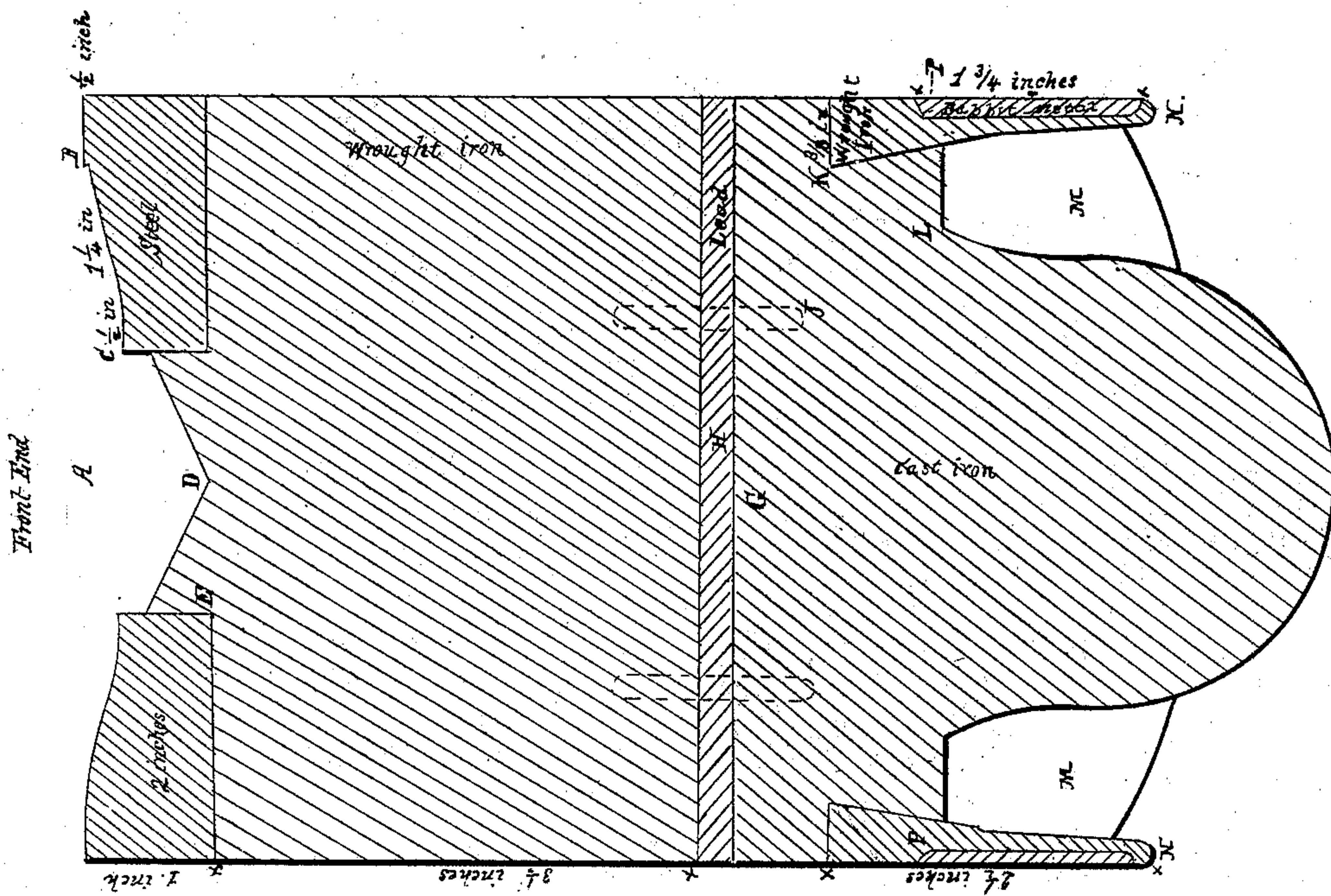
