

(No Model.)

C. S. SMITH.

MACHINE FOR SKIMMING FERRULES.

No. 412,344.

Patented Oct. 8, 1889.

Fig. 1.

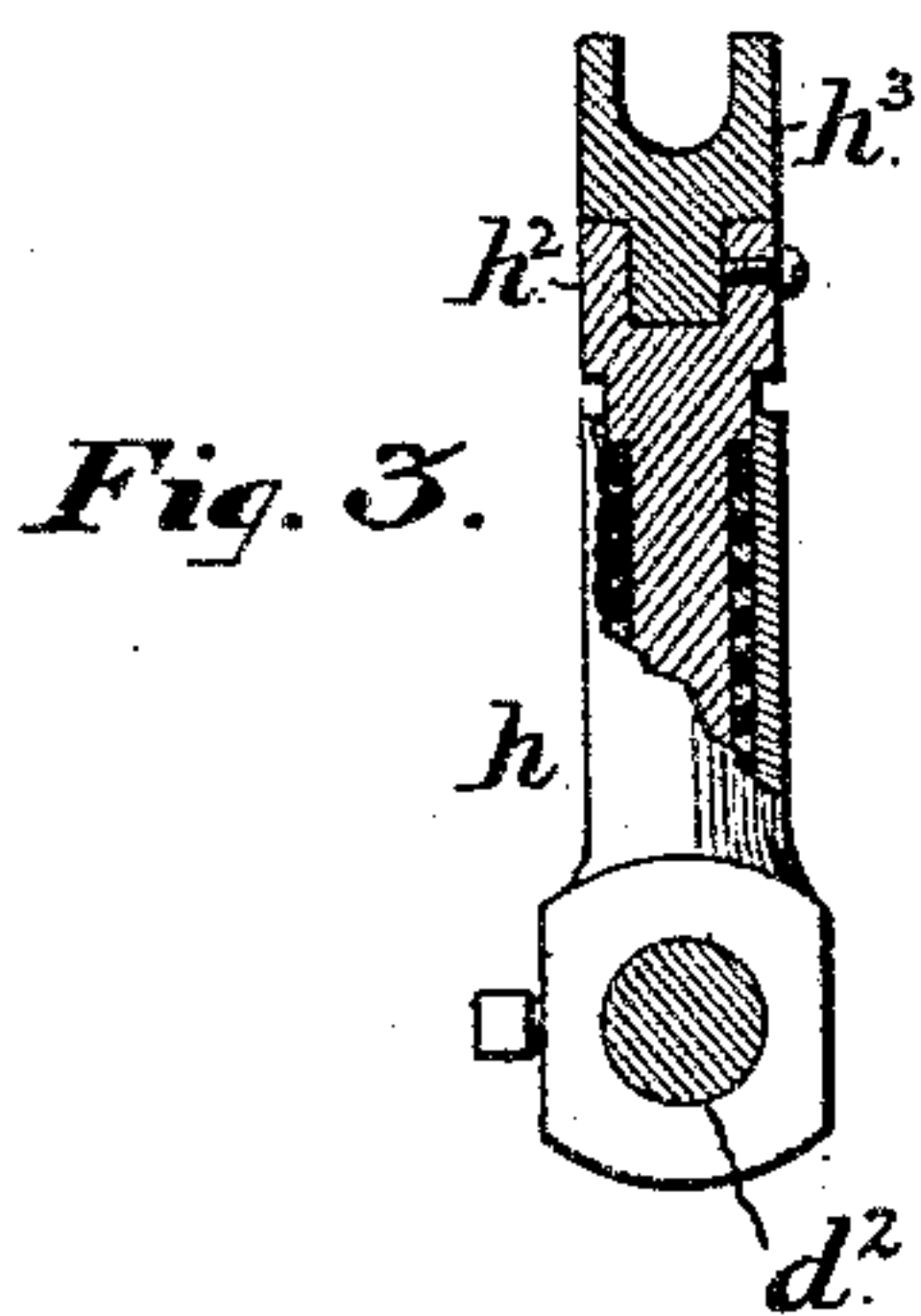
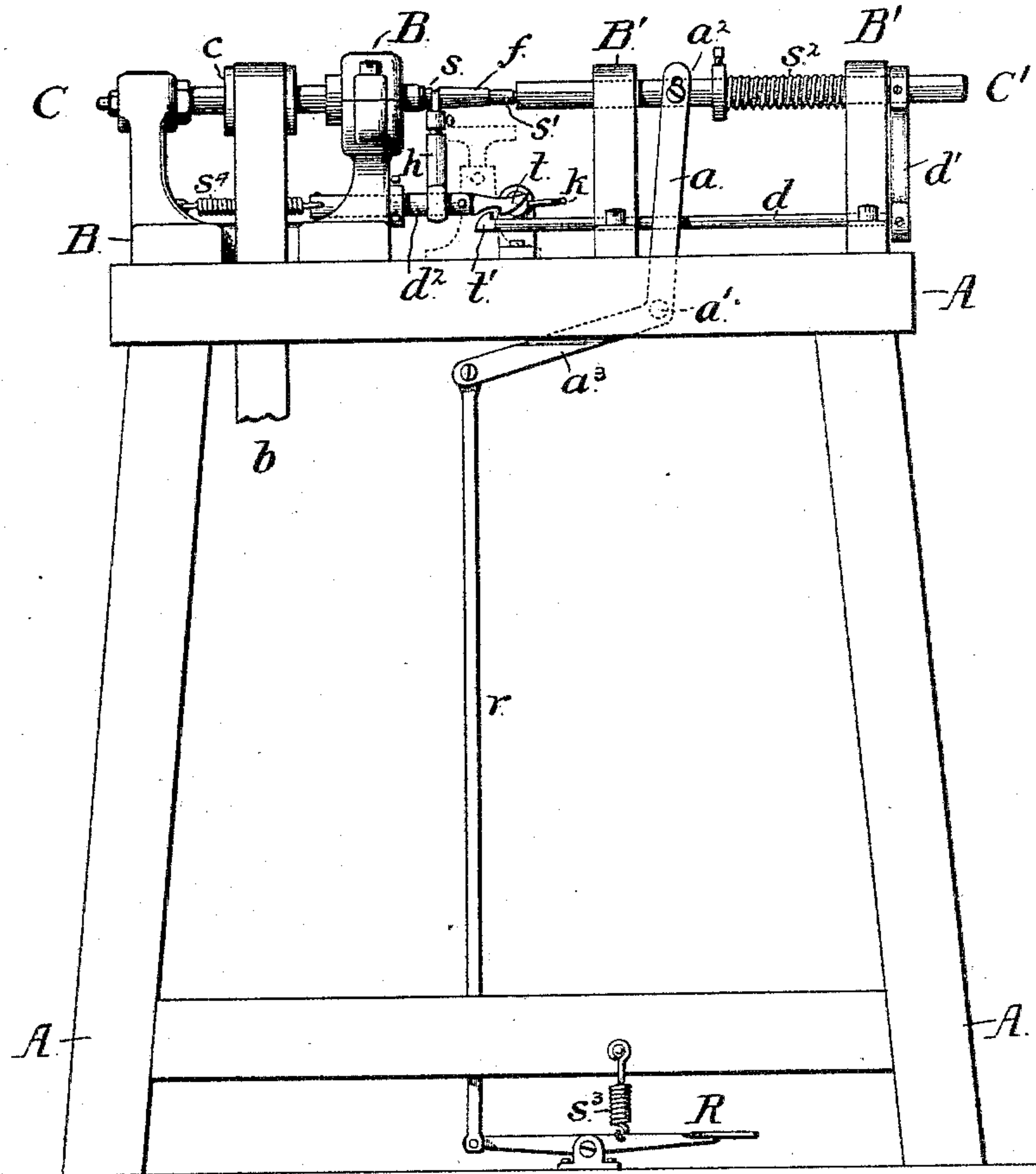


Fig. 2.

