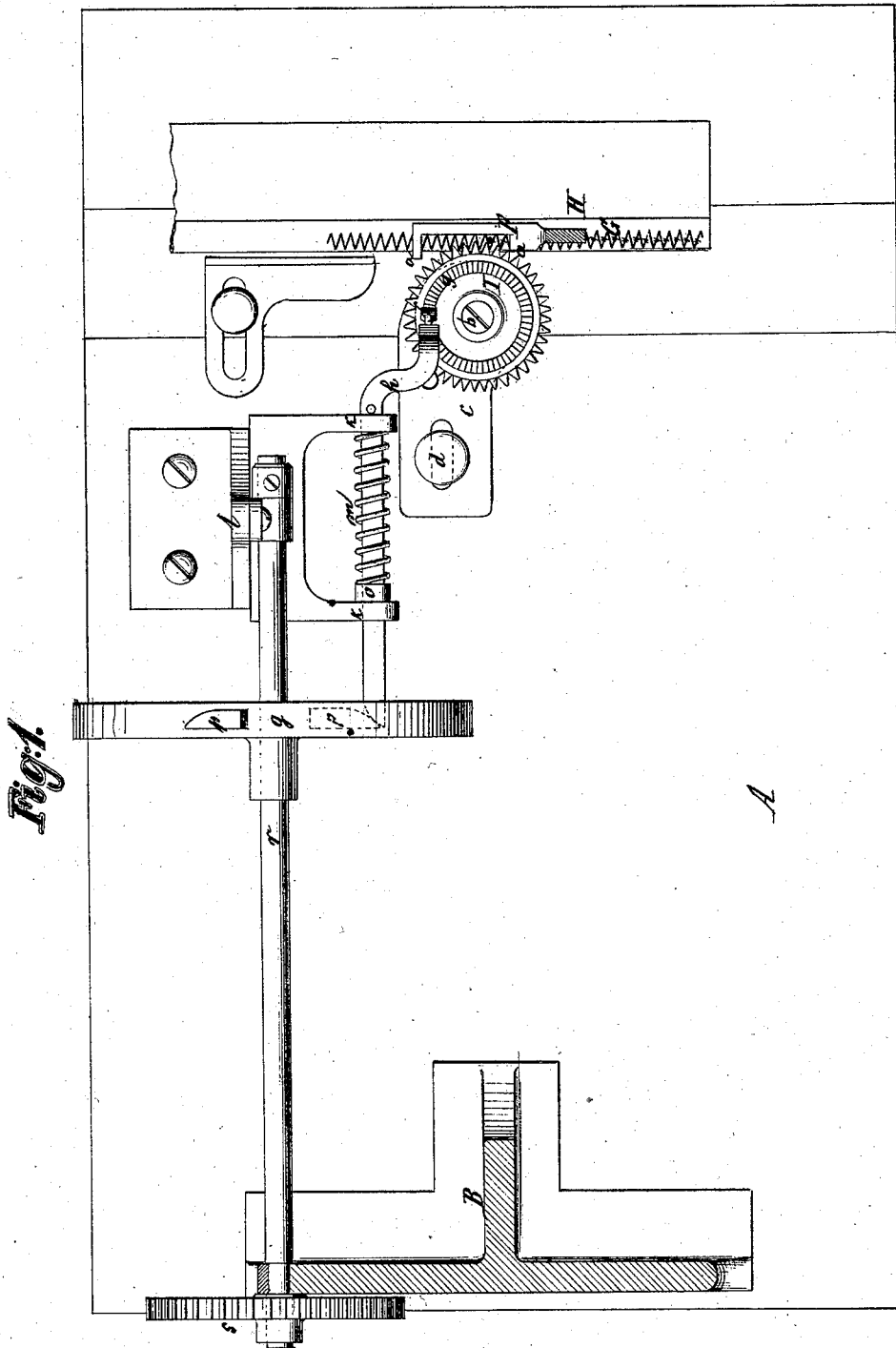


T. W. BRACHER.
Sewing Machine.

2 Sheets—Sheet 1.

No. 113,391.

