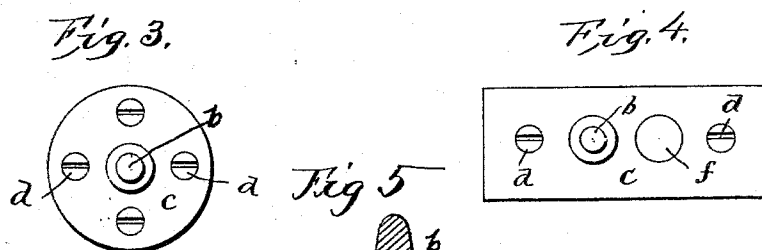
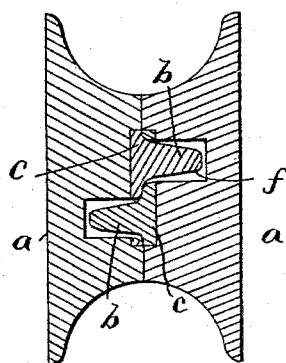
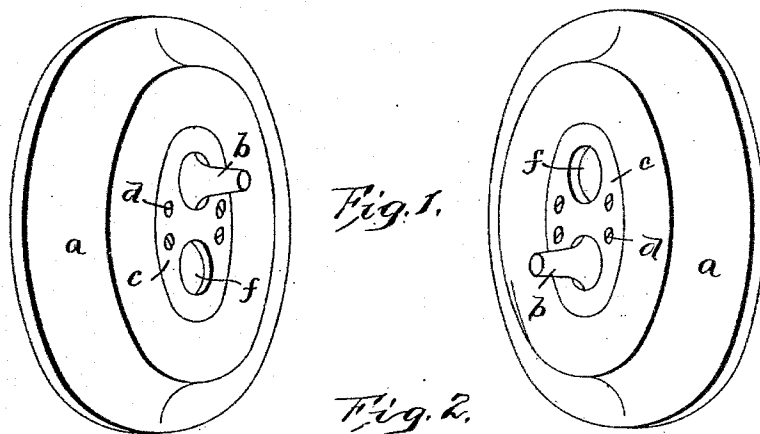


(No Model.)

E. T. WIRES.
RAP AND DRAW PIN FOR FOUNDRY USE.

No. 514,400.

Patented Feb. 6, 1894.



WITNESSES:

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EDWARD T. WIRES, OF TERRE HAUTE, INDIANA, ASSIGNOR OF ONE-HALF
TO AMBROSE CHANEY, OF SAME PLACE.

RAP AND DRAW PIN FOR FOUNDRY USE.

SPECIFICATION forming part of Letters Patent No. 514,400, dated February 6, 1894.

Application filed December 24, 1892. Serial No. 456,277. (No model.)

To all whom it may concern:

Be it known that I, EDWARD T. WIRES, of Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Rap and Draw Pins for Foundry Use; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention relates to certain improvements in foundry tools and more particularly to an improved rap and draw pin.

The object of the invention is to provide improved means for drawing patterns from the mold and for rapping the patterns which will be exceedingly cheap, simple, and durable in construction, and which can be permanently attached to the pattern and can be used without in any way injuring the pattern.

The invention consists in certain novel features of construction and arrangements hereinafter set forth and fully pointed out hereinafter.

Referring to the accompanying drawings, Figure 1 shows in perspective a pattern formed of two sections, the sections being shown separated and tilted to show their inner faces. Fig. 2 is a sectional view through the pattern showing the pins and sockets in the inner faces of the sections thereof. Figs. 3 and 4, are detail elevations of various forms of rap and draw pins. Fig. 5 shows a pattern in section with a rap and draw pin such as shown in Fig. 3, secured to the outer side thereof.

In foundry work wooden patterns are greatly injured by the modes of rapping and drawing ordinarily employed wherein pins or screws are forced into the patterns or the patterns are struck successive blows to free them from the sand or other material of the mold. Also where detachable draw pins or other devices are employed trouble is often occasioned because of loss of the detaching member or because the sockets or apertures by means of which said member is attached to the pattern become filled with sand or other material of the mold.

My invention is intended to provide the pattern or sections thereof with metallic rap and draw pins permanently attached thereto, whereby the wooden patterns will not be injured by the rapping blows to loosen the pattern in the mold and a draw pin will be always ready permanently attached to the pattern.

In the drawings the reference letter *a*, indicates a pattern. The particular one here shown is made separable in halves or two like sections having the inner faces arranged to snugly fit to form the complete article.

b, indicates an outwardly tapered rap and draw pin. This pin is cast or otherwise formed integral with and projects perpendicularly from a base or securing plate *c*. This plate is provided with countersunk apertures *d*, for securing means, such as screws. The plate is secured in a recess or socket in a face of the pattern so that the outer surface thereof will be flush with the surface of the pattern and the pin will project outwardly therefrom. In the pattern shown each section is provided on its inner face with a rap and draw pin located on one side of the center of the base plate. The plate, on the other side of its center, is provided with opening *f*, at the outer end of a socket or aperture in the pattern. These sockets and pins are so arranged that when the sections of the pattern are placed together to form the completed article the pin of one section fits in the socket of the other section, thereby constituting dowel pins and holding the sections in proper relation and position. Patterns formed of one piece are provided with rap and draw pins (see Fig. 3) the base plates of which are not provided with apertures *f*, as the pin does not serve as a dowel.

Fig. 5 shows a rap and draw pin, such as shown in Fig. 3, secured to a pattern. Such pins, not having the perforated bases, are usually secured to the outer sides of sectional patterns such as shown in Fig. 1, or to any desired form of pattern; a great point of advantage being that these rap and draw pins can be made and applied to any form of pattern.

The base plates can be formed in any shape desired so that they can be securely fastened

to patterns of any shape or size. Fig. 4 shows a pin with a rectangular plate.

This invention possesses many advantages and is of the utmost simplicity and durability and is very inexpensive.

In use the molder simply raps against the pin to loosen the pattern in the sand and then takes hold of the pin to draw the pattern. The device also possesses advantages for use as a dowel pin and overcomes all the difficulties in using poor pins and holes which swell and stick, &c. The taper of the pin permits removal of the pattern or lifting of the sand and the hole left can be easily plugged.

By use of this invention the patterns are not subjected to injury by use and their life of usefulness will be greatly increased.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The rap, draw and dowel pin composed of the base plate having the pin projecting therefrom and an aperture in the plate to receive a pin on another section of a pattern, substantially as described.

2. A wooden pattern provided with a smooth metallic rap and draw pin projecting therefrom and rigidly secured thereto, said rap and draw pin being formed integral with and extending perpendicularly from a flat base having holes, said base being countersunk in the face of the pattern and secured therein by screws or the like through said holes.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

EDWARD T. WIRES.

Witnesses:

GUY M. WALKER,
SADIE B. AUSERMAN.