

(No Model.)

W. W. WHITE.

TENSION BRAKE FOR SEWING MACHINES.

No. 264,388.

Patented Sept. 12, 1882.

Fig. 1

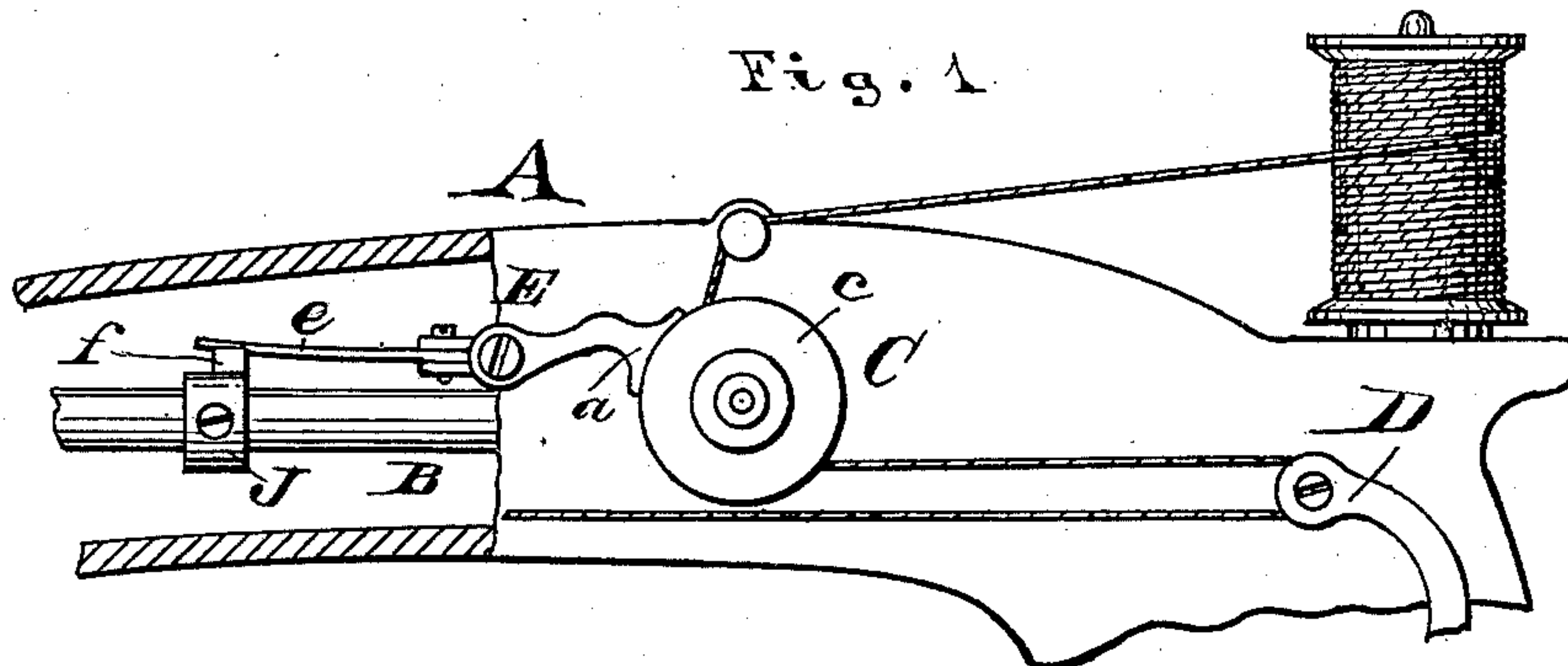


Fig. 2

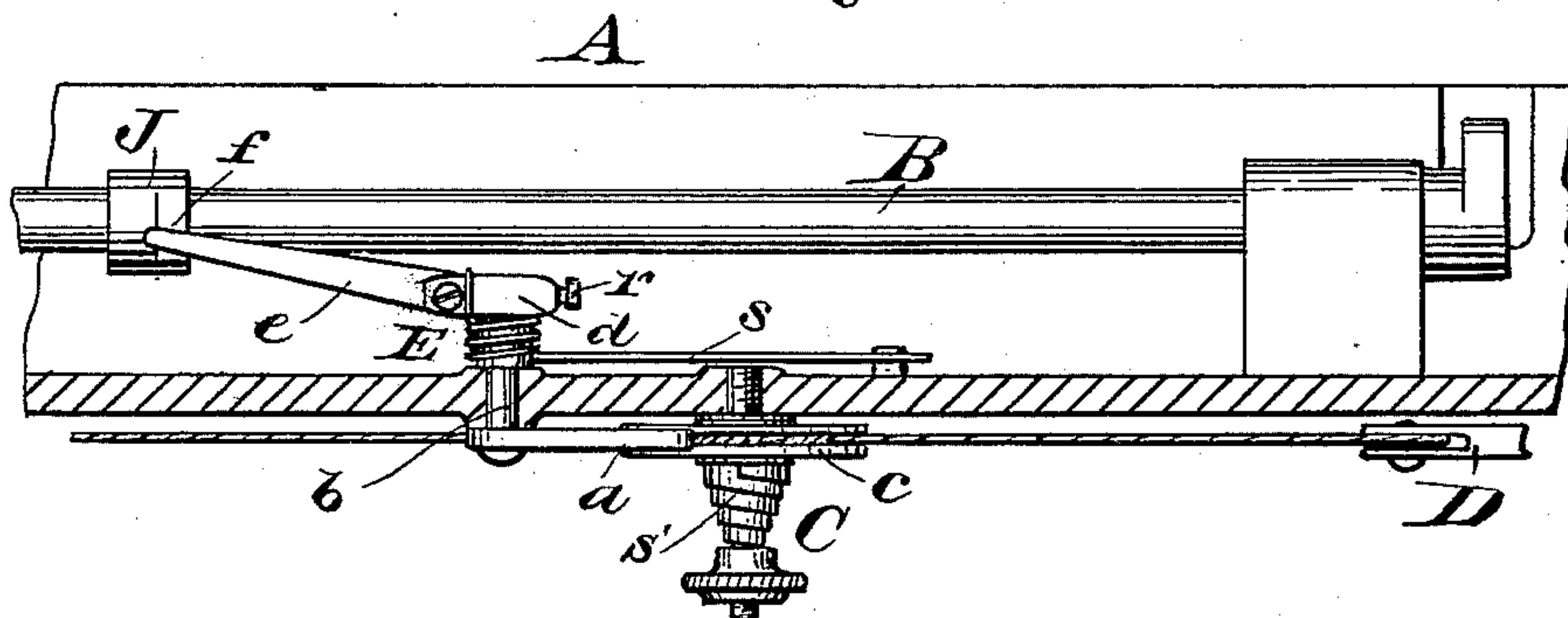
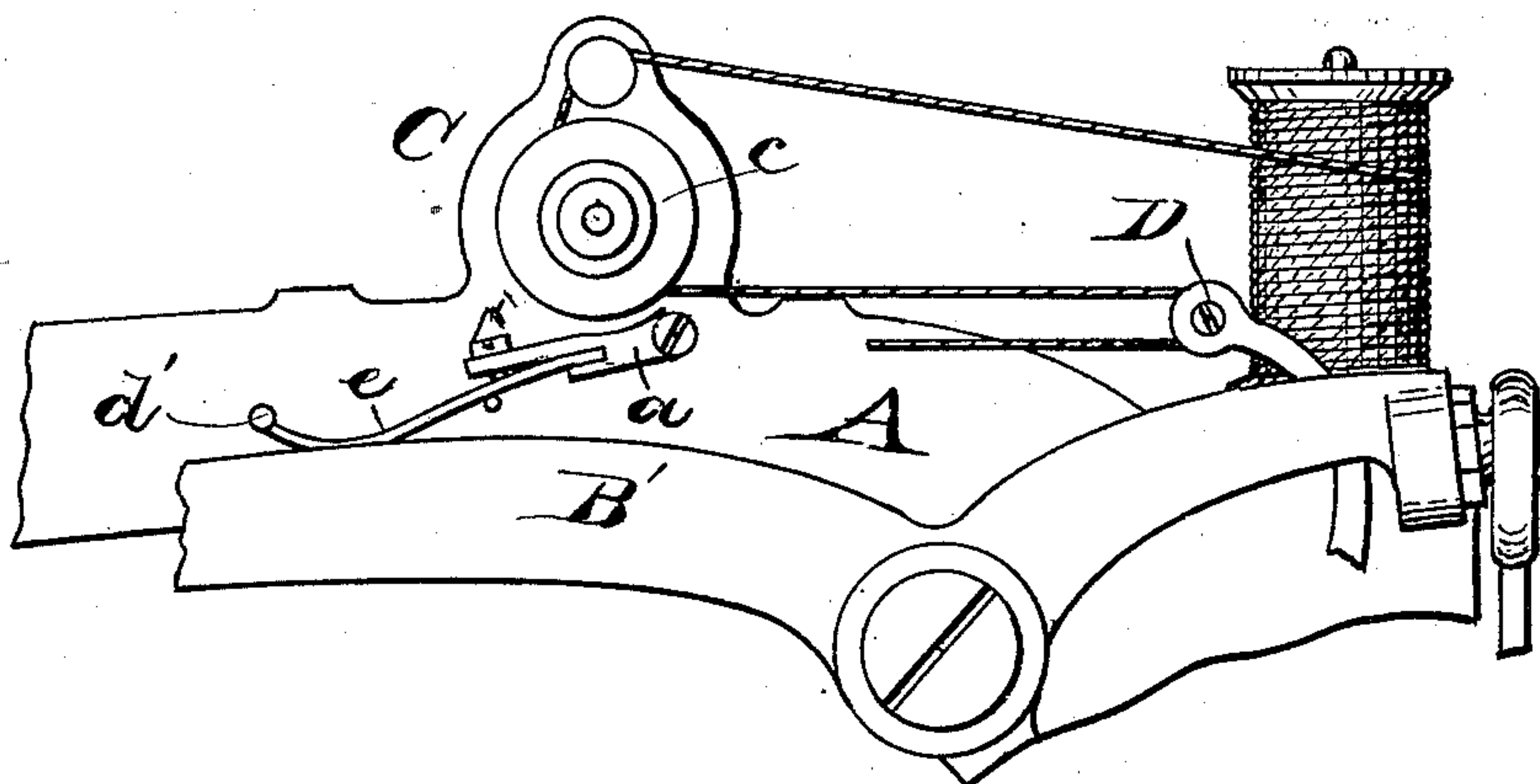