Patented April 4, 1871.



Witnesses.

E. A. Huber.
E. F. Kautschke.

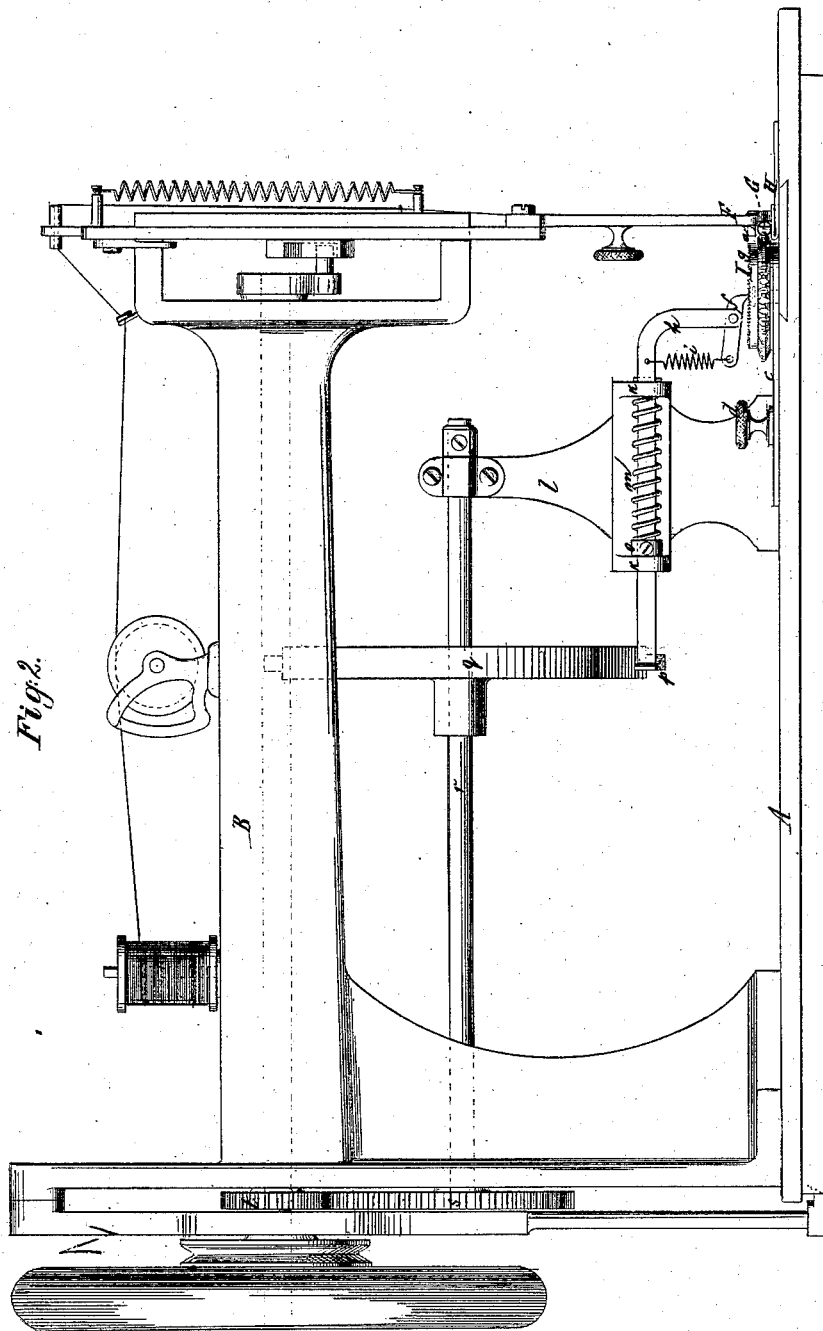
Thomas W. Bracher *Inventor.*
By Paul Anton Mauff
his atty

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Sewing Machine.

No. 113,391.

