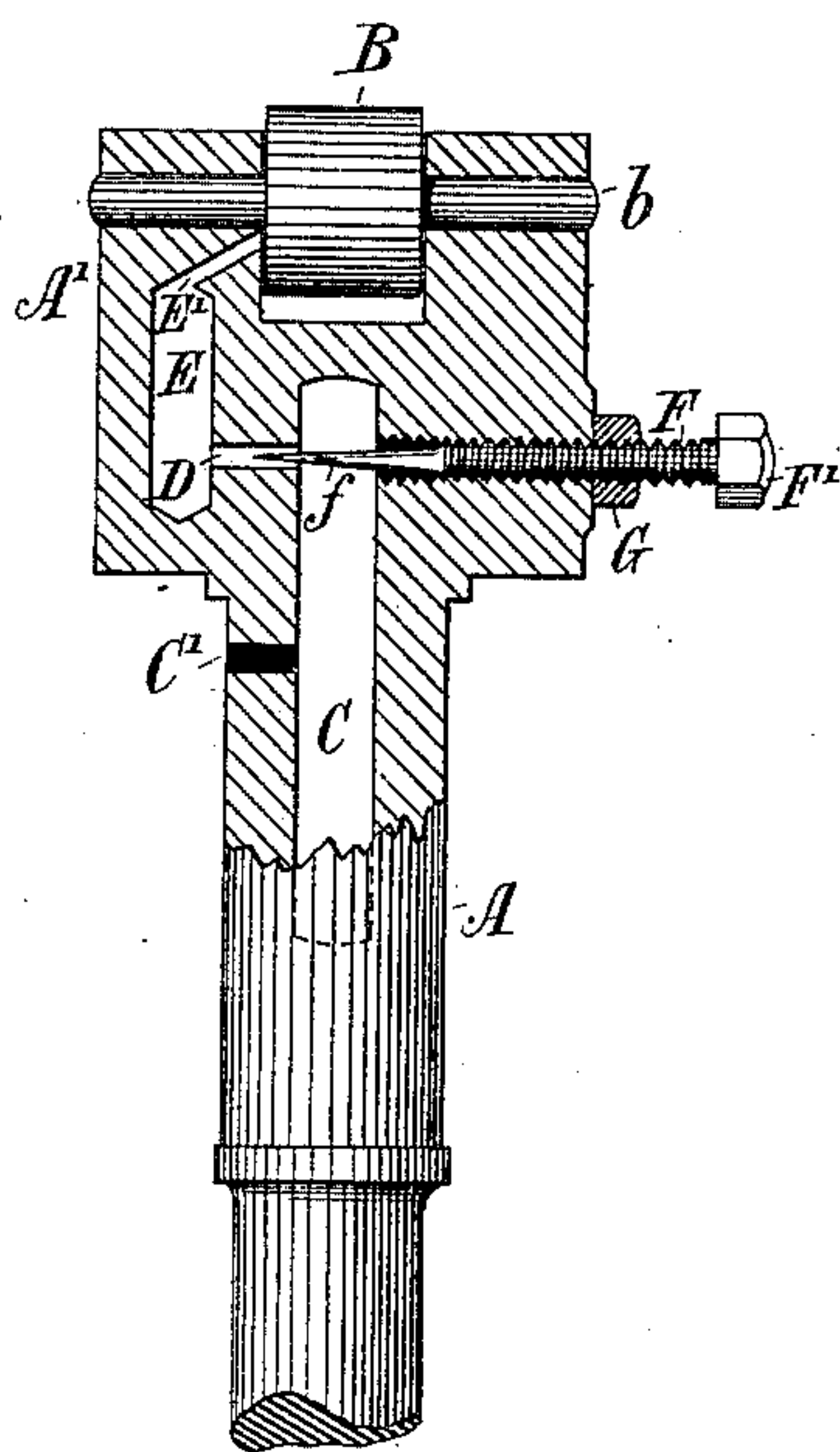


(No Model.)

C. W. WOODFORD.  
Lubricating Apparatus.

No. 232,097.

Patented Sept. 7, 1880.