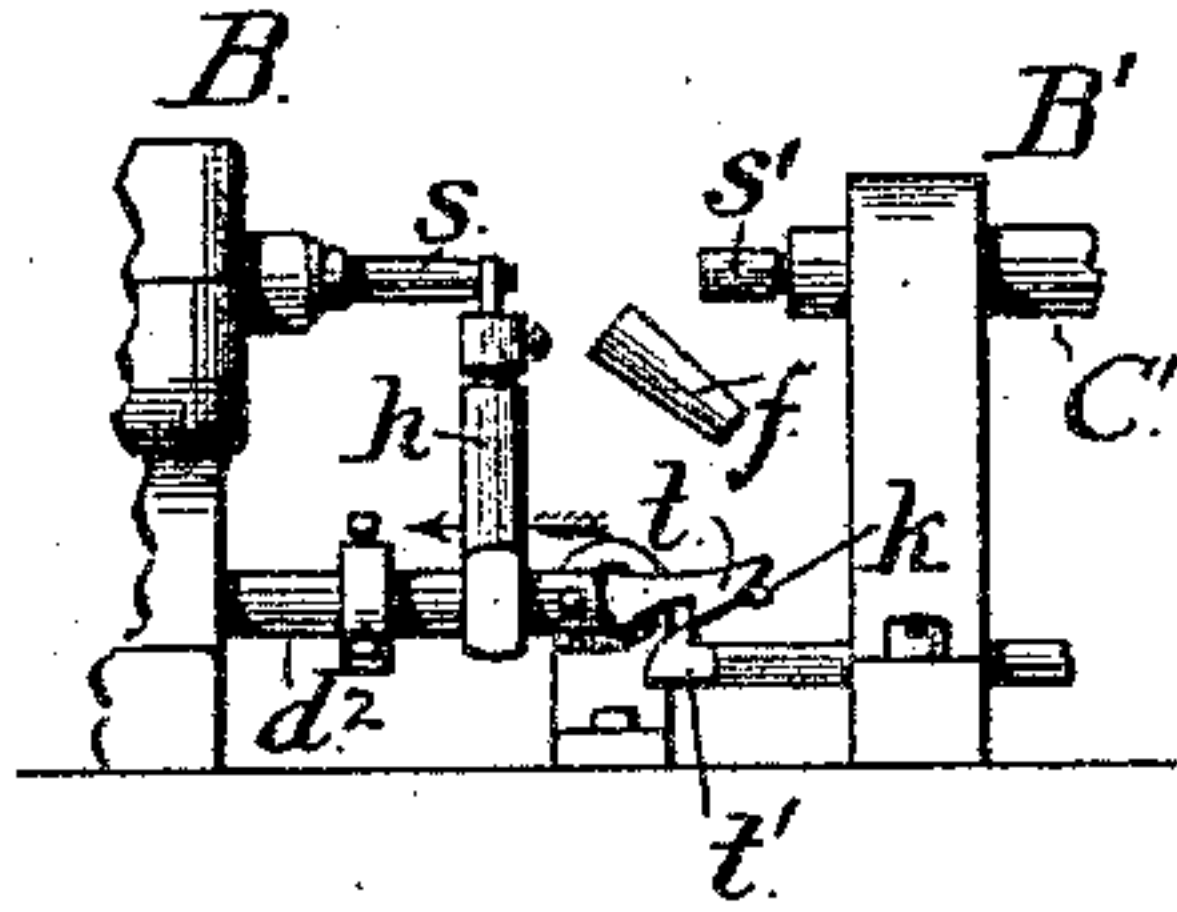
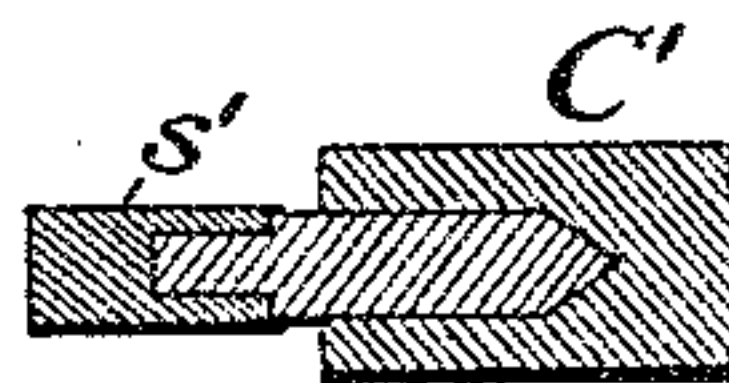


