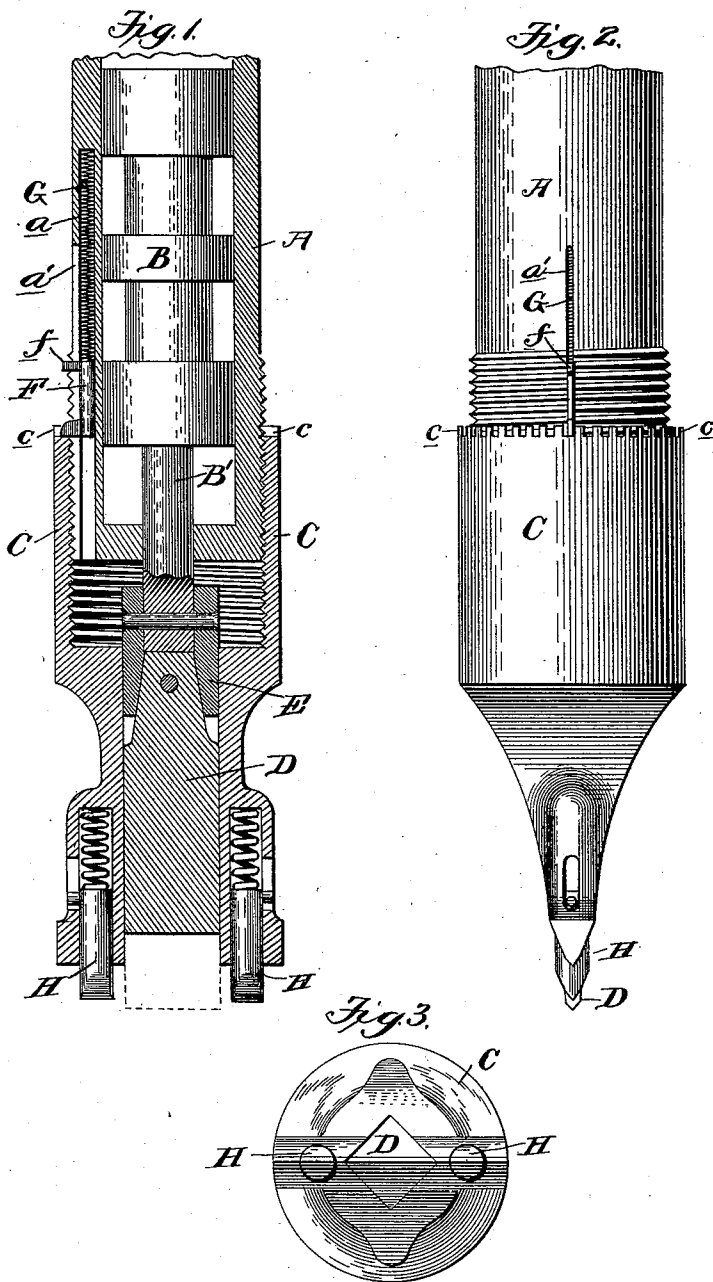


(No Model.)

P. CHOUTEAU.
ATTACHMENT FOR ENGINES.

No. 568,715.

Patented Sept. 29, 1896.



Witnesses:
G. A. Pennington
J. R. Cornwall

Inventor.
Pieris Chouteau
by Paul F. Baker
his atty

UNITED STATES PATENT OFFICE.

PIERRE CHOUTEAU, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE CHOUTEAU MANUFACTURING COMPANY, OF MISSOURI.

ATTACHMENT FOR ENGINES.

SPECIFICATION forming part of Letters Patent No. 568,715, dated September 29, 1896.

Application filed May 29, 1896. Serial No. 593,583. (No model.)

To all whom it may concern:

Be it known that I, PIERRE CHOUTEAU, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Attachments for Engines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a longitudinal sectional view through a part of an engine-cylinder, showing my improved attachment applied thereto. Fig. 2 is a side elevational view thereof, and Fig. 3 is an end view of the same.

This invention relates to a new and useful improvement in attachments to direct-acting engines of that class illustrated in United States Letters Patent granted to me July 9, 1895, as assignee of Frank C. Rinsche, said Letters Patent being numbered 542,498. The engine shown and described in said Letters Patent is especially adapted to be used in chipping stone, carving, calking boilers, &c. The engine is designed to be held in the hand, and a chisel or light tool is inserted in the end of the cylinder, upon the end of which chisel or tool impacting blows are delivered by the reciprocating piston. The motive fluid, preferably in the form of compressed air, is supplied to the engine through a flexible pipe.

The object of the present invention is to provide means at the front end of the cylinder to regulate the depth of the cut of the chisel.

With this object in view the invention consists, generally stated, in mounting an adjustable sleeve on the forward end of the cylinder, through which sleeve operates the chisel. By adjusting said sleeve longitudinally the cylinder the distance which the chisel will project beyond said sleeve is regulated, and therefore the depth of its cut may be controlled.

Another feature of the invention resides in providing, at the forward end of this adjustable sleeve, yielding bearing-surfaces which are adapted to bear upon the article being cut, and thereby reduce the shock or

jar due to the impact of the chisel upon the article being cut.

Other features of the invention reside in the construction, arrangement, and combination of the several parts, all as will hereinafter be described and afterward pointed out in the claims.

