide it forward into the position which it is represented in the drawings as occupying. The friction-spring 10 is attached to the hammer to keep this catch in either of these positions in which it may be placed. When this catch 8 is hooked down upon the arm 7, the manipulation of the hammer will operate the slide 4 and cause it to bring the necessary priming from the hopper or reservoir for each successive discharge, the slide bringing the pill back to the place of ignition as the hammer is drawn up, the pill falling into the cavity, where it is discharged as the hammer is drawn up, and the slide being pushed back to its normal position as the hammer falls. If, however, the catch 8 is raised so as to disengage it from the arm 7, the gun may be cocked and snapped an indefinite number of times without any serious danger of discharge.

It is obvious that this invention allows some considerable modification of the construction of the parts without any material change in its force of novelty—as, for example, the hopper may be placed back of the hammer, the other parts being arranged accordingly, so as to give the necessary operation. It is also obvious that the form of the chambers might be somewhat changed or the construction of the carrier varied, and yet the same result be produced substantially in the same way. The construction I have described I however deem the best.

I am aware that there are several devices for priming fire-arms already in existence, and some of them covered by patent; but all more or less unsatisfactory in their operation, and some of them constantly liable to derangement of their parts, and especially is this the case where springs are employed to press forward the priming material, as these springs are constantly liable to be weakened in their action by constant and varied tension or pressure. In my primer no such springs are employed; but the priming falls by its own gravity into the necessary position to be taken by the slide.

Another objection to most, and perhaps all, of the primers now in use may be found in the necessity of care in arranging the priming at the time of its introduction into the primer, which time cannot well be spared, especially on the field of battle.

In using my primer the pills are introduced into the large portion of the chamber by withdrawing the screw 11, and the changes in position to which the gun is subject in handling and the jars or concussions it receives from firing are found to be always sufficient to keep a sufficient supply in the smaller chamber, and this being the case, the gun may for the time of discharge be held in any position in which it is necessary to hold a gun in firing without preventing the satisfactory operation of the primer.

To prevent moisture from being received into the arm through the vent, the hammer is closely fitted upon a socket, on which it strikes at the time of exploding the cap in such a manner as to cause moisture which may lodge upon that part of the gun to run off and escape, the hammer being fitted to this piece of steel for receiving its blows with a groove, from which there is an opening, 12, to allow the water to be discharged.

Among the advantages resulting from the use of my primer may be found the following: First, the priming, which is an important item in the cost of manufacture, is reduced in expense to a mere trifle, while at the same time every advantage is retained; second, by disengaging the catch 8 the weapon on which this primer is used may be carried with perfect safety through brushwood, over fences and other places where the ordinary priming would be liable to accidental discharge; third, a larger number of primings can be carried in this primer than in any of those already before the public; fourth, no arrangement of the priming in my primer being required, but it being simply poured in, no large amount of time is lost in introducing a new supply of priming.

Having thus fully described my said invention, I claim—

1. The combination, with a fire-arm, of a hopper and a slide or its equivalent which is operated by the cocking and letting go the hammer of the gun and by other manipulation of the arm to bring and deliver the priming-pills to and at the point of explosion, said parts being so constructed and arranged, as before described, as to receive the said pills from the mass without any previous arrange-

ment in order being necessary, and to deliver them singly in succession, as set forth.

2. The combination of the slide 4, vibrating arm or catch 7, or other catch performing its functions, catch 8, and spring 10, substantially as described, for the purpose of attaching the slide to and detaching it from the hammer, so as to make it operative or otherwise, as desired, for the purpose set forth.

3. The construction, as described, of the chamber or reservoir for containing the pills or priming material in two compartments, so formed and arranged with reference to each other that the smaller compartment, or the one which is over the opening in the slide, will receive the pills freely from the other compartment and have a tendency to retain them, substantially as set forth.

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Witnesses:
ISAAC H. HOW,
THOS. P. HOW.