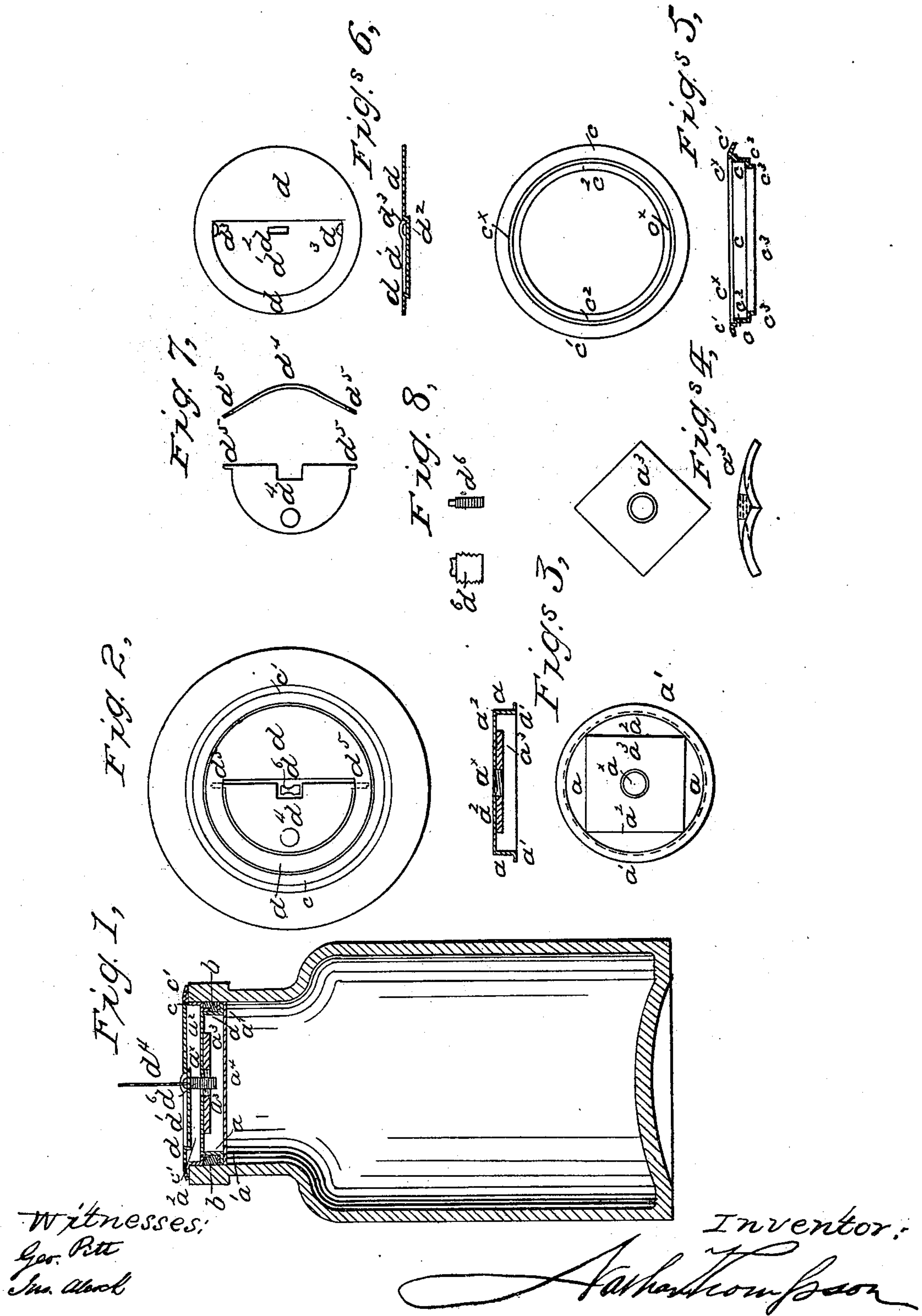


N. THOMPSON.

Fruit Jar.

No. 44,054.

Patented Aug. 30, 1864.



UNITED STATES PATENT OFFICE.

NATHAN THOMPSON, OF ST. JOHN'S WOOD, ENGLAND.

IMPROVED APPARATUS FOR STOPPING JARS AND BOTTLES.

Specification forming part of Letters Patent No. 44,054, dated August 30, 1864.

