

W. T. ELLIOTT.  
Combined Plaiter and Ruffler.

No. 229,877.

Patented July 13, 1880.

Fig:1.

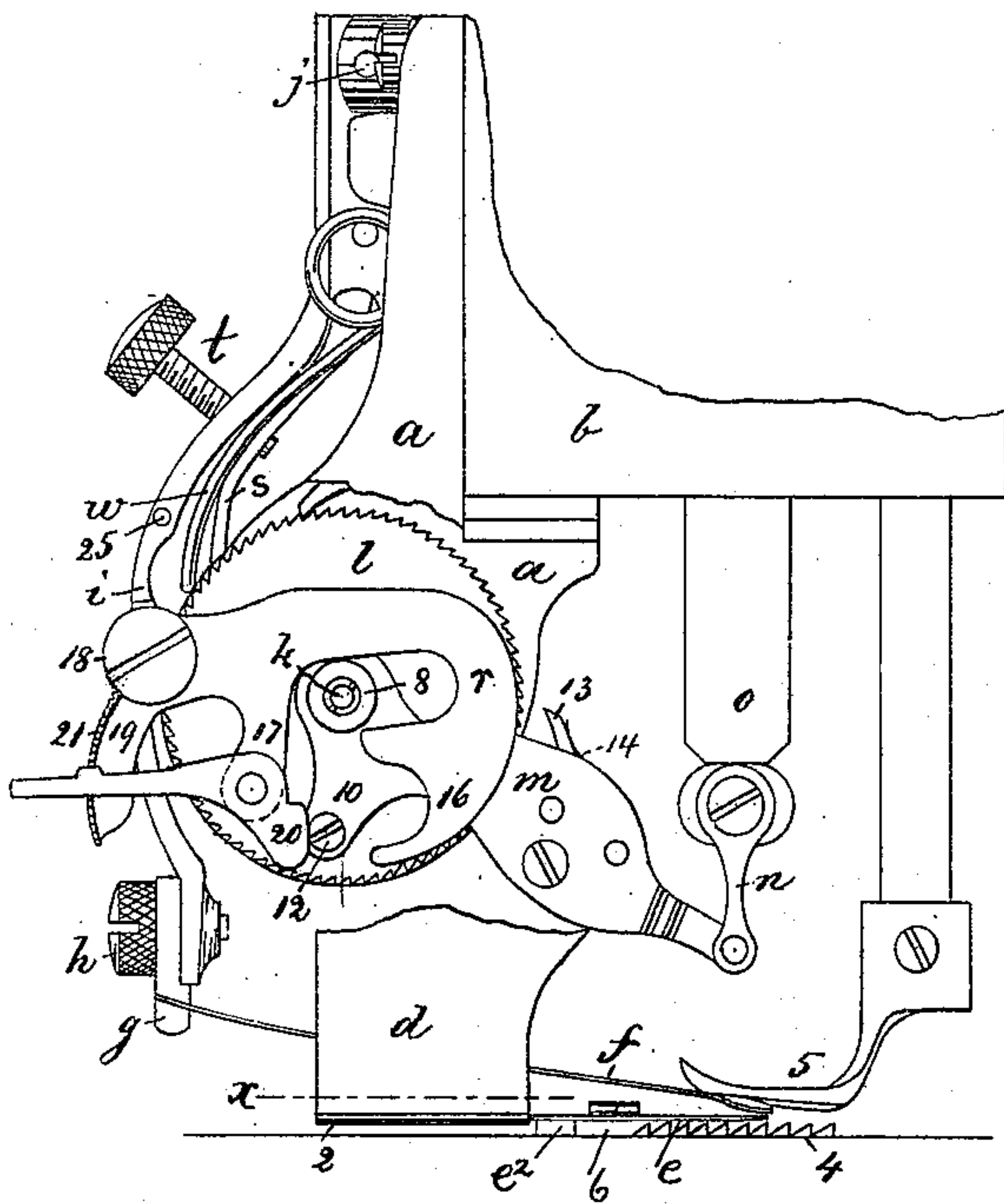


Fig:2.

