

J. G. KINGSBURY.
 ROTARY RIVET SPINNING MACHINE.
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992,203.

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Fig. 1.

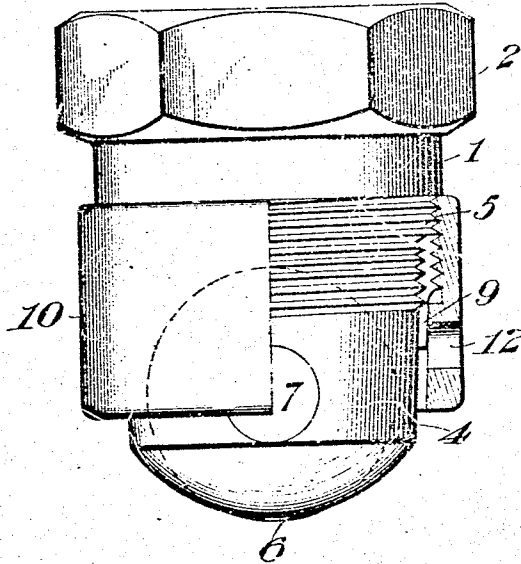
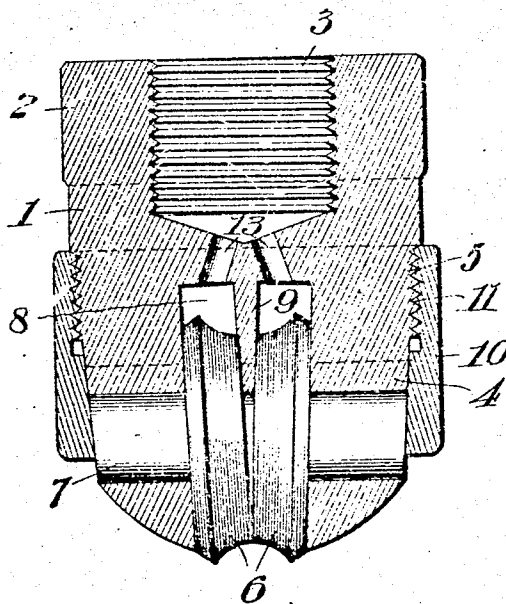


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

JERE G. KINGSBURY, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE GRANT MANUFACTURING & MACHINE COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

ROTARY RIVET-SPINNING MACHINE.

292,208

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JERE G. KINGSBURY, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Rotary Rivet-Spinning Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to rotary rivet spinning machines. Its object is to provide a roll-holder for rivet spinning machines which may be readily assembled and at the same time capable of the severest work without danger of injury or loosening or breaking of the roll-axis. The riveter is of a type in which twin rolls are placed in a holder at a slight angle, that is, with the outer peripheries meeting at the bottom and separated at the top, and in which the rolls turn upon a transverse axis passing through one end of a holder adapted to be screwed into place on a rivet spinning machine.

In the customary rivet spinning machines the shaft of the roll-holder is a screw-bolt passing through a threaded perforation in the roll-holding end of the holder, which serves also to hold from springing the sides of jaws of the holder. In operation this screw-shaft is apt to wear loose and sometimes flies out in operation. Furthermore, I have discovered that if this screw be loosened in any degree it will not then prevent the separated parts, sides or jaws of the holder in which the rolls turn from springing apart in operation. Such a springing of the jaws of the holder is objectionable because it leaves space enough to form a bur or tear on the rivet.

In my improved roll-holder I have provided a tapering body which is threaded at the bottom to receive a threaded ring which embraces the jaws of the roll-holder permitting me to use a single pin as the axis or shaft of the rolls and to either have a free or a driving fit for the pin, and enabling me to readily assemble the parts, preventing the spreading of the jaws of the holder, and also preventing a displacement of the axis pin.

In the drawings,—Figure 1 is a front elevation of the roll-holder as it appears when

applied to the spinning machine, with a part of the ring removed to show the threads; Fig. 2 is a central vertical section.

In the drawings, 1 represents the body of the roll-holder having the usual polygonal head 2, and an internal thread 3 for attaching the roll-holder to the spinning machine. The bottom part 4 of the body of the roll-holder is slightly tapered downwardly and is threaded upon a substantially central zone 5. Twin rolls, 6, are borne by a pin 7, which passes through a transverse hole in the jaws of the holder. The two rolls turn in a cut 8 which forms the jaws and is wider at the top than at the bottom as illustrated in the figures, and, which, at the top, is divided into two parts by a downwardly projecting fin 9 left thus when the body is cut away to form the space to receive the rolls. A ring 10, tapered reversely with reference to the holder, is threaded at 11 to engage with the threads 5 of the roll-holder so that when this ring is screwed into place it will at once prevent the jaws of the holder from spreading in operation and also secure in place the pin 7, preventing it from being displaced or broken or lost in operation. The ring has the usual wrench hole 12. At 13 I have illustrated oil holes which are features of a separate invention of mine, especially applicable to such devices, but not necessary to further dwell upon in the description of this invention.

While the specific construction and arrangement of the rolls and the manner of their relative placing in the roll-holder is not a feature of this invention, it may be well to say that the manner in which they are separated at the top and meet at the bottom prevents small particles of metal from constantly wedging or sticking in the roll-holder while the rivet heads are being spun down. These little particles of metal are squeezed in between the rolls at the apex of the angle and at times, for instance if the machine spindle is stopped and an attempt is made to turn the rolls with the fingers, they will be found tightly wedged. When the next rivet is operated upon the rolls will touch the top or the point of the rivet at its outer edge, owing to the curvature of the rolls, and by the pressure necessary to roll the head down there will be friction enough

between the rolls and the point of the rivet to permit the rolls to slightly move. As soon as this movement of the rolls occurs the small particles of metal which are wedged between them are moved to a point where the angle begins to widen and are released, and, owing to the high speed at which the machine spindle is revolving, they are thrown from the rolls by centrifugal action.

10 While this operation can be true of a roll-holder without my improved device, it indicates the special advantage of my construction which enables this strain to be put upon the rolls without any danger of spreading the jaws or displacing the roll-shaft.

I claim:

1. In a roll-holder for rivet spinning machines, the combination of a pair of threaded, tapering jaws, a shaft journaled in the

jaws, rolls carried by the shaft and a threaded, tapering ring binding the jaws.

2. In a roll-holder for rivet spinning machines, the combination of a pair of jaws, rolls between the jaws, a free shaft-pin passing through the jaws, and a ring binding the jaws and the ends of the shaft.

3. In a roll-holder for rivet spinning machines, the combination of a body having a substantially central zone of threading, a cut forming jaws, rolls between the jaws, and a partially threaded ring to take over the jaws and screw upon the threaded zone.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JERE G. KINGSBURY.

Witnesses:

EDWARD P. NOBBS,

JOHN SMITH.