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PATENTED SEPT. 1, 1903.

J. SCHLOSSER.
PACKING IMPLEMENT.
APPLICATION FILED JAN. 14, 1903.

NO MODEL.

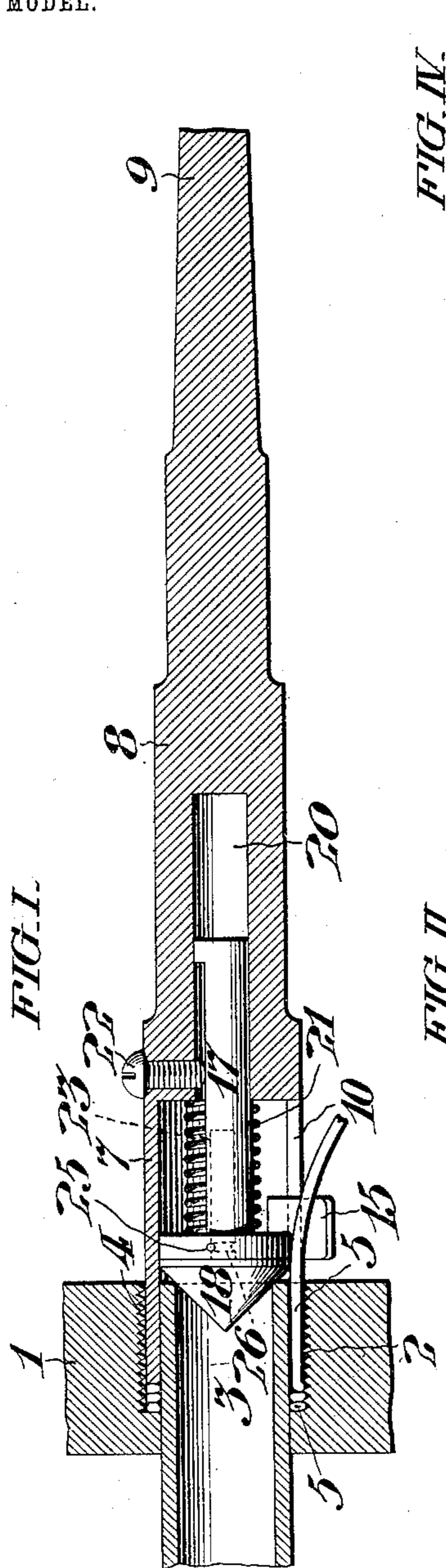


FIG. I.

FIG. II.

FIG. III.

