

G. W. Trowbridge,

Rock-Drill Chuck.

N^o 18,112.

Patented Sep. 1, 1857.

Fig. 1.

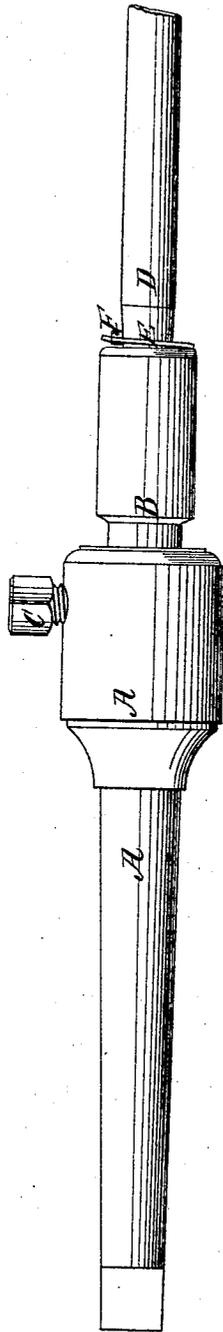


Fig. 2.

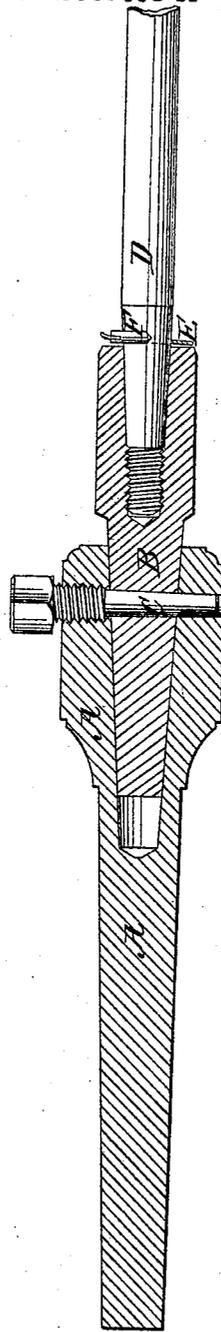
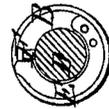


Fig. 3.



UNITED STATES PATENT OFFICE.

GEORGE N. TROWBRIDGE, OF LOWELL, MASSACHUSETTS.

IMPROVED SOCKET-COUPLING FOR LATHES.

Specification forming part of Letters Patent No. 18,112, dated September 1, 1857.

To all whom it may concern:

Be it known that I, GEORGE N. TROWBRIDGE, of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Socket-Couplings to be Used in Wood-Boring Instruments; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a side view of my coupling. Fig. 2 is a longitudinal section thereof. Fig. 3 is an end view of socket B.

Similar letters of reference in each of the figures represent similar parts.

A represents the spindle of a wood-boring instrument or the ordinary socket used in connection with the spindle, having a conical socket in its end to receive the shank of the socket-piece B.

C is a conical pin passing through both A and B to hold them securely together. To prevent the pin C from coming out, a screw is cut at one end, which fits into a thread cut in the spindle, and the head of the pin is finished square, so that it may be turned into its place by means of a wrench. It may thus be seen that though the spindle be subject to knocks or jars or to being revolved at a high speed the pin C will maintain its position.

The socket-piece B is intended to receive the shanks of the different bits, drills, &c., to be used in it. D represents one of these. The end fitting in the socket is conical, except the short piece having a screw cut upon

it, which is straight. This screw fits in a thread cut in the end of the socket and is the means of preventing the tool from becoming loose and pulling or dropping out. In case the direction in which the tool turns is to be reversed, which happens in the case of augers and the like, then it is necessary to prevent the tool from turning out. This is accomplished by means of a spring E, fastened on the end of the socket-piece B, as shown in Fig. 3.

A pin F is put into the shank D in such a position as that when the shank is making its last turn before coming to a bearing in the socket it will press upon the spring E more and more until it passes the end of the spring, when the spring will fly up and the end of it bear against the pin, so as to prevent the tool from turning in the socket in a reverse direction until the spring is pressed down by hand out of the way of the pin.

I do not claim a simple conical pin for fastening the shank of a tool in a conical socket; but

What I do claim as new, and desire to secure by Letters Patent, is—

The combination of the spring E and pin F with the conical shank and a socket with straight screw attached, for the purpose and substantially as described.

In witness whereof I have hereunto set my signature this 21st day of May, 1857.

GEO. N. TROWBRIDGE.

In presence of—

N. WRIGHT,

O. E. CUSHING.