To all whom it may concern:

Be it known that I, NATHAN THOMPSON, of 15 Abbey Gardens, St. John's Wood, in the county of Middlesex, England, a citizen of the United States of America, have invented or discovered certain new and useful Improvements in Apparatus for Stopping Bottles, Jars, and other Vessels, which improvements are also applicable to stopping the muzzles of fire-arms; and I, the said NATHAN THOMPSON, do hereby declare the nature of the said invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement thereof—that is to say:

This invention has for its object improvements in apparatus for stopping bottles, jars, and other vessels, which improvements are also applicable to stopping the muzzles of fire-arms. For these purposes I employ stopping apparatus consisting of the following parts: first, a flanged cylinder with a screw-nut attached to it; second, a ring of india-rubber or similar material; third, an upper flanged ring of metal; and, fourth, a metal disk with a screw fixed to it and furnished with a handle. The first part consists of a short metal cylinder, closed at its ends, excepting a small hole at the center of the upper end, under which a screw-nut is fixed. At its lower end it has an external flange of such a size as just to enter freely into the mouth of the vessel to be stopped. On this flange the second part—viz., the ring of vulcanized india-rubber—rests, and it is by compressing this ring by means of a screw, as hereinafter described, between the flange on which it rests and an upper ring, or the third part above referred to, that an air-tight joint is made between the stopping apparatus and the neck of the bottle or vessel. This third part consists of a short tube capable of just entering freely into the neck of the bottle or vessel, and it has a flange at its upper end, which, by resting on the top of the neck, prevents the stopping apparatus entering too far into the vessel. The inner edge of this flange is indented or recessed all round, so as to form a circular recess for a disk to lie in, as will be presently described. The tube also has at its lower edge a flange projecting inward from it, and it is this flange which bears directly on the india-rubber ring. Again, at the inner edge of this lower flange is another short tube,

projecting downward, which fits accurately to the cylindrical portion of the first part, so that the two parts can slide the one on the other to compress the india-rubber ring, as already mentioned. The disk before referred to, and which is the fourth of the parts enumerated above, consists of a circular metal plate, which lies, as already mentioned, in the circular recess in the flange of the third part. It is able to turn in this recess, and for this purpose it has a handle jointed to its upper side. The handle is a semicircular piece of metal with lugs at the extremities of its diameter. It lies in a depression or recess of corresponding size made in the disk, and the lugs pass through holes on each side of the recess. In the center of the disk and beneath it a screw is fixed. For convenience of manufacture it is not made a complete screw, but is flat on two sides. This screw takes into the nut fixed to the first part, so that by turning the disk and screw by means of the handle the first and third parts—that is, the cylinder and the upper ring—can be drawn toward each other and the india-rubber ring between them compressed, and it is in this manner that the stopping apparatus is secured in its place, and by turning the disk and screw in the contrary direction that the stopping apparatus is freed, so that it may be lifted out of the mouth of the bottle or vessel. The screw-nut of the first part is made square, and its diagonal is somewhat longer than the inner diameter of the cylinder within which it is fixed. To get it into its place it is dished or cupped, and after it is in the cylinder it is flattened, which causes its corners to enter the sides of the cylinder, and the nut thus becomes fixed in its place.

In order that my said invention may be most fully understood and readily carried into effect, I will proceed to describe the drawings hereunto annexed.

In the drawings, Figure 1 is a vertical section of a jar with stopping apparatus such as above described. Fig. 2 is a plan of the same.

a is the short metal cylinder forming a portion of the first part of the stopping apparatus; *a'*, a flange at its lower end; *a²*, the upper end of the cylinder, with a central hole in it at *a^x*. The parts *a*, *a'*, and *a²* are stamped in one piece of tinned iron.

a³ is the nut. It is made in wrought-iron, and fixed as already described.

a^4 is a plate of metal closing the lower end of the cylinder, its edges being lapped over the edges of the flange a' .

The parts a a' a^2 a^3 are shown separately at Fig. 3, and the nut a^3 , dished ready for fixing, is shown separately at Fig. 4.

b is the vulcanized-india-rubber ring or second part of the stopping apparatus. It is preferred to make this ring of vulcanized india-rubber; but other material may be employed, although not so efficiently.

The upper ring or third part of the stopping apparatus is shown separately at Fig. 5. It consists of the short tube c , of such a size as just to enter freely into the mouth of the bottle or vessel. c' is the flange at its upper edge, with the recess c^x formed in it. c^2 is the flange, projecting inward from its inner edge and forming a flat surface to press upon the top of the india-rubber ring b , and c^3 is the short guide-tube at the inner edge of the flange c^2 , to serve as a guide for the first part, a , a' , a^2 , a^3 , and a^4 , of the stopping apparatus. The parts c , c' , c^x , c^2 , and c^3 are formed altogether from a ring of tinned iron by stamping.

Fig. 6 shows separately the disk d of the fourth part of the stopping apparatus. Fig. 7

shows its handle, and Fig. 8 its screw. The disk d is stamped with a recess, d' , for the handle. In the center of this recess is a hole, d^2 , to receive the shank of the screw, which is riveted over to fix it in its place. At the two sides of the recess are also holes d^3 d^3 to receive the lugs of the handle. The handle is marked d^4 , and its lugs d^5 are cut out in the same piece with it. To put the handle into its place it is bent, as is shown at Fig. 7, and afterward straightened. The screw d^6 is made to the form shown from a short piece of flat iron by stamping in dies.

Stopping apparatus thus constructed is suitable for stopping the muzzles of fire-arms.

I claim—

1. The constructing and forming the first, third, and fourth parts severally of the stopping apparatus, substantially as hereinbefore described.

2. The combining the several parts of the stopping apparatus, substantially as described.

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