

A. M. SAWYER.

Projectile.

No. { 2,750, }
 { 33,754. }

Patented Nov. 19, 1861.

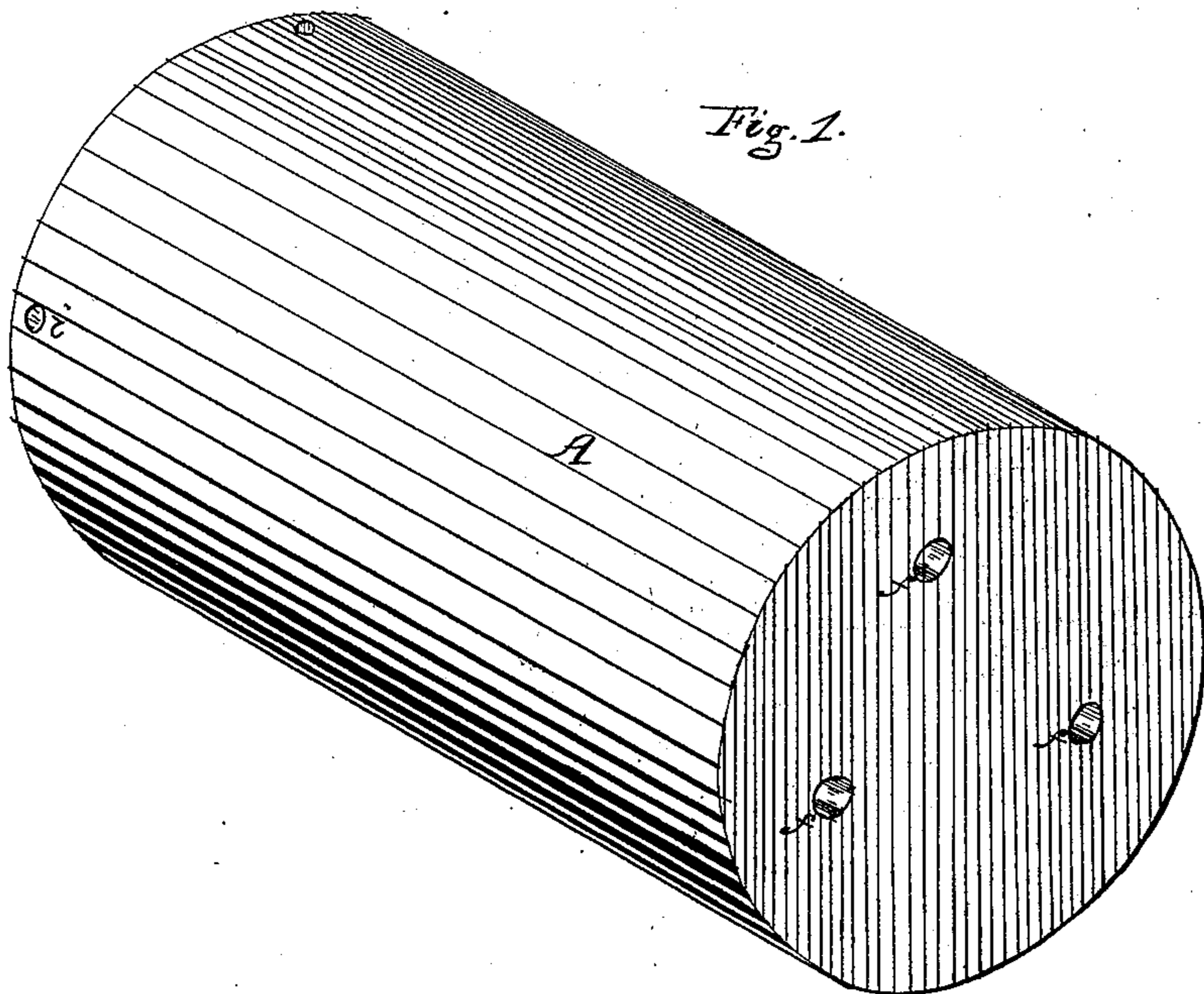
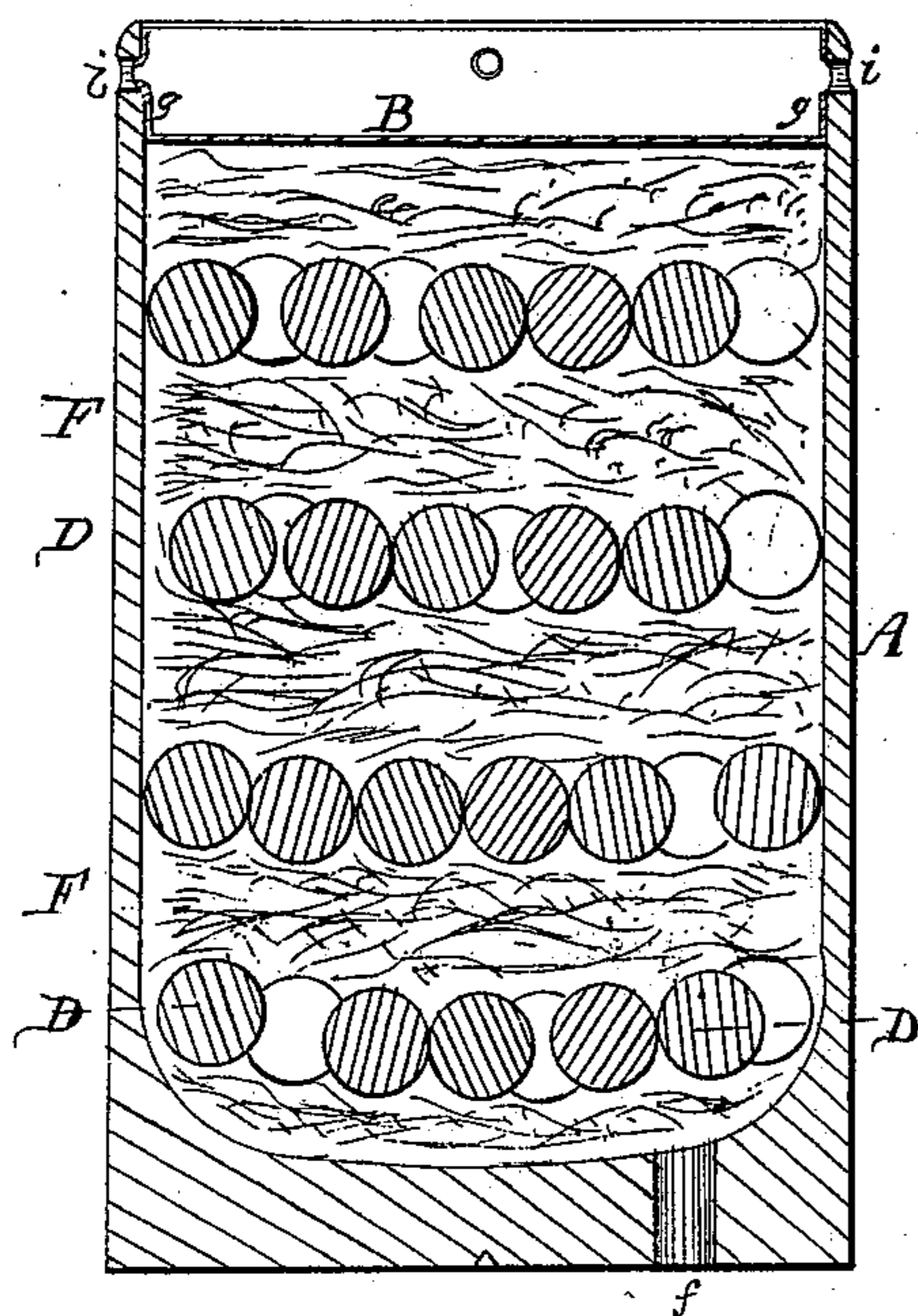


