

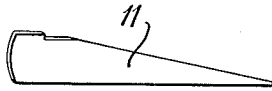
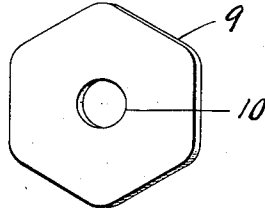
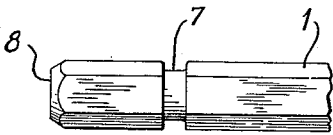
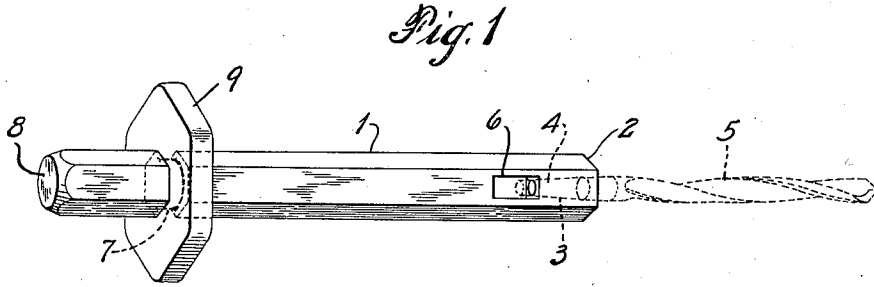
April 7, 1942.

E. P. LUTTGENS

2,278,707

SAFETY PERCUSSION DRILL HOLDER AND ARTICLE

Filed Dec. 11, 1941



Everett P. Lutgens
INVENTOR

BY
Oscar Johnson
ATTORNEY

UNITED STATES PATENT OFFICE

2,278,707

SAFETY PERCUSSION DRILL HOLDER AND ARTICLE

Everett P. Luttgens, Elizabeth, N. J., assignor to
Diamond Expansion Bolt Company, Garwood,
N. J., a corporation of New Jersey

Application December 11, 1941, Serial No. 422,563

6 Claims. (Cl. 125—40)

My invention relates to percussion tools to drill holes in stone, masonry, brick, concrete, or other hard materials. Any desired object may be mounted in these holes. Usually bolt anchors are located in the holes, which are expanded by an expanding member, a nail, bolt, or screw, or similar member, which secures the work to the masonry or similar material.

More particularly my invention relates to a safety percussion drill holder, which is given a series of percussion blows by a hammer in the hands of the operator, while he holds the drill holder with his other hand.

The advantages, simplicity, and economy of my invention will be more fully set forth hereinafter.

My invention further relates to certain combinations, details of construction, and articles of manufacture, which will be more fully hereinafter described and pointed out in this specification.

In the drawing:

Fig. 1 is a perspective view of my drill holder, the removable drill being shown in dotted lines;

Fig. 2 is a fragmentary detail view showing the annular groove located near one end of the drill holder;

Fig. 3 is a detail perspective view of the safety device in the form of a resilient member, preferably formed of a thick guard of unreinforced rubber, removably secured in the annular groove in the drill holder by its own resiliency;

Fig. 4 is a release wedge used to release the drill from the holder when it is desired to replace it by another drill.

Cutting into stone, brick, concrete, or similar hard material, requires a great deal of energy on the part of the mechanic. The drill holder, and the drill, must be held at the right angle to make a perfect hole. If the hole is drilled at a wrong angle the work has to be done over again, or the angle of the hole has to be trued, if possible, by further drilling, which enlarges the hole. Either way, a great deal of additional work has to be done, and unnecessary expense incurred.

It is found in practice that errors in drilling the hole are largely due to the fear of the mechanic hitting his own hand, holding the drill-holder, as he gives the drill holder a series of percussion blows with a hammer held in his other hand.

This fear of striking his own hand is psychological and greatly detracts from the energy, skill, and accuracy with which he would otherwise perform his work.

In applicant's invention, the steel drill holder 1 is provided at one end 2 with the usual conical seat 3 to receive and hold the head 4 of the drill 5 shown in dotted lines in Fig. 1. The drill holder is provided with a release slot 6 to permit the release wedge 11, Fig. 4, to be driven into the slot to release the drill 5 from the drill holder for replacement, sharpening or repair. All this is old in the art.

