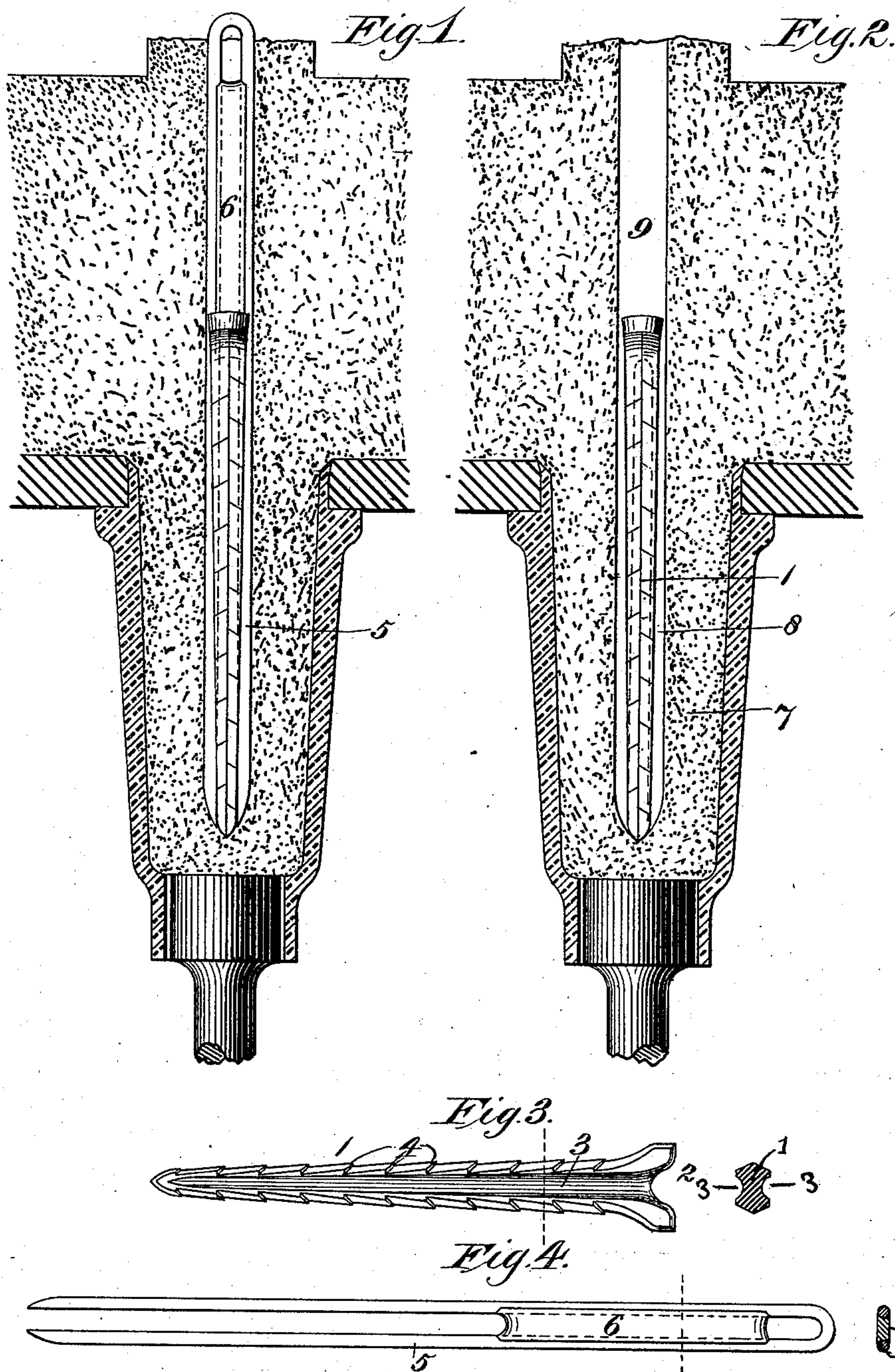


(No Model.)

J. KINZER.  
PIN FOR VENTING CORES.

No. 300,480.

Patented June 17, 1884.



WITNESSES:

*R. A. Whittles*  
*C. M. Clarke*

INVENTOR,

*Jacob Kinzer*  
BY *George H. Christy*  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

JACOB KINZER, OF PITTSBURG, PENNSYLVANIA.