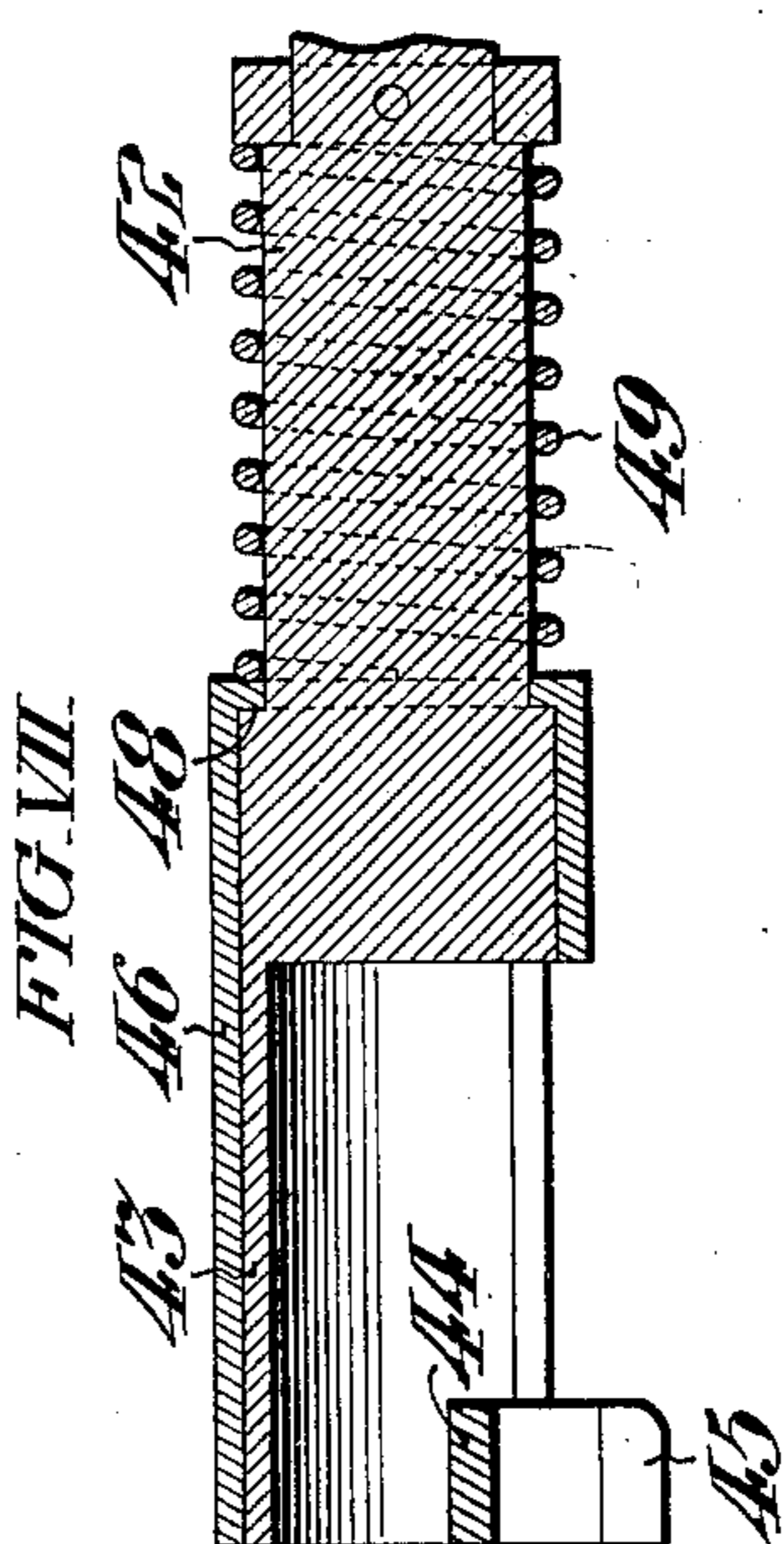
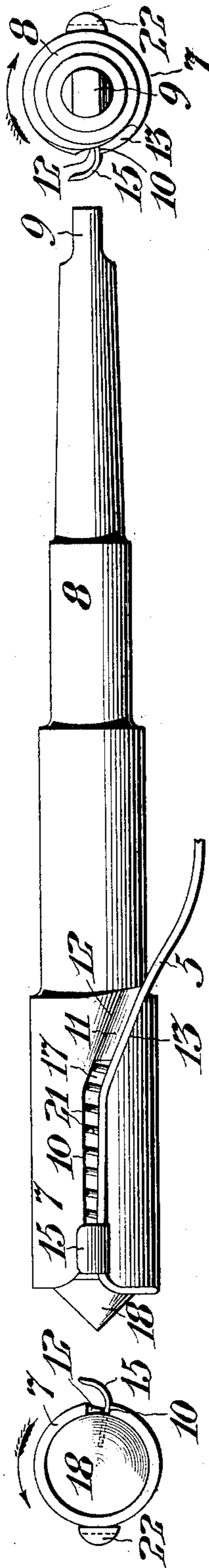


FIG. IV.

FIG. V.

FIG. VI.

FIG. VII.

FIG. VIII.

INVENTOR:
JOHN SCHLOSSER,
by Arthur E. Paige,
Att'y.

