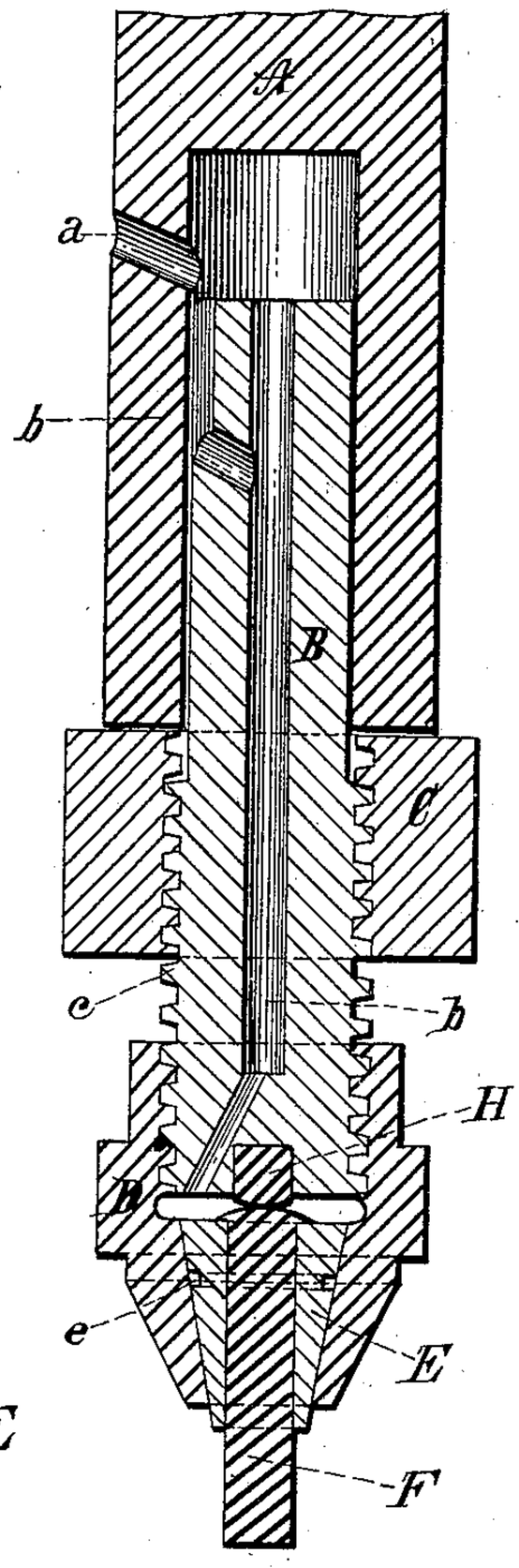
(No Model.)

D. WARNER.

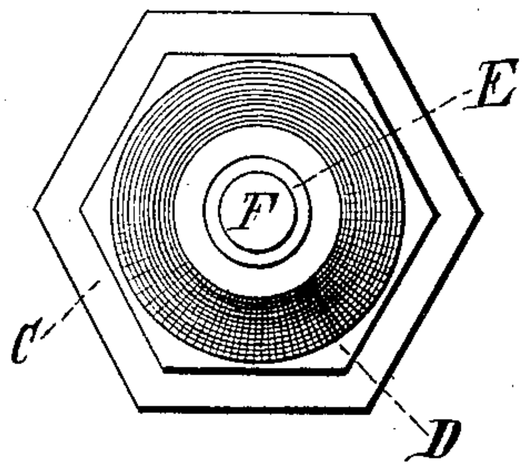
SELF OILING PUNCH CHUCK.

No. 390,925. Patented Oct. 9, 1888.

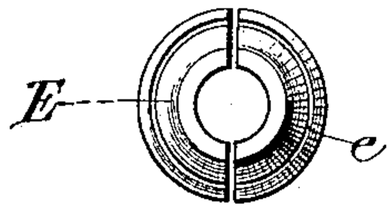
Fig, 1.



Fig, 2.



Fig, 3.



WITNESSES:

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SELF-OILING PUNCH-CHUCK.

SPECIFICATION forming part of Letters Patent No. 390,925, dated October 9, 1888.

Application filed February 8, 1888. Serial No. 263,415. (No model.)

To all whom it may concern:

Be it known that I, DANIEL WARNER, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented new and useful Improvements in Self-Oiling Punch-Chucks, of which the following is a specification.

My invention relates to improvements in self-oiling punch-chucks for machines such as are adapted to various sizes and lengths of punches; and the objects are, first, to provide the shank of the punch with an adjustable shoulder in the form of a threaded collar or nut; second, to provide a series of split conical clamp-blocks fitted to a series of punches; third, to provide an internal chamber and passage for oil so arranged that the oil will pass through the shank and between the parts of the chuck and down the punch to its end, thus keeping it constantly oiled. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical section of my invention attached to a broken portion of the shaft of a machine. Fig. 2 is a lower end view of the same device. Fig. 3 is an end view of the conical clamp-block E.

In all of the views like letters refer to like parts.

A represents a broken section of the shaft of a machine, which is provided with an opening to receive the shank of a punch-chuck, B, which is held in by a set-screw. The shank B has an external thread, *c*, to which a threaded nut or collar, C, is fitted and forms an adjustable shoulder. To this thread *c* is also fitted a clamp nut, D, which has an internal thread and an internal conical portion which fits the conical clamp-block E. This clamp-block E has an internal opening, which fits the punch F, and is cut lengthwise into two or more parts, which are held together loosely by a spring-wire in the groove *e*.

H is a tempered-steel plug in the end of the shank B, which receives the pressure of the punch F.

a is an oil-hole in the shaft A, which opens into an oil-passage, *b b*, in the shank B. The larger portion of this passage *b b* forms a reservoir for the oil, from which it passes out of the shank B through the small hole at the bottom and through the joints between the parts of the conical clamp-block E and down the punch F to its end, thus keeping the punch oiled while it is working.

The adjustable shoulder nut or collar C makes it applicable to a long or a short worn punch, and the removable conical clamp-block E makes it applicable and quickly changed to any sized punch. The size and proportion of the parts may be varied to suit the size of the machine to which it is to be applied.

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

1. In an adjustable self-oiling punch-chuck, the shank B, with its thread *c*, in combination with the adjustable collar or nut C, the clamp-nut D, and the plug H, all substantially as described and set forth.

2. In an adjustable self-oiling punch chuck, the shank B and clamp-nut D, in combination with the conical clamp-block E, cut in two or more parts, and the punch F, all substantially as described and specified.

3. In an adjustable self-oiling punch-chuck, the exterior inlet, *a*, the main and branch internal passages, B and *b*, and the small outlet-passage below, together with the joints in the conical clamp-block E as an oil reservoir and passage, substantially as described and specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

DANIEL WARNER.

Witnesses:
JOSEPH N. CLOUSE,
VALLE REYBURN.