In the drawings, A indicates the cylinder, and B the piston, of an engine substantially like that shown and described in the patent heretofore referred to. I have not illustrated the different ports in the present application because they form no part hereof.

The forward end of the cylinder A is threaded, and upon this threaded portion is mounted a sleeve C, which is preferably formed with a non-circular opening in its forward end, through which operates the chisel or like tool D. I prefer that the chisel D in this instance be connected directly to a stem B', projecting forwardly from the piston through the end of the cylinder, said connection being illustrated as a coupling-sleeve E, in which the parts are pinned. Of course it will be understood that other forms of connection may be employed, or a chuck may be used to carry the chisel in an adjustable sleeve, in which event the chuck, such as illustrated in United States Letters Patent No. 434,976, granted to me August 26, 1890, could be used.

In order to prevent the sleeve C from rotating on the cylinder after it has been once adjusted, I bore an opening *a* into the front end of the cylinder and form a slot *a'* along said opening, into which opening I introduce a locking-bolt F, having extensions projecting through the slot to engage recesses or projections *c* on the sleeve C. A spring G is fitted into the opening *a* behind the bolt, and tends to constantly keep said bolt in engagement with the sleeve C. When it is desired to adjust said sleeve, it is only necessary to force the bolt F back against the tension of the spring G out of engagement with the recesses or projections on the sleeve C and rotate the sleeve to obtain the desired adjustment, when the bolt may be released and allowed, under the tension of spring G, to en-

gage with the recesses on the sleeve. I prefer to provide the bolt with a projection or knob *f* at its rear end, by which it may be readily retracted and held in such retracted position, as above described.

In operation when the piston and chisel are reciprocating rapidly and the forward tapered end of sleeve C is bearing upon the article being cut the blows delivered by the chisel upon said article will tend to raise the sleeve from the article and jar the hand of the operator. In order to relieve the operator of this jar, I mount yielding extensions H in the end of sleeve C and on each side of chisel D.

When the sleeve is placed upon the article to be cut, these yielding pieces H are forced inwardly, and when the chisel strikes the article to be cut should it tend to raise said sleeve C said sleeve will be cushioned on its forward movement when the chisel has been retracted within the sleeve.

The forward end of sleeve C and the yielding pieces H are preferably tapered to a point in line with the cutting edge of chisel D, so that the point of contact of yielding pieces H or tapered end of sleeve C on the article to be cut will indicate the striking-point of the chisel.

An engine provided with an attachment as above described is useful in grooving stone and like substances wherein it is desired that the groove shall be cut to a certain depth. The adjustable sleeve, to limit the depth of cut, is also useful in carving, such as bas-relief work, &c. It will be understood that chisels of different width can be inserted, and also chisels having varying contours on their cutting edges.

I am aware that many minor changes may be made in the construction, arrangement, and combination of the several parts of my device without in the least departing from the nature and principle of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In an engine, the combination with the cylinder, which is threaded at its end, of a sleeve mounted on said threaded portion and formed with recesses or projections entirely around its inner end, and a locking-bolt mounted in an opening in the cylinder and projecting through a slot to engage the recesses or projections of the sleeve to lock the same against rotary movement; substantially as described.

2. In an engine, the combination with the cylinder, of a sleeve threaded on its forward

end, said sleeve being formed with recesses or projections entirely around its inner end, a slotted bore in said cylinder, a locking-bolt mounted in said bore and projecting through the slot to engage the recesses or projections to lock the sleeve against rotary movement after said sleeve has been adjusted, and a spring in said bore for forcing the bolt in contact with the sleeve; substantially as described.

3. In an engine, the combination with the cylinder, of an adjustable sleeve mounted thereon and provided with a tapered forward end, and a chisel or like cutting-tool mounted so as to reciprocate in said sleeve, its cutting edge alining with the tapered end of the sleeve; substantially as described.

4. In an engine, the combination with the cylinder, and reciprocating cutting-tool, of a sleeve mounted on said cylinder and around said tool, said sleeve limiting the depth of cut of the tool; substantially as described.

5. In an engine, the combination with the cylinder and reciprocating tool, and means adjustably mounted on the cylinder and adapted to rest upon the stock operated upon by the tool, for limiting the depth of cut of the tool; substantially as described.

6. In an engine, the combination with the cylinder and reciprocating tool, of a sleeve adjustably mounted on the cylinder and through which the tool projects, said sleeve limiting the depth of cut of the tool, and yielding bearing-surfaces for contacting with the article being operated upon; substantially as described.

7. In an engine, the combination with the cylinder and reciprocating tool, of a sleeve adjustably mounted on the cylinder and formed with a tapered forward portion, through which the tool projects, said sleeve limiting the depth of cut of the tool, and spring-pressed pieces mounted in the forward end of the sleeve and adapted to normally occupy a projected position; substantially as described.

8. In an engine, the combination with the cylinder, of an adjustable sleeve mounted on its forward end for limiting the depth of cut of the chisel, and means for locking said sleeve in an adjusted position; substantially as described.

In testimony whereof I hereunto affix my signature, in presence of two witnesses, this 22d day of May, 1896.

PIERRE CHOUTEAU.

Witnesses:

F. R. CORNWALL,
G. A. PENNINGTON.