K. C. ATWOOD.

MACHINES FOR SEWING BAGS, &c.

No. 194,759. Patented Sept. 4, 1877.

Fig. 1.

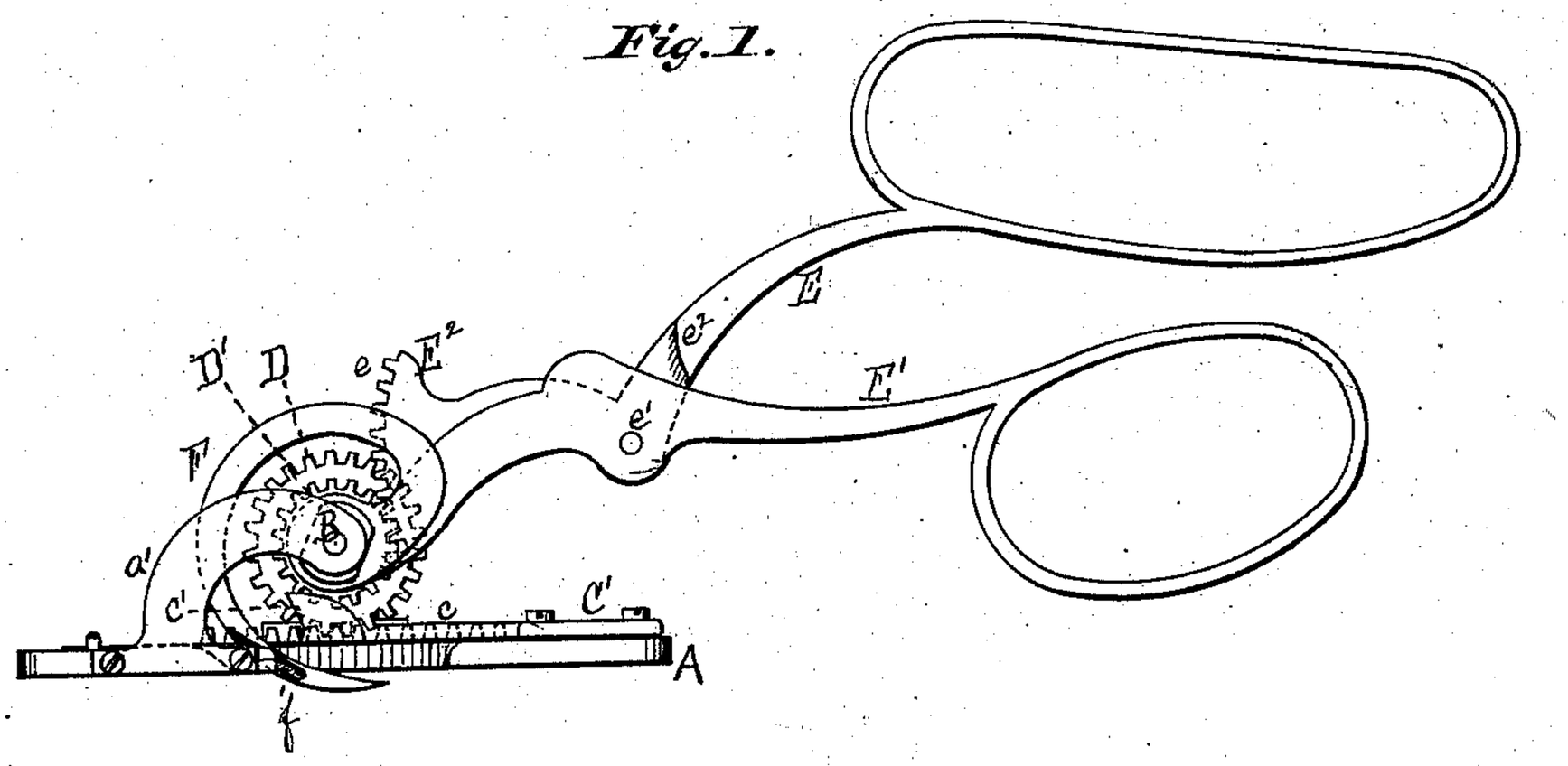
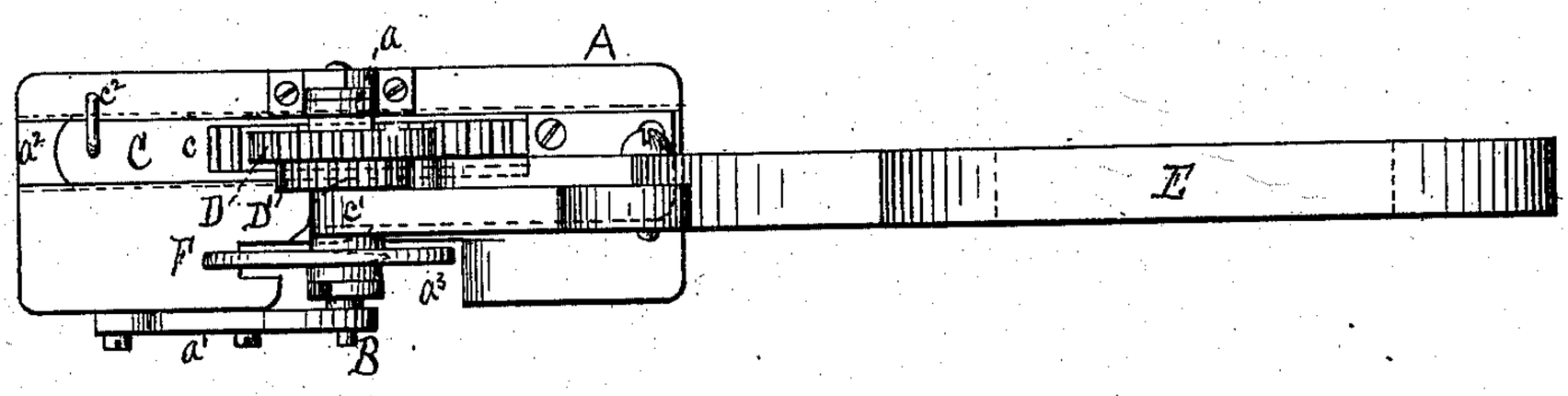


Fig. 2.