Fig 2



UNITED STATES PATENT OFFICE.

ADDISON M. SAWYER, OF FITCHBURG, MASSACHUSETTS.

IMPROVEMENT IN CANISTER-SHOT FOR ORDNANCE.

Specification forming part of Letters Patent No. **33,754**, dated November 19, 1861.

To all whom it may concern:

Be it known that I, ADDISON M. SAWYER, of Fitchburg, in the county of Worcester and State of Massachusetts, have invented an Improved Canister-Shot, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my shot; Fig. 2, a longitudinal section through the same after it is charged and ready for use.

My invention has for its object to produce a canister-shot that may be fired from a rifled cannon without injury to the grooves, and that will carry the shot in a comparatively compact body, and then scatter them in a cone diverging in front of the troops at which they are fired. The ordinary canister-shot is liable to several objections: first, the balls are apt to be forced down to the rear end of the canister at the instant of discharge, by which the metallic canister is driven into the grooves of the gun, which are thereby destroyed; second, when thus wedged into the tail end of the shot, they burst the canister and fly wild the instant they leave the gun; third, if the canister were of sufficient rigidity to resist being forced into the grooves of the gun, the balls would be wedged into its tail end, and this end thus becoming the heaviest would prevent the canister from flying mouth foremost.

My present invention consists in the employment of a rigid canister of such strength that it shall neither be crushed by the discharge of the piece nor be forced out into the grooves of a rifled gun. This I accomplish by making a canister of sufficient strength to resist both of these forces; and to prevent the balls from wedging into the tail end of the canister and remaining there, I open one or more holes in its rear end, through which sufficient force is communicated by the discharge to start the balls simultaneously with the canister and to drive them to its forward end, so that at the moment when the projectile is leaving the gun its forward end is much heavier than its rear, and the consequence is that the canister flies mouth foremost, and the balls being discharged while it is in this position are all projected in

lines having only a moderate divergence from the line of flight of the canister.

To enable others skilled in the art to understand my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is the canister, which is to be of cast-iron or other suitable material, and of sufficient strength to resist the crushing of its sides by the force of the discharge. Through the rear end of the canister I make three holes, *f*, and to the forward end or mouth I apply a cover, B, of tin or of other suitable material that will keep the balls in place. This cover has a flange, *g*, and is held in its place by punching from the inside into the holes *i*, it being simply necessary to hold the cover on with sufficient force to prevent the balls from dropping out during transportation and loading.

To charge the canister a layer of paper, C, is first placed at the bottom, and upon this a layer of balls, D, next a layer of shavings, F, or other suitable substance to prevent the balls from coming in contact with each other, and then alternately balls and shavings until the canister is filled. The contents are secured in place, as before stated, by the cover B. Either leaden or other balls may be used, those of lead being preferred. When the projectile is discharged from the gun, a portion of the force of the discharge entering by the holes *f* compresses the contents of the canister so as to throw the balls to its forward end, and the canister is thus caused to move mouth foremost; and as the canister leaves the gun, or very shortly after its escape therefrom, the expansion of the gas which has entered behind the paper C assists to free the canister of its balls, which are discharged in line nearly parallel to the line of flight.

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

A canister-shot, constructed in the manner substantially as described.

ADDISON M. SAWYER.

Witnesses:

JOSEPH E. MANNING,

HENRY A. GOODRICH.