Near the opposite end of the drill holder 1, from the conical seat 3, I provide the drill holder with an annular groove 7. This groove must not be placed too close to the end 8 of the drill holder because with time, wear, and use, repeated hammer blows on the end 8 will mushroom or upset the metal of that end to such an extent as to interfere with the safety resilient guard 9 removably mounted in the annular groove 7.

This guard 9 is formed of resilient material and is provided with a hole 10 which is of less diameter than the bottom of the groove 7. The hole 9 is stretched to enlarge its diameter so that it can be pressed longitudinally along the drill holder 1 until it reaches the annular groove 7, when it will spring into the groove and, by its own resiliency, be firmly held therein.

The guard 9 is preferably a good grade of thick rubber unreinforced by canvas, metal strips or other reinforcing means.

It is of sufficient strength and resiliency that if it is hit by the hammer of the mechanic, it will absorb the blow and keep the other hand of the mechanic, holding the drill holder behind the guard 9, from being bruised or otherwise injured.

Prior to applicant's invention grips of aluminum, wood, and steel have been mounted on drill holders. Rubber grips have also been attached to the drill holders by first coating the steel with a coating of copper and then vulcanizing the rubber grips on the steel holder. These grips are more convenient for a mechanic to grasp and some of them have an enlarged portion that acts as a guard to prevent the mechanic striking his own hand and injuring it.

But, necessarily, all these devices are costly and have to be sold at a relatively high price. The market for these devices is very largely limited by the cost. If a mechanic expects to use a drill holder day after day, he may feel warranted in paying the extra price of a hand hold or grip, provided with a guard vulcanized or otherwise secured to the drill holder.

On the other hand, if the mechanic expects to use a drill holder only to a limited extent, he will not pay the additional cost, and will risk

striking or maiming his own hand. The fear of this injury has a psychological effect, as previously noted, in that it adversely affects his work.

By my invention I so cheapen the cost of safety percussion drill holders that no one engaged in this form of work, even to a limited extent, could afford not to have one of them.

It is also to be noted that the rubber guard 9 is removable, by simply slipping it longitudinally off of the drill holder, if for any reason it becomes unserviceable, and then a new one can be slipped on the drill holder to take its place.

Having thus described this invention in connection with an illustrative embodiment thereof, to the details of which I do not desire to be limited except as by the terms of my claims, what is claimed as new and what is desired to secure by Letters Patent is set forth in the appended claims.

What I claim is:

1. A safety percussion drill holder provided with means at one end to detachably hold a drill, and near the other end provided with a means to detachably hold a resilient guard to protect the hand of the operator from blows of a hammer or other percussion tool, and a resilient guard detachably cooperating with the holding means on the drill holder and held thereto by its own resiliency.

2. A safety percussion drill holder provided with means at one end to detachably hold a drill, and near the other end provided with locking means to detachably hold a resilient guard to protect the hand of the operator from blows of a hammer or other percussion tool, and a resilient guard provided with locking means to cooperate with the resilient locking means on the drill holder.

3. The combination in a safety percussion drill

holder provided with a means at one end to detachably hold a drill, and near the other end provided with a locking annular groove to detachably hold a resilient guard to protect the hand of an operator from blows of a hammer or other percussion tool, and a resilient guard provided with an aperture of less diameter than the diameter of the groove, to permit the resilient guard to be sprung over the end of the drill holder and snapped into, and be detachably held by its own resiliency in the locking groove in the drill holder.

4. The combination in a safety percussion drill holder provided with means at one end to detachably hold a drill, and near the other end provided with a locking annular groove to detachably hold a rubber guard to protect the hand of an operator from blows of a hammer or other percussion tool, and a rubber guard provided with an aperture of less diameter than the diameter of the groove, to permit the rubber guard to be sprung over the end of the drill holder and expand into, and be detachably held by its own resiliency in the locking groove in the drill holder.

5. A new article of manufacture comprising a rubber hand guard for a safety percussion drill holder provided with an aperture to permit the rubber guard to be sprung over the drill holder and expand into, and be held by its own resiliency in an annular groove in said drill holder.

6. A new article of manufacture comprising a rubber hand guard for a safety percussion drill holder provided with an aperture to permit the rubber guard to be sprung over the drill holder and expand into, and be held by its own resiliency in an annular groove in said drill holder, said rubber hand guard being formed of a good quality of thick, solid rubber, unreinforced by canvas, metal, or other inserts.

EVERETT P. LUTTGENS.