Witnesses:  
*Arthur Kellomäki*  
*Owen A. Evans*

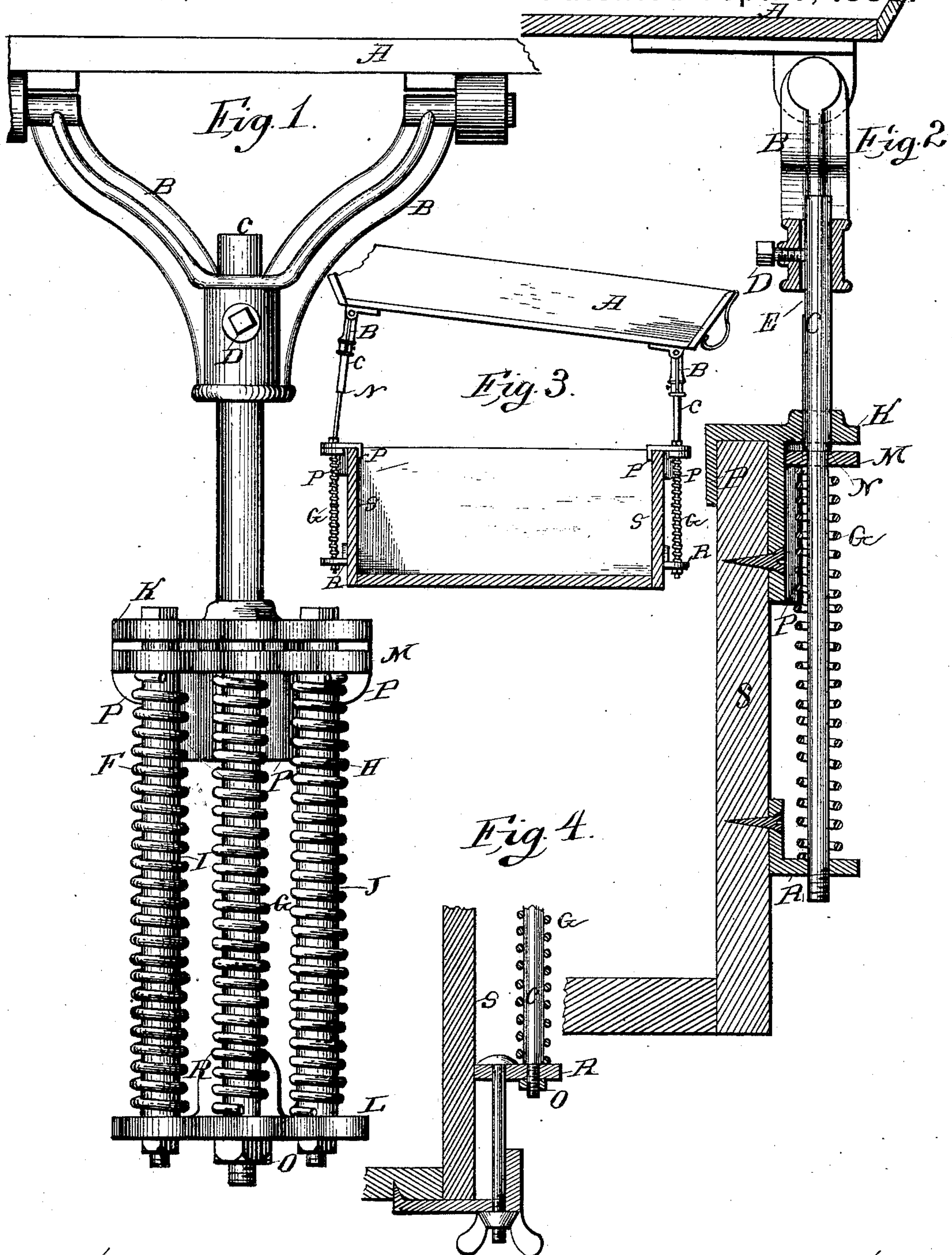
Inventor:  
*C. W. Woodford*  
Per Atty. *North & Leavell*

(No Model.)

M. J. ZEIMET & H. C. BRAND.  
Spring Seat for Vehicles.

No. 232,098.

Patented Sept. 7, 1880.



Witnesses:

*C. G. Elsmus*  
*W. J. Linroth*

Inventor:

*Michael J. Zeimet*  
*Henry C. Brand*  
By *Jas. B. Enrie*  
*Attorney*



# UNITED STATES PATENT OFFICE.

CHARLES W. WOODFORD, OF ESSEX, NEW YORK.

## LUBRICATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 232,097, dated September 7, 1880.

Application filed July 21, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. WOODFORD, of Essex, in the county of Essex and State of New York, have invented certain new and useful Improvements in Lubricating Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates particularly to that class of lubricating devices in which the lubricant is contained in a chamber and thrown off by centrifugal action, and is intended to be used principally in connection with the forging-rollers of nail-machines, its special design being, while doing away with the webbing or other absorbent packing now required, to easily and efficiently control the flow of the lubricant.

The apparatus may be briefly described as follows: Within the stock carrying the roller is formed a chamber, into which the oil or other lubricant is introduced. This chamber communicates by a small cylindrical passage with a side chamber, whence the lubricant passes by a duct to the bearing-surface.

In the head of the stock, and exactly opposite to the narrow passage between the chambers, is formed a threaded opening, in which works a set-screw having a needle or taper point, which is at any desired part nearly or quite the diameter of the passage connecting the two chambers, so that by advancing or retracting the set-screw this needle-point is driven more or less into the passage, wholly or partially closing it, and thus regulating or stopping the flow of the lubricant.

For full comprehension, however, of my invention, reference must be had to the annexed drawing, the figure showing a sectional elevation of the apparatus applied to the forging-roller, &c., of a nail-machine.

Similar letters of reference indicate like parts.

A is the stock proper, A' being the head in

which is carried the roller B, revolving on spindle b.

C is a chamber formed in the stock A, into which the oil or other lubricant is introduced through an opening, C', which may be closed in any desired way; and D is a cylindrical passage, preferably of small diameter, from the chamber C to the secondary chamber E, E' being the passage from this to the bearing-surface.

F is a screw, threaded into a corresponding opening formed in the stock-head A' and axially in the same line as the passage D, into which the tapered or needle end *f* enters, this being at any desired point of the same diameter as the passage.

F' is the head of the screw, of any shape which will enable it to be turned easily, and G a jam-nut, which may be used to secure it in the desired position. It will be seen that by turning this screw F its needle end *f* enters a greater or less distance into the passage D, either closing it entirely or leaving but a small space through which the lubricant can pass, or it may at will be withdrawn therefrom altogether, thus allowing full flow.

I am aware that lubricating devices embracing a central chamber and side chambers filled with packing adjustably compressed, communicating therewith and with the surfaces to be lubricated, have already been patented, and therefore do not claim such, broadly.

What I claim is as follows:

In a lubricating device, the combination of an oil-chamber and secondary chamber with duct to bearing-surface, connected together by a passage in which is moved adjustably the taper or needle end of a set-screw carried in the holder, all substantially as set forth, and for the purposes described.

C. W. WOODFORD.

Witnesses:

W. D. PALMER,  
A. A. MORSE.