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Witnesses
 E. R. Kuhn,
 E. F. Kastenhuber

Inventor.
 Thomas W. Bracher
 By Van Santvoort Haupt
 his atty

UNITED STATES PATENT OFFICE.

THOMAS W. BRACHER, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **113,391**, dated April 4, 1871.

To all whom it may concern:

Be it known that I, THOMAS W. BRACHER, of the city, county, and State of New York, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a plan or top view of this invention, partly in section. Fig. 2 is a side view of the same.

Similar letters indicate corresponding parts.

This invention relates to a sewing-machine which is intended for the purpose of attaching spiral ventilators to the sweats of hats or caps. Said ventilators are made in the form of spiral springs, and the presser-foot is provided with guides capable of extending over said springs during the operation of sewing.

The operation of feeding said springs is performed by a cog-wheel, the teeth of which engage with the coils of the spring, and to which an intermittent revolving motion is imparted at the proper intervals by a suitable connecting-gear with the driving-shaft of the sewing-machine.

In the drawing, the letter A designates the cloth-plate of a sewing-machine, from which rises the arm B, the outer end of which forms the support for the needle-bar and for the presser-foot, all those parts being constructed in any of the well-known ways at present adopted by sewing-machine manufacturers.

The presser-foot F, however, is provided with lips *a*, capable of projecting over the spiral spring G, which is to be sewed to the sweat H, so that when the foot bears on the sweat and keeps the same down upon the cloth-plate the lips *a* form guides for the spring G, holding the same flat down upon the sweat, and also up against the spring feed-wheel I. This feed-wheel may be used in addition to the ordinary feed mechanism, which latter, when used, acts on the sweat in the usual manner, while the former—that is to say, the feed-wheel I—acts solely on the spring G. It is mounted on a stud, *b*, secured in a plate, *c*, which is fastened to the cloth-plate by a screw, *d*, passing through a slot in the plate *c*, so that the feed-wheel can be brought in the proper position in relation to the spring G. Said feed-wheel is provided with teeth, which project between the coils of the spring G, and

the motion of the feed-wheel is produced by a pawl, *f*, which engages with ratchet-teeth *g* on the upper surface of the feed-wheel.

The pawl *f* is pivoted to the end of a bar, *h*, and it is subjected to the action of a spring, *i*, which serves so keep the same in gear with the ratchet-teeth.

The bar *h* slides in lugs *k*, projecting from a standard, *l*, which rises from the cloth-plate A; and between said lugs is placed a spring, *m*, which bears against a collar, *o*, secured to the bar *h*, and has a tendency to hold said bar back in the position shown in Fig. 2.

The inner end of the bar *h* is rounded off, as shown in dotted lines in Fig. 1, and it is acted on by cam-shaped toes *p*, projecting from the periphery of a wheel, *q*, which is mounted on a shaft, *r*. This shaft has its bearings at one end in the standard *l*, and at the opposite end in the arm B, and it carries a cog-wheel, *s*, which gears in another cog-wheel, *t*, mounted on the main shaft of the sewing mechanism.

The motion of the feed-wheel I is so timed that it advances for the space of half a tooth for each stroke of the needle, and the thread which passes over the top of each coil of the spring slips down and is drawn up tight against the stitch, passing over the bottom part of the coil, as indicated in Fig. 1 of the drawing.

By these means the spring or spiral ventilator G can be sewed with great rapidity to the sweat, and the use of such spiral ventilators is rendered practicable.

It is obvious that the mechanism employed for imparting motion to the feed-wheel I may be changed in various ways, and, in fact, it has to be accommodated to the construction of the sewing-machine on which it is to be applied.

I do not wish to confine myself, therefore, to the precise construction shown in the drawing.

What I claim as new, and desire to secure by Letters Patent, is—

1. The feed-wheel I, constructed and operating substantially as shown and described.
2. In combination with an organized sewing mechanism, the guide for the spring and the feed-wheel for moving it, substantially in the manner herein set forth.

T. W. BRACHER.

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.