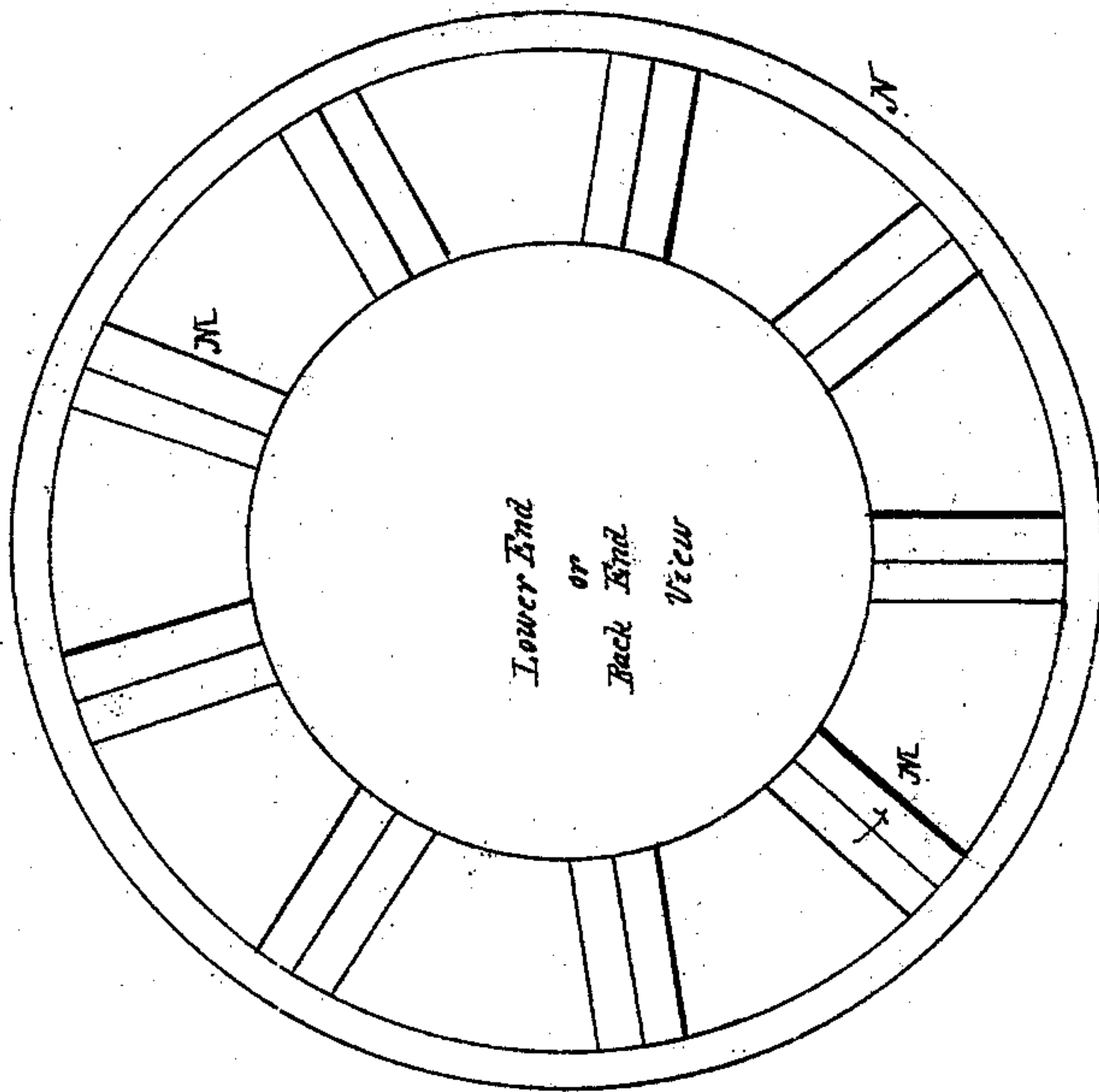