Fig. 3



Attest

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TENSION-BRAKE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 264,388, dated September 12, 1882.

Application filed June 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. WHITE, a citizen of the United States of America, residing at Palatine, in the county of Cook and State of Illinois, have invented an Improvement in Tension-Brakes for Sewing-Machines, of which the following is a specification, to wit:

My invention relates to a tension-brake for sewing-machines.

The object of my invention is to provide a simple and reliable device whereby the needle-thread of a sewing-machine is held firmly at a point in making the stitch when the loop passes between the bobbin-holder spring and the bobbin-case of a rotating hook, or between the shuttle-carrier and shuttle of a shuttle-machine, for the purpose of preventing an undue amount of thread being drawn from the spool in excess of the capacity of the take-up lever to draw said loop evenly into the fabric, the extra amount of tension used at this point being relieved just before the loop is drawn into the fabric, so that the necessary amount of tension may be given by the tension proper, with which this device at this point does not interfere.

My invention consists in a combination and arrangement of parts, as hereinafter more fully set forth with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a sewing-machine head to which my improved tension-brake is applied, it being partly broken away to better show the invention. Fig. 2 is a horizontal sectional view of the same, and Fig. 3 is a view showing a modification of my device as applied to machines working with a vibrating arm.

Similar letters refer to similar parts throughout the several views.

In the said drawings, A represents the arm or head of the machine. B is the shaft which drives the needle-bar; C, the tension, and D the take-up lever, all arranged in the ordinary manner.

E is my improved brake device, which consists of brake-shoe *a*, secured to the end of a short shaft or stud, *b*, which passes through

and has a bearing in the arm A, and is provided at the other end with a collar, *d*, to which is attached a spring-lever, *e*.

On the shaft B is a cam, J, secured to the said shaft in such a manner that as the loop of the stitch is about to pass between the bobbin-case and holder-spring or shuttle and carrier the high point *f* of said cam comes in contact with the spring-lever *e* and presses the brake-shoe *a* against the tension-pulley *c*, holding it from turning, and preventing the take-up lever from drawing thread from the spool until the loop is drawn past this point, when the cam relieves the spring-lever *e*, and the brake-shoe *a* is raised from the tension-pulley *c* by a spring, *s*, which is secured on the collar *d*, with one end resting against a projection, *p*, on the arm A. When the cam J has passed from beneath the spring-lever *e* the action of the spring *s* upon the stud *b* tends to withdraw the brake-shoe from contact with the tension-pulley. The tension-pulley *c* is then left to work in the ordinary manner, the proper tension on the thread being secured by the adjustable spring *s'*.

The brake may be adjusted to take up any wear which might occur, or to increase or diminish the pressure on the brake-shoe, by turning the collar *d* on the stud *b*, it being held at any point by a set-screw, *r*.

Fig. 3 shows the device adapted for machines in which the needle-bar is operated by a vibrating arm, B'. In this case the spring-bar *e* is attached directly to the brake-shoe *a*, between the head A and vibrating arm B', and has a stud, *d'*, projecting at right angles from its outer end, with which the arm B' comes in contact in its upward stroke, and thus applies the brake in a similar manner and with the same result as before described. An adjusting-screw, *r'*, serves to compensate for any wear.

It will be readily seen that the device, with slight modifications, may be applied to any of the machines now in use.

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

1. In a tension-brake for sewing-machines, the combination of the stud *b*, having brake-

shoe *a*, and the spring-lever *e*, having adjusting-collar *d*, with suitable mechanism for operating same, substantially as shown and described.

- 5 2. In a sewing-machine, the brake mechanism *E*, consisting of the stud *b*, having brake-shoe *a* and spring *s*, and the spring-lever *e*, adjustably attached to the stud *b* by means of the collar *d*, substantially as set forth.
- 10 3. In a sewing-machine, the combination of

the tension-pulley *c*, brake-shoe *a*, stud *b*, spring *s*, and adjustable spring-lever *e*, with the shaft *B*, having cam *J*, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM W. WHITE.

Witnesses:

CHAS. KRESSMANN,
FRANK JOHNSON.