Fig. 4.



WITNESSES:

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MACHINE FOR SKIMMING FERRULES.

SPECIFICATION forming part of Letters Patent No. 412,344, dated October 8, 1889.

Application filed July 24, 1889. Serial No. 318,588. (No model.)

To all whom it may concern:

Be it known that I, COMLY S. SMITH, of the city of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Machines for Skimming Ferrules; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification.

My invention has relation to lathes and machines for skimming and polishing ferrules; and it consists in a device, hereinafter particularly described, for putting and holding on the ferrule to be skimmed and throwing it off the spindle when completed.

The object of my invention is to provide a machine which will save time, labor, and expense in the manufacture of ferrules.

I will now describe my invention, so that others skilled in the art to which it appertains may make and use the same, reference being had to the accompanying drawings, in which similar letters of reference refer to similar parts throughout.

Figure 1 is a front elevation of my invention, showing the ferrule on the spindle or chuck and in position to be turned as in the process of operation. Fig. 2 is a broken detail front view of the machine as shown in Fig. 1, but with the dead-chuck removed, and the ferrule, after being completed, being thrown off by the automatic operation of the machine. Fig. 3 is a partially-sectional detail view of the upright stripper or throwing-off device. Fig. 4 is a longitudinal sectional view in detail of the dead-chuck for holding on the ferrule while being skimmed.

A represents the frame of the machine, and C is the rotary shaft or lathe, properly journaled to the frame A by means of the journal-bearings B, and given its motion by the power-belt b, connected with the pulley c.

C' is a dead-shaft adjusted horizontally to the frame A through the medium of the bearings B'.

a is an elbow-lever pivoted to the frame A at the point a' and pivotally secured to the shaft C' at the point a².

R is a foot-treadle or lever of the first class connected to the arm a³ of the elbow-lever a by means of the rod r.

d is a horizontal shaft or rod adjusted in the bearings B' below the shaft C', and connected with and given the lateral motion of the shaft C' by means of the fixed connecting-arm d'.

d² is a horizontal shaft or rod secured in the bearings B slightly above the shaft d, and connected therewith by the trigger t, hinged to the shaft d², which engages with the fixed catch t' on the shaft d, and disengaged at a desired point by the cam k.

s is the live spindle or chuck, and s' is the dead-spindle. To the shaft d² is fixedly connected the upright stripper or throw-off h, which grips around the spindle or chuck s.

f represents the ferrule.