## PIN FOR VENTING CORES.

SPECIFICATION forming part of Letters Patent No. 300,480, dated June 17, 1884.

Application filed March 21, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB KINZER, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Venting Core-Pins, of which improvement the following is a specification.

In the accompanying drawings, which make part of this specification, Figure 1 is a sectional elevation of a half-mold and core-box, showing the core-pin and venting-wire in place. Fig. 2 is a similar view, the venting-wire being removed. Fig. 3 shows a side elevation and transverse sectional view of the core-pin. Fig. 4 shows similar views of the venting-wire.

In making what is known as "depending cores" from green sand, it is necessary, when such cores are long and of small diameter, to strengthen them and anchor or secure them to the main body of the mold. This has been effected either by forming the core around one end of a pin or wire, the opposite end being thrust in the main body of the mold, or by thrusting a wire through the main body of the mold into the core; and, further, it is necessary that these green-sand cores should be vented, so as to allow of the escape of gases when the metal is cast. This venting is effected by pricking the finished mold with a venting-wire. In the case of long and small cores it very frequently happens that the venting-wire turns aside and strikes against the sides of the core-box, thus forming an opening to the outside of the core, which will cause a defect in the casting.

The object of my invention is to provide for the proper anchoring and strengthening of a core and also its thorough and safe venting; and to this end my invention consists in the construction and combination of parts, all as more fully hereinafter described and claimed.

The core pin or rod consists of a tapering nail-like body, 1, the larger end being spread on two sides to form the head 2, and the small end being pointed, as shown. In the two sides of the body 1 are formed the tapering longitudinal grooves 3, they being deepest at the head portion of the pin. The edges of the body portion are beveled toward each side, as clearly shown in the sectional view, and along

the beveled surfaces are formed the transverse serrations 4, said serrations being arranged alternately on adjacent surfaces, as clearly shown in Figs. 1 and 2.

The vent-former 5 consists of a piece of wire bent into staple shape, the upper or closed end of the wire being strengthened by the body of metal, 6, which is cast in between and onto the arms of the vent-former. This body of metal 6 not only strengthens the vent-former, but holds the arms thereof parallel and acts as a stop to prevent the ends of the wire from projecting beyond the end of the core-pin when the vent-former is slipped onto the core-pin. This body of metal is placed at such a distance from the free ends of the wire, which are pointed, as shown, that these points will, when the pin and vent-former are put together, be in close proximity to the point of the pin, and the lower end of the part 6 will rest in the notch in the end of the pin. The filling-piece 6 should extend to or nearly to the upper end of the vent-former, for the purpose to be hereinafter stated.

In using my venting core-pin I first form the core 7, and into this core is thrust the core-pin and vent-former, which has been previously slipped into the grooves in the core-pin, as shown in Fig. 1. The core-pin and vent-former are pushed into the core until the lower end of the pin nearly reaches the end of the core, as shown. The main body of the mold is then formed around the head of the core-pin and the upper end of the vent-former, which should be sufficiently long to protrude a short distance above the surface of the mold. After the main portion of the mold is formed the vent-former is withdrawn, leaving alongside of the core-pin the vent-passages 8, which connect with the comparatively large passage 9, formed in the main body of the mold above the core-pin by the body portion 6.

It will be observed that by beveling the edges of the core-pin I increase the holding-surface, which was somewhat diminished by the longitudinal groove. As the core-pin is rigid, being preferably made of cast-iron, and as it is placed directly in the center of the core, there is no danger of the sides of the core being broken by the core-pin, and as the vent-former is held within the grooves in the core-pin and



is thrust in with the core-pin there is no liability of its being diverted and puncturing the outer surface of the core.

In place of thrusting the core-pin and vent-former into the core together, I may first place the core-pin in position and then slide the vent-former down along the grooves in the core-pin; or in this latter case I may use two separate lengths of wire, thrusting one down the groove on one side of the core-pin and the other length down the other groove.

I claim herein as my invention—

1. A core-pin provided with longitudinal side grooves, in combination with a staple-

shaped wire constructed to fit within said grooves, substantially as set forth.

2. A core-pin provided with longitudinal side grooves, in combination with the vent-former consisting of a staple-shaped wire and a body of metal uniting and filling the upper portion of said staple, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JACOB KINZER.

Witnesses:

DARWIN S. WOLCOTT,  
R. H. WHITTLESEY.