R. KINSLEY.

Tompion.

No. 34,430. Patented Feb. 18, 1862.

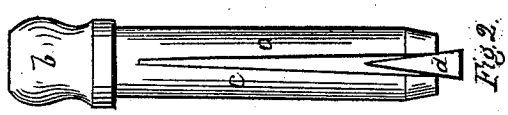


Fig. 2.

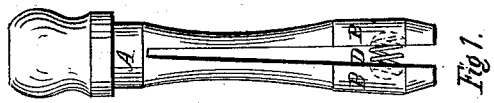


Fig. 1.

Witnesses.

D. A. Morton

Milton Bradley

Inventor.

Rhodolphus Kinsley

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

RHODOLPHUS KINSLEY, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN TOMPIONS FOR FIRE-ARMS.

Specification forming part of Letters Patent No. **34,430**, dated February 18, 1862.

To all whom it may concern:

Be it known that I, RHODOLPHUS KINSLEY, of Springfield, in the county of Hampden and Commonwealth of Massachusetts, have invented a new and Improved Tompion for Closing the Muzzle of a Fire-Arm when not in Use; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings, making a part of the specification.

My invention is an improvement on the common wooden tompion used for closing the muzzle of a fire-arm when not in use, to protect the bore of the gun and the charge from the rain or moisture.

In the drawings accompanying this specification, Figure 1 shows the construction of my improved "tompion," and Fig. 2 shows the kind in common use in fire-arms in this country.

I will first describe the latter and show the objections which led to the improvements herewith presented.

As shown in the drawings, the common tompion is a wooden pin having a cylindrical body or shank, *a*, and a head, *b*. The part *a* is turned just large enough to fit easily into but at the same time to fill the bore of the fire-arm. Then a saw-kerf, *c*, is made from the end of the body nearly to the head through the center of *a*. Afterward a small wedge, *d*, is forced into the kerf at the lower end, to spread the two halves of the pin apart a little, as shown in the drawings. Now, by being laid away awhile to season, these prongs or halves become set in the position produced by the insertion of the wedge, so that when the wedge is removed they do not immediately spring back to their natural positions. Thus, when put into the muzzle of a gun, these halves of the pin *a* are forced together a little, and by their tendency to spring apart produce friction on the surface of the bore of the gun sufficient to hold the tompion in its place. Thus far they accomplish all they were designed for; but when subjected to the alternate heat and moisture consequent upon exposure to the weather, the prongs become set back again to their original and natural form even more easily and quickly than when they were set apart by the wedge. Now, as soon as the tendency of the prongs or legs to spring apart is gone, there is nothing to hold the tompion in the gun but the friction of the shank *a* in the gun throughout the whole length of the shank. Therefore it is necessary to make the shank to nearly fill the bore when first turned; otherwise the tompion would very soon drop out and be lost; but if the shank is made large enough to fill the bore close enough to hold itself in when dry, as soon as it is exposed to the wet or dampness it will expand so much that it can be removed with great difficulty, and with the hands or such instruments as a soldier has at command when on a watch it is impossible to get them out otherwise than by firing them out, as is frequently done, which of course loosens the tompion and very likely spoils the gun, as so many guns have been split and rendered useless by firing in that way that many of our best officers have become nearly disgusted with tompions of any kind. In the Enfield gun a cork is used with a brass head; but that is subject to the same objections in regard to expansion by moisture; also, some have been made of india-rubber, and have been tried by our government; but the substance was so dense that it corroded the gun wherever it came in contact with the bore, and also confined the air in the gun with no chance for circulation, and therefore it became foul, injuring the bore of the barrel through its whole length, and after a trial these were abandoned. This trouble is avoided by the use of wood, which, being porous, does not corrode the metal where it comes in contact with it, and also allows a circulation around it and through the pores, thereby ventilating the whole bore of the gun. Now, in this arrangement which I am about to describe I claim that I have obviated all the difficulties heretofore experienced, and that in a very simple and effectual manner. In the first place I form a tompion of wood, like the old style already described, and illustrated in the drawings, except that I make the surface of the shank concave, as seen in Fig. 1, leaving only a short cylindrical piece, A, just below the head, and another piece, B, at the lower end of a suitable size to nearly free the bore of the gun, but not large enough to fill as closely as it was necessary to have the old style. The saw-kerf is made up to the bottom of the cylindrical part A. I then spring the legs apart sufficiently to introduce a spheri-

cal rotary burr or cutter, and then pressing them together a concavity is formed in the inside of each leg. I then spring the legs open again and remove the cutter and insert in place of it a spiral spring, D, of sufficient length and strength to spread the legs a little. Now, the reasons for this peculiar construction are as follows: I make the surface of the shank concave, as described, in order to give less bearing-surface on the bore of the gun in case the expansion from moisture should cause it to bind, and also to give the leg a better shape for being sprung out, so that it may bend gradually throughout nearly its whole length, instead of having nearly the whole at the upper end of the saw-kerf, as in the old style; also, the spiral spring is permanent and sure, not liable to become set and lose its spring by the effects of the weather. Furthermore, in the old way the wedge was intended to be saved by the soldier or other person using the arm, and whenever the tompion was not in use to be inserted again between the legs, as before described; but so small a thing is very liable to be lost, and consequently when the tompion is removed from the gun a new wedge must be made, or the tompion is thrown into the knapsack without any, and the next time it is wanted it is useless. Also, in my invention, as the spring is permanent, remaining in place constantly and not affected by the weather, so that there is no danger that the tompion will drop out, the neck or cylindrical part just below the head need not be made to fit closely enough so that any expansion by moisture will cause it to stick, as it serves the purpose of protecting the bore of the gun as long as the projection of the head covers the muzzle. Therefore my tompion will always be as free to be removed as when first put in; also, it is easily put in under all circumstances, which is not the case with the cork and metal ones used in the Enfield gun, as if that is a little damp it cannot be put in so that the head will fit down closely to the muzzle of the gun in consequence of the springy nature of the cork, and it cannot be twisted as you would do in putting a cork into a bottle, because the brass head, being connected to the cork by a small bolt, will turn round without turning the cork. Thus I have endeavored to show as briefly as possible the objections which have been found to the kinds in use by actual trial, and to explain in what manner I claim to have overcome them.

The substance used as a spring may be varied to suit the circumstances, such as the different kinds and forms of metal, also india-rubber or other suitable substance; therefore I do not confine myself to the use of any peculiar style of spring to be inserted between the legs; but

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

1. A tompion consisting of a wooden pin split in two parts throughout a portion of its length, and having a spring of metal, rubber, or other suitable substance inserted between these two parts to force them against the bore of a gun, substantially in the manner and for the purpose herein described.

2. Forming the pin or shank part of the tompion smaller at the middle than at each end, for the purpose and in the manner substantially as herein set forth.

RHODOLPHUS KINSLEY.

Witnesses:
I. A. MARTIN,
MILTON BRADLEY.