When it is desired to adjust a ferrule for skimming, the dead-shaft C' is given a lateral motion to the right by a downward pressure of the foot upon the lever R. A free opening is thus allowed for the insertion of the ferrule upon the live-spindle s. The foot is then released, and the dead-shaft C', by means of the springs s² and s³, forces the dead-spindle s' against the ferrule, which in turn forces it plumb up and snugly upon the live-spindle s. The shaft C is then operated and the ferrule skimmed by means of a tool on the rest (shown in dotted lines) in the usual manner. After the ferrule has been skimmed the treadle R is again depressed, which withdraws the shaft C' and the dead-spindle s' from the ferrule. The rod d, being connected by the arm d' with the shaft C', is given the same lateral motion, and the trigger t, being engaged, withdraws with it the shaft d² and the upright stripper or throw-off device h. The arms of this stripper or clutch being back of the ferrule f force it along the spindle s until it falls off into the chute or box prepared to receive it, as shown in Fig. 2. When the clutch or throw-off device h arrives at about the point shown in Fig. 2, the hinged trigger t, having come in contact with the fixed pin or cam k, is forced up until it is at this point released from the lock or catch t', and being thus released the spring s⁴ immediately draws back the shaft d² and the stripper h to the position shown in Fig. 1. The shaft C' and the dead-spindle s' may be held, however, in the position shown in Fig. 2 by

pressure of the foot on the lever R until another ferrule is inserted, when they may be released, as before described.

The stripper *h* is preferably constructed of two principal parts *h* *h*², as shown in Fig. 3, the part *h*² having an up-and-down motion within *h*, and provided with a spiral spring on the inside of the clutch *h*, so as to keep the upper arms *h*³ well around the spindle *s*, even to the position shown in Fig. 2.

The spindle or chuck *s*', as shown in Fig. 4, is adjusted longitudinally into the shaft C' and revolves therein, motion being given to it by its bearing and pressure against the end of the revolving ferrule *f*, it being preferable to allow it to turn, as otherwise the end of the ferrule might become worn or abraded. It is also preferable to have the end of the spindle or chuck *s*' capped with rawhide or other like material.

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

1. In a lathe or ferrule-skimming machine, an adjustable dead spindle or chuck for forcing on and securing by pressure the ferrule to the live-spindle and releasing the same when desired, and an adjustable stripper provided back of the ferrule for forcing off the ferrule from the live-spindle when the dead-spindle is removed, substantially as hereinbefore set forth and described.

2. A ferrule-skimming machine having the live-spindle *s*, in combination with the spindle *s*', connected with the shaft C', the shaft *d*, connected by the arm *d*' with the shaft C', operated by the elbow-lever *a* *a*³, the rod *r*, and the lever R, the shaft *d*², the stripper *h*, connected with the shaft *d*², the triggers *t* *t*', the cam *k*, and the springs *s*² *s*⁴, secured and

adjusted to the frame A, substantially as hereinbefore set forth and described.

3. In a ferrule-skimming machine, a live-spindle *s*, mounted upon the frame A through the medium of the journal-bearings B, in combination with the spindle *s*', the shaft C', the shaft *d*, connected by the arm *d*' with the shaft C', mounted on the frame A, having a lateral motion to and fro, the shaft *d*², mounted, as in the journal-bearing B, below the spindle *s*, the stripper *h*, connected with the shaft *d*², the trigger *t*, the catch *t*', the cam *k*, and springs *s*² *s*⁴, in the manner and for the purpose substantially as hereinbefore set forth and described.

4. A ferrule-skimming machine having a live-spindle *s*, upon which the ferrule is adapted to fit, in combination with a dead-spindle for holding the ferrule on the live-spindle during the skimming operation and adjustable to release it when desired, a stripper *h*, adjusted back of the ferrule and adapted to throw it off the spindle *s* when the dead-spindle is released, the stripper *h* being operated by the same movement or motion which withdraws the dead-spindle, and an automatic trigger device by which the stripper is released from its connection with the dead-spindle and returned after forcing off the ferrule by means of a spring to its normal position, while the dead-spindle may remain open to receive the next ferrule, in the manner and for the purpose substantially as hereinbefore set forth and described.

In witness whereof I have hereunto set my hand this 9th day of July, A. D. 1889.

COMLY S. SMITH.

Witnesses:

HORACE PETTIT,

REESE M. FLEISCHMANN.