UNITED STATES PATENT OFFICE.

JOHN SCHLOSSER, OF PHILADELPHIA, PENNSYLVANIA.

PACKING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 737,873, dated September 1, 1903.

Application filed January 14, 1903. Serial No. 138,964. (No model.)

To all whom it may concern:

Be it known that I, JOHN SCHLOSSER, of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Packing Implements, whereof the following is a specification, reference being had to the accompanying drawings.

My invention is particularly designed for use in connection with the general class of structures, including steam-condensers, comprising a plurality of separate tubes, whose open ends are supported in diaphragms or tube-sheets and must be provided with packing to seal the joints between the tubes and the sheets, an annular recess being formed in each tube-sheet around each tube to receive the packing and a screw ferrule or gland to hold the packing in place. Ordinarily the operator packs each joint by first laying a strand of packing in the open recess and then compressing it to receive the ferrule by successive blows with a chisel-like tool inserted in said recess parallel with the axis of the tube.

It is the object of my invention to simultaneously lay and compress a packing-strand in proper position around the tube and within the recess provided for it, so as to avoid the necessity of the separate compressing or tamping operation aforesaid, and my invention is advantageous in that, first, a given number of tubes may be packed in a fraction of the time heretofore required; second, the packing-strands are not cut or crushed by the operation, and, third, the joints are of substantially uniform character.

My invention comprises a sleeve adapted to fit over the end of the tube around which the packing is to be wrapped and comprising a passage-way through which the packing-strand is automatically conveyed and laid in place when the implement is rotated by means of an operating-shank extending from said sleeve.

As hereinafter described, the implement also conveniently comprises a head which is relatively movable within said sleeve and which is adapted to engage the end of the tube over which the sleeve is fitted.

My invention comprises the various novel features of construction and arrangement

hereinafter more definitely specified and claimed.

In the accompanying drawings, Figure I is a sectional view showing an implement conveniently embodying my improvements as applied to pack a tube. Fig. II is a side view of the implement shown in Fig. I. Fig. III is a left-hand end view of the implement shown in Fig. II. Fig. IV is a right-hand end view of the implement shown in Fig. II. Fig. V is a sectional view of a modified form of implement taken on line V V in Fig. VI. Fig. VI is a left-hand end view of the implement shown in Fig. V. Fig. VII is a sectional view of a modified form of implement, taken on line VII VII in Fig. VIII. Fig. VIII is a left-hand end view of the implement shown in Fig. VII.

Referring to Figs. I to IV, inclusive, 1 is a tube-sheet provided with the annular recess 2, into which the end of the tube 3 projects. Said recess is provided with the screw-threads 4 to receive the ferrule or gland, which is omitted, and 5 is the packing-strand, which is wound around said tube 3 within said recess 2 by the rotary action of the sleeve 7. Said sleeve is provided with the shank 8, whose end 9 is adapted to be engaged by a rotating device, such as a hand-brace or suitable motor. Said packing 5 is conveyed forward through the passage-way comprising the slot 10 in the sleeve 7 and the channel 11 in the shank 8. As best shown in Fig. IV, the side 12 of said channel gradually merges into the outer periphery of the sleeve 7 to facilitate the engagement of the strand 5 in said channel, and the other side, 13, of the latter is abrupt to prevent displacement of said strand when the implement is rotated in the direction indicated by the arrows in Figs. III and IV. Moreover, the strand 5 is guided and retained in said passage-way by the hook-shaped finger 15, which projects through said slot 10 and facilitates the initial engagement of said strand therein. Said finger is carried by the plunger 17, which reciprocates with the head 18 within said sleeve 7. Said plunger 17 is mounted in the socket 20 in the shank 8 and is normally presented with the head 18 in the position shown in Fig. II by the spring 21, which

surrounds said plunger, whose motion is limited by the set-screw 22. The conical head 18 is provided with the spindle 23, extending within the plunger 17, and is secured in rotatable relation with said spindle by the pin 25, which engages the circumferential groove 26 in said spindle.