H. E. DIMICK.
Projectile.

No. 39,216.

Patented July 14, 1863.



Witnesses
Franklin P. Knight
John B. Langley

Inventor
Horace E. Dimick

UNITED STATES PATENT OFFICE.

HORACE E. DIMICK, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN PROJECTILES FOR RIFLED ORDNANCE.

Specification forming part of Letters Patent No. 39,216, dated July 14, 1863.

To all whom it may concern:

Be it known that I, HORACE E. DIMICK, of St. Louis city, county of St. Louis, and State of Missouri, have invented new and useful Improvements in Steel-Pointed Rifle-Projectiles for Piercing Iron Armor of Ships or Forts; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the shape and construction of a projectile and the combination of steel, wrought and cast iron, lead and Babbitt metal, so arranged and combined as to prove of greater power for punching or piercing iron armor of ships or forts, and which gives the projectile perfect rotation and insures its certain action.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the projectile in front. It is cylindrically-shaped on the outer edge. The outer edge is made of cast-steel, and the inner or axis is made of wrought-iron. About a half-inch from the periphery it is square, as shown at B. From thence it inclines inwardly to the center about an inch and a quarter to another square or plane of a half-inch in width, as shown at C. At about a quarter of an inch from the inner edge of C, at right angles from the offset or plane C, the inclination is direct to the axis D, as shown at D. The inclination D is made of wrought-iron, which forms the center of the projectile. The cast-steel rim is about one inch in depth and two inches in width, and fits on the wrought-iron part of the projectile on a shoulder, as shown at E. The wrought-iron part of the projectile is a cylinder about three and one-half inches in length. The steel point is hardened of the proper temperature for the purpose of punching iron, and its angular offsets B and C are for the purpose of guiding the fractures made by the cutting-edge B to the center D and holding the shot, and prevent its glancing off from the angular surface of contact, and also to pierce or punch through

iron plates when striking them on a direct line with a square surface of contact. The part representing the wrought-iron, D, is made for the purpose of preventing the fracturing of the projectile, and the rear end, G, is made of cast-iron for convenience and economy, and has a casting of lead, H, about three-tenths inch in thickness between the wrought-iron part and cast-iron part; also, to prevent fracturing the cast-iron portion of the projectile. Two pins, J, about one and a half inch in length, pass through the wrought-iron, lead, and cast-iron portions to support their joints. The cast-iron portion G is flush or square with the lead; but about an inch off it has two offsets, K and L, and then sweeps in a curve to the rear, the rear forming a half-circle or globe shape, extending beyond the end of the cylindrical part of the projectile.

M represents nine supports (more or less) of the expanding ring N, and are angular shaped, and wider at their rear ends for the purpose of inviting and concentrating the explosive force of the charge in the open spaces between the supports M, with the view of expanding the ring N. This construction enables me to apply the power of rotation nearer its short axis, and to keep the axis of the projectile coincident with that of the bore. The ring N is about three-eighths of an inch in thickness at top, where it fits in a shoulder of the cast-iron portion G, is about two and one-half inches in width, and tapers to the lower side. It is made of wrought-iron. It expands for the purpose of filling the grooves of the gun and giving the shot rotation. An outside band or ring, P, is fitted into a groove of the ring N, and is made of Babbitt metal about one and three-fourth inch wide, and is for the purpose of preventing the wrought-iron band N from injuring the gun by abrasion; and as the ring N has a tendency to drag off and give way from contact with the groove of the gun, the wide ends of the supports M serve to tighten it and compensate for its enlargement by expansion, thereby holding the ring N in its proper position and prevent its dragging downward during its passage through the gun.

I do not claim a concave front; neither do I

claim the spaces in the rear for inviting the explosive force of the charge; but

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

The construction and shape of the steel and wrought-iron front, in combination with the lead and cast-iron portion, as arranged with

the bands N and P, for the purpose of giving the projectile perfect rotation and making it more certain in its action, as herein described

HORACE E. DIMICK.

Witnesses:

J. FRANKLIN REIGART,
JOHN S. HOLLINGSHEAD.