

A. S. KOCH.
STAKING TOOL.
APPLICATION FILED MAY 28, 1908.

926,123.

Patented June 29, 1909.

Fig 1

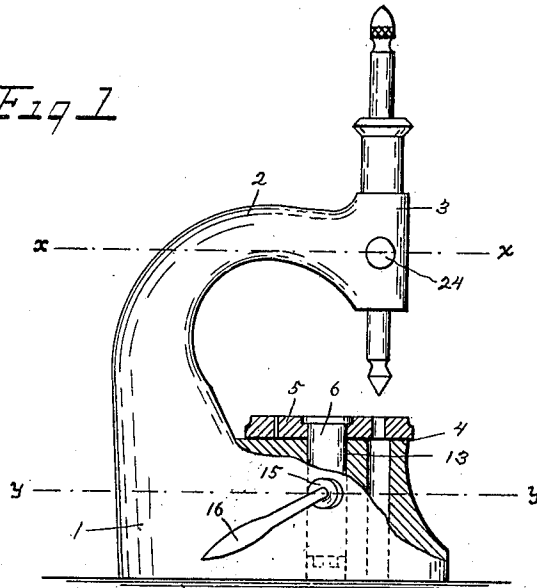


Fig 2

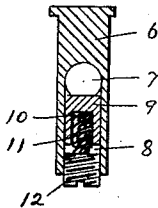


Fig 3

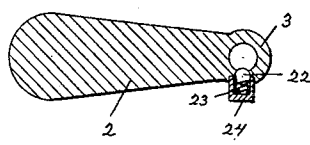


Fig 4

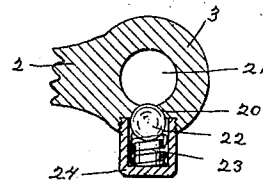
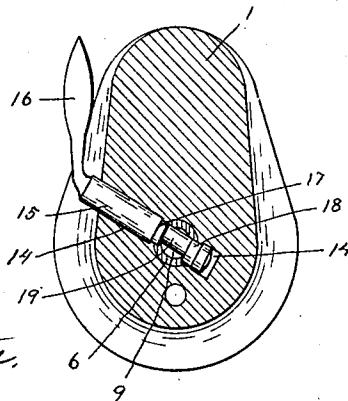


Fig 5



WITNESSES:

Frederick P. Mendenhall
Mabel L. Lefevre

INVENTOR

Alfred S. Koch

BY

John J. Thompson
ATTORNEY

UNITED STATES PATENT OFFICE.

ALFRED S. KOCH, OF LANCASTER, PENNSYLVANIA.

STAKING-TOOL.

No. 926,123.

Specification of Letters Patent.

Patented June 29, 1909.

Application filed May 28, 1908. Serial No. 435,400.

To all whom it may concern:

Be it known that I, ALFRED S. KOCH, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Staking-Tools, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in staking-tools of that class which are used by watch makers, and has for its object to produce a simple, accurate and easily adjusted tool of this class, and also one in which the die may be firmly held and still be capable of quick and easy adjustment, and also in which the punches or other tools that are used may be held suspended by a tension device attached to the arm of the tool, thus greatly facilitating the use of said tool.

With these and other objects in view my invention consists in the novel construction and combination of parts that will hereafter be fully illustrated and claimed in the accompanying drawing and specification forming part of the application. But it is fully understood that I do not confine myself to the exact construction as shown, as slight changes may be made in the construction without departing from the spirit of the invention.

Like reference characters designate corresponding parts in all the figures of the drawings.

In the drawings:—Figure 1, is a side elevation of my staking-tool, shown partly in section, to illustrate the mode of mounting the die. Fig. 2, is a vertical section of the pivot-post, showing the locking-rod catch. Fig. 3, is a sectional view of the spindle arm taken on the line $x-x$ of Fig. 1, showing the tension device. Fig. 4, is an enlarged view of the same, showing the tension device in detail. Fig. 5, is a sectional view of the base taken on the line $y-y$ of Fig. 1, showing the method of mounting the locking-rod.

In the drawings, 1, indicates the base which is formed with the curved neck 2, terminating in the spindle 3; and the bearing surface 4, upon which is mounted the rotary die 5. Said die 5, is pivoted upon the pivot-post 6, which is shown in Fig. 2, in detail and consists of a pivot-post 6, which is pierced by a transverse orifice 7, and the vertical orifice 8, extending upwardly from the bottom of said post and communicating

with said orifice 7, while within said orifice 8, is slidably mounted the catch 9, which is formed with the orifice 10, within which is contained the spiral spring 11; while the end of said spring 11, is held in contact with the plug 12, which is screw-threaded into the end of said orifice 8, and may be adjusted to exert the proper pressure upon the spring 11, to retain said catch 9, in the desired position. Said pivot-post 6, being mounted within the vertical bearing 13, formed in the base 1. The base 1, being further provided with the transverse bearing 14, which pierces said bearing 13, at right angles thereto and registers with the orifice 7, in the pivot-post 6, therein contained. Mounted within said bearing 14, is the locking-rod 15, which is formed with the handle 16, and the bearings 17, and 18, while the portion between said bearings 17, and 18, is slightly reduced in diameter where it bears within the orifice 7, and is provided with the eccentric portion 19, which bears upon the catch 9, in such a manner that by slightly turning the handle 16, the eccentric 19, is revolved against the catch 9, forcing it down against the tension of the spring 11, and into contact with the plug 12, thus drawing down said pivot-post 6, and clamping the die 5, in the desired position.

The constant pressure of the catch 9, upon the eccentric 19, and between the bearings 17, and 18, will retain the locking-rod 15, in place until released by reducing said pressure by backing out the screw-plug 12, when it is desired to take the tool apart.

For producing the desired tension in the spindle 3, to retain the punching tools from accidentally dropping upon the die 5, I provide the following device:—

The spindle 3, is provided with the orifice 20, which extends from the outer surface through the side wall thereof and communicates with the spindle bearing 21, but it is of greatly reduced diameter where it enters said bearing 21, and also has a curved bottom to conform to the ball 22, which is placed therein in such a way that it extends slightly through the wall of said bearing 21, and is held in place by the spiral spring 23, which is contained within the cap 24, which is screw-threaded into said orifice 20, and thus by the action of said spring 23, the ball is given a constant pressure against the tool which is inserted within said spindle, thus retaining it at any desired height, and still

allowing of its being freely moved in a vertical manner or revolved.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

5 1. In a staking-tool of the class described, comprising a frame, a rotary die, a pivot on which the die is mounted, said pivot being formed with a transverse orifice, and a vertical
10 orifice extending inwardly from the lower end and communicating with said transverse orifice, a catch slidably mounted within said vertical orifice, a spiral spring having one end contained within said catch, a plug
15 screw-threaded into said orifice and in adjustable contact with said spring and catch, a locking-rod mounted within a longitudinal bearing formed in said frame and registering with the transverse orifice in said pivot, said

locking-rod being formed with bearing surfaces and an eccentric portion adapted to register with and engage the catch contained within said pivot.

2. In a staking-tool of the class described, comprising a frame, said frame formed with a curved neck terminating in a spindle bearing having an orifice in the side thereof, a ball contained within said orifice and projecting into said spindle bearing, a ball-retaining cap screw-threaded into said orifice, and a spring
25 within said cap and in contact with said ball.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED S. KOCH.

Witnesses:

WM. J. COULTER,
MABEL L. LEFEVRE.