Said implement is used as follows: The forward end of the strand of packing 5, being laid against the finger 15, falls into the passage-way in the sleeve 7, as indicated in Fig. II, and said sleeve 7 being slipped over the tube 3 in the sheet 1, as indicated in Fig. I, said end of the packing-strand is fractionally held at the inner end of the recess 2. The implement being then rotated in the direction of the arrows indicated in Figs. III and IV, the strand is drawn through the channel 11 and slot 10 and within the finger 15 until the desired quantity is wound within the recess 2. In fact, before beginning the operation of packing the strands 5 may be cut in pieces of such length that each piece suffices for one joint, so that in a given structure having uniform recesses 2 all of the joints may be uniformly packed.

Referring to Figs. V and VI, the shank 32 is provided with the sleeve 33, adapted to fit over the tube which is to be packed, and the head 34, comprising the finger 35, is carried by the outer shell 36, whose motion is limited by the stop-screw 38. Said head is normally presented in the position shown in Fig. V under pressure of the spring 39, which, however, permits relative movement of said sleeve and head during the packing operation.

Referring to Figs. VII and VIII, the shank 42 is provided with the sleeve 43, adapted to fit over the tube which is to be packed, and the head 44, comprising the finger 45, is carried by the outer shell 46, whose motion is limited by the shoulder 48. Said head is normally presented in the position shown in Fig. VII under pressure of the spring 49, which, however, permits relative movement of said sleeve and head during the packing operation.

I do not desire to limit myself to the precise details of construction and arrangement herein set forth, as it is obvious that various modifications may be made therein without departing from the essential features of my invention.

I claim—

1. In a rotary packing implement, a sleeve provided with an operating-shank and comprising a passage-way for a packing-strand; a head mounted to reciprocate within said sleeve; and, a spring tending to thrust said

head forward in said sleeve, substantially as set forth.

2. In a rotary packing implement, a sleeve provided with an operating-shank and comprising a passage-way for a packing-strand; a plunger mounted to reciprocate in said sleeve; a finger carried by said plunger, arranged to retain a strand in said passage-way; a head carried by said plunger in rotatable relation therewith; a spring tending to thrust said head forward in said sleeve; and means to limit the movement of said plunger, substantially as set forth.

3. In a rotary packing implement, a sleeve provided with an operating-shank and comprising a passage-way for a packing-strand; a conical head mounted to reciprocate within said sleeve; a spring tending to thrust said head forward in said sleeve; and, means to limit the movement of said head, substantially as set forth.

4. In a packing implement, a rotary sleeve provided with an operating-shank and comprising a passage-way for a packing-strand; a conical head mounted to reciprocate within said sleeve; a finger mounted to reciprocate with said head, and arranged to retain a strand in said passage-way; a spring tending to thrust said head forward in said sleeve; and means to limit the movement of said head, substantially as set forth.

5. In a rotary packing implement, a sleeve having an operating-shank, and provided with a passage-way for a packing-strand, comprising a slot in said sleeve and a channel in said shank; a plunger mounted to reciprocate within said sleeve; a finger, carried by said plunger, projecting through said slot and arranged to retain a strand therein; a spring tending to thrust said plunger forward in said sleeve; means to limit the movement of said plunger; a conical head carried by said plunger in rotatable relation therewith; and, means to secure said head to said plunger, substantially as set forth.

6. In a rotary packing implement, a sleeve having an operating-shank and provided with a passage-way for a packing-strand, comprising a slot and a channel, which latter is abrupt on one side and gradually merges into the outer periphery of said shank on the other side, substantially as set forth.

In witness whereof I have hereunto signed my name at Philadelphia, in the State of Pennsylvania, this 10th day of January, 1903.

JOHN SCHLOSSER.

Witnesses:

HERMAN THERM,
CHAS. F. LINDE.