Witnesses:
John Dennisy.
John R. Jones.

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per Edwin James.
Asso: Attorney.

UNITED STATES PATENT OFFICE.

KIMBALL C. ATWOOD, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR SEWING BAGS, &c.

Specification forming part of Letters Patent No. **194,759**, dated September 4, 1877; application filed June 19, 1877.

To all whom it may concern:

Be it known that I, KIMBALL C. ATWOOD, of the city, county, and State of New York, have invented certain Improvements in Bag-Sewing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, and the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a side view of my sewing-machine. Fig. 2 is a top plan view of the same.

The object of my invention is the construction of a machine for sewing bags, bales, carpets, and such other materials which, in consequence of their size and shape, cannot be conveniently sewed on the ordinary sewing-machine.

The nature of my invention consists in providing the bed-plate of the machine with a toothed rack, said bed-plate being pivoted by suitable means to an axial rod or shaft. To this rod or shaft is also secured the differential gear and the circular needle, while power is applied by means of a pair of levers or handles operating similarly to a pair of shears, one arm of which is pivoted to the axial rod, the other arm being of the form of a segment of a wheel, and provided with teeth, all arranged and operating as more fully hereinafter described.

The construction and operation of my invention are as follows: A is the bed-plate of the machine. To this bed-plate and extending up from the same are secured two bearings, a a^1, the bearing a^1 being curved, or of the form shown in Fig. 1. By means of suitable holes cut in the upper section of these bearings a a^1, the bed-plate A is pivoted to the axial rod or shaft B in such manner that it adjusts itself to the surface of the material to be sewed, no matter at what angle the levers or handles may be.

In a beveled groove, a^2, cut in the upper side of the bed-plate A, travels a plate, C, provided with a toothed rack, c. To the front end of the plate C, and above the same, is secured, by bolts, or otherwise, another plate, C′, to which is attached the hook c^1. This plate C is also provided with a stop-pin, c^2, which prevents it from being thrown out of the front end of the beveled groove a^2, while a shoulder, e^2, on the lever or handle E, against which the lever or handle E^1 abuts when the handles are opened, prevents the plate C from being thrown out of the other end. In the bed-plate A is also cut a slot, a^3, of dimensions sufficient to allow the needle to pass through it into and out of the cloth or other article to be sewed.

B is the axial rod or shaft. To this axial rod or shaft is secured the differential gear D D′, the gear-wheel D meshing with the toothed rack c, imparting motion to the same, and the gear-wheel D′ meshing with the teeth e e of the segment E^2. To this axial rod or shaft B is also secured the circular needle F, having an eye, f, in the point.

E E^1 are the levers or handles, which are pivoted together at e^1, and operate in a manner similar to a pair of shears. The lower end of the lever E^1 is pivoted to the axial rod or shaft B, while the lower end of the lever E terminates in the segment E^2. This segment E^2 is provided with teeth e e, which mesh with the teeth on the gear-wheel D′, and by means of which the machine is operated.

The operation is as follows: After threading the needle in the usual manner, the ball of thread or twine is put in the pocket of the operator. The machine is taken in hand in a manner similar to that used in the employment of a pair of shears, the hand being opened and the levers or handles E E^1 being stretched out. The hand is then closed, bringing the levers or handles together. This operation causes the teeth e e to engage with the gear-wheel D′, producing a rotary motion in the needle-axle B, by which the point of the needle F, following the line of a true circle, is forced down through and under the cloth, and up at a point distant from that of its entrance equal to about one-half the diameter of the circle which would be described by the point of the needle in making a complete revolution. The gear-wheel D, acting at the same time on the toothed rack c, causes the hook c^1 to move forward a sufficient distance, so that as the hand is again opened, and the motion of the needle and axle reversed, the hook c^1, moving backward, catches the loop when brought up through the cloth by point of the needle, bringing it back to a point near to that at which the

needle entered the cloth from the top. The machine is then moved from right to left a distance sufficient to bring the loop, as drawn, in a diagonal direction under the point of the needle. As the hand is again closed, the point of the needle passes down through the loop and cloth, as before described. The hook at the same time, moving forward to catch the next loop as it shall be brought up by the point of the needle, releases the other loop, which has now been locked by the needle.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a sewing-machine, the combination of the bed-plate A, constructed as described, plates C C′, toothed rack *c*, hook c^1, pinion D, and the mechanism for operating said pinion, the whole constructed and arranged substantially as described.

2. In a sewing-machine, the combination of the levers or handles E E^1, axial bolt B, differential gear D D′, circular needle F, bed-plate A, plates C C′, toothed rack *c*, and hook c^1, the whole constructed and arranged substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of June, 1877.

K. C. ATWOOD.

Witnesses:
J. B. BARRY,
CHAS. S. ENSIGN.