

(No Model.)

D. A. MOONEY & J. IRELAND.

COMBINED THREAD TENSION AND LUBRICATING DEVICE FOR SEWING
MACHINES.

No. 398,433.

Patented Feb. 26, 1889.

Fig. 1.

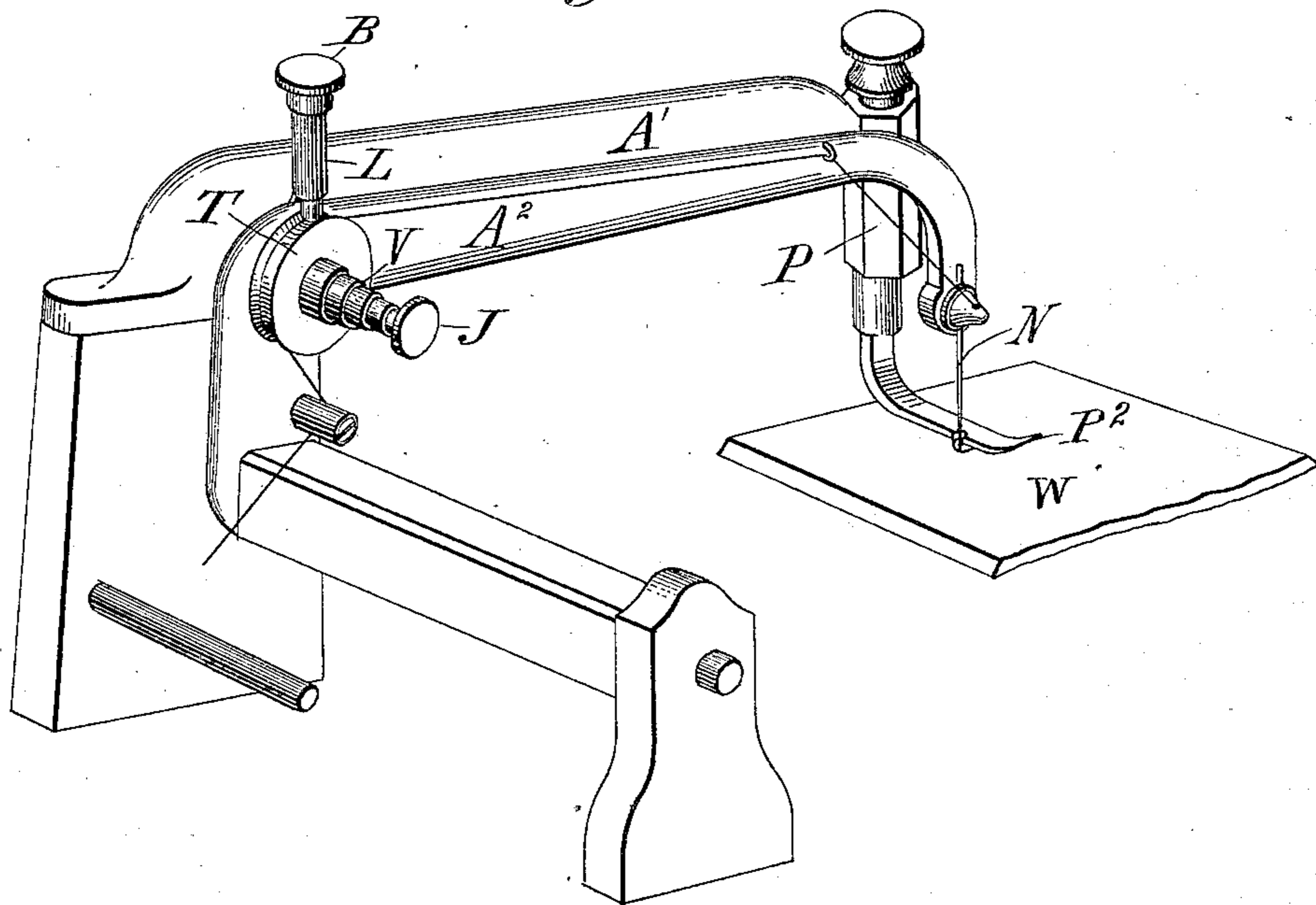
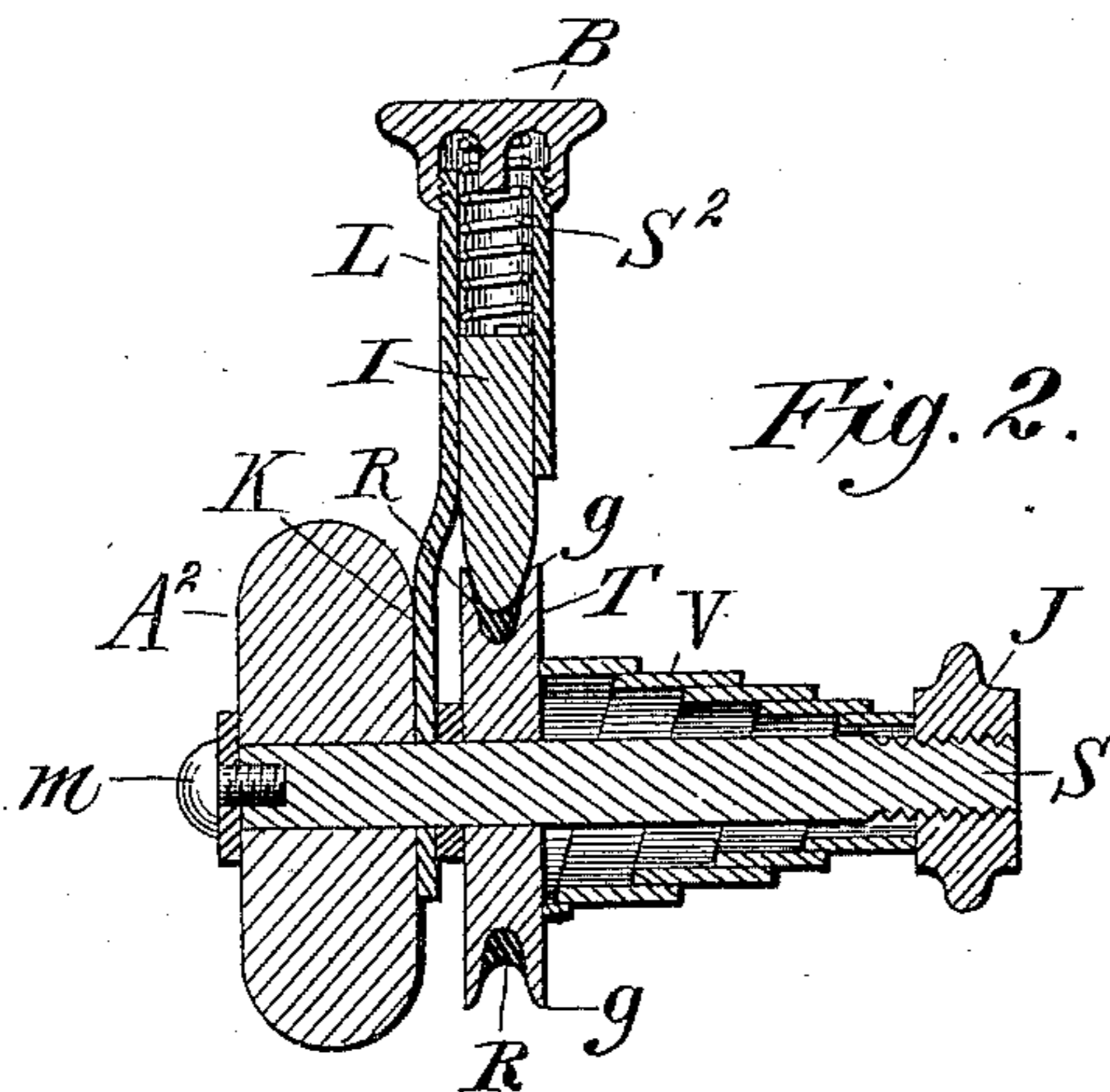


Fig. 2.



Witnesses:

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DANIEL A. MOONEY AND JAMES IRELAND, OF TROY, NEW YORK.

COMBINED THREAD TENSION AND LUBRICATING DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 398,433, dated February 26, 1889.

Application filed August 13, 1887. Serial No. 246,917. (No model.)

To all whom it may concern:

Be it known that we, DANIEL A. MOONEY and JAMES IRELAND, both of the city of Troy, county of Rensselaer, State of New York, have jointly invented new and useful Improvements in a Combined Thread-Lubricator and Tension-Wheel Attachment to Sewing-Machines, of which the following is a specification.

Our invention relates to an improved attachment to sewing-machines for applying lubricant to the thread used therein, and the combination, with such lubricant-applying mechanism, of a tension-wheel constructed to produce an elastic tension on the thread by means of a rubber perimeter arranged upon the tension-wheel over which the thread passes, the object of our invention being to adapt the sewing-machine for rapid work and to avoid breaking the thread or needle.

We are aware that a tension-wheel having a rubber perimeter around which the thread passes is an old construction, and to which we make no claim apart from its combination with the thread-lubricating mechanism which we illustrate and describe herein.

Accompanying this specification to form a part of it there is a sheet of drawings containing two figures illustrating our invention, with the same designation of its parts by letter-reference used in both of them.

Of the illustrations, Figure 1 is a perspective of a sewing-machine arm, needle-arm, needle, and work-plate with our invention applied thereto. Fig. 2 is a section taken at right angles to the sewing-machine arm through the needle-arm, but diametrically through the tension-wheel and longitudinally through the volute spring and set-screw thereof. This view shows also the lubricating mechanism in longitudinal vertical section, with all the parts in the figure shown in larger proportion than in the other figure to better illustrate them.

The several parts of the sewing-machine thus illustrated and also those containing our improvement are designated by letter-reference, and the function of the parts is described as follows:

The letter A' indicates the sewing-machine arm; A², the needle-arm; N, the needle; P, the presser; P², the presser-foot; and W, the

work-plate, all of which parts are the usual and ordinary parts of a sewing-machine.

The letter T designates the tension-wheel, S the pintle or shaft on which it turns, and V a volute spring arranged to encircle said shaft, with its inner end adapted to engage with the outer face of the said tension-wheel.

The letter J designates a set-screw arranged to thread onto the outer end of the said pintle or shaft S, adapted to engage with the outer end of the volute spring to regulate the pressure of the spring upon the tension-wheel.

The tension-wheel T has a perimetral groove, g, in which there is arranged a rubber ring, R, around and over the outer face of which the thread passes to the needle. The shaft S, is secured to the needle-arm A² by means of a screw, m. The function of the set-screw J, and also that of the volute spring V, is the same as in the older devices before described, and the function of the rubber ring R is to produce a tension on the thread, which tension upon the thread is an elastic one.

The letter L designates a tube for containing a lubricating-pencil, I. The letter S² designates a spiral spring arranged within the said tube above the lubricating-pencil, and B a set-screw that is threaded onto the upper end of said tube, and relatively so that when said set-screw is screwed down the spring is forced to engage with the lubricating-pencil and press the lower end of the pencil to engage with the thread t passing to the needle to apply lubricator to the thread.

The lubricator-tube L is shown as arranged over the tension-wheel and attached to the needle-arm adjacently at K, and it is made of such size interiorly relatively to the inserted lubricating-pencil as to retain and hold the latter with sufficient grasp to prevent its falling down, but so as to permit the downward movement of the pencil within the tube when so operated by the set-screw and spring. These lubricating-pencils are preferably made of paraffine mixed with a small measure of glycerine, although soap may be used, or paraffine without glycerine, if desired, the function of the added glycerine being to make the paraffine more readily adhesive to the thread.

While we have shown and described our lubricating mechanism as combined with the

tension-wheel having a rubber perimeter, and while the application of the lubricator makes the thread operate better in connection with said rubber-faced tension-wheel, we do not
5 limit our invention of the lubricating mechanism herein shown to its combination with the tension-wheel so constructed.

A tension-wheel thus made with an elastic engagement with the thread being lubricated
10 permits of the running of the sewing-machine at a high rate of speed and avoids the contingency of breaking the thread, while the lubricator applied to the thread facilitates the movement of the latter when the machine is
15 running at a high velocity.

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

1. In a thread-lubricating device for sewing-
20 machines, the combination, with a thread-tension wheel that is attached to the needle-arm thereof, of a tube that is also attached to said needle-arm adjacent to said tension-wheel, a lubricating-pencil within said tube,
25 a spring within said tube above said pencil, and a set-screw at the top of said tube con-

structed to control the downward movement of said pencil to contact with the thread, substantially in the manner as and for the purposes set forth. 30

2. The combination, with the thread-tension wheel of a sewing-machine which is attached to the needle-arm of the latter and regulated by means of a spring and set-screw arranged on the same shaft as the tension-wheel, 35 of a lubricating-pencil arranged within a tube that is attached to said needle-arm adjacent to said tension-wheel, said lubricating-pencil being constructed with a spring and set-screw that control the downward movement 40 of said pencil to contact with the thread, substantially in the manner as and for the purposes set forth.

Signed this 5th day of July, 1887, and in the presence of the two witnesses whose names are 45 hereto written.

DANIEL A. MOONEY.
JAMES IRELAND.

Witnesses:

GEO. M. PAYFER,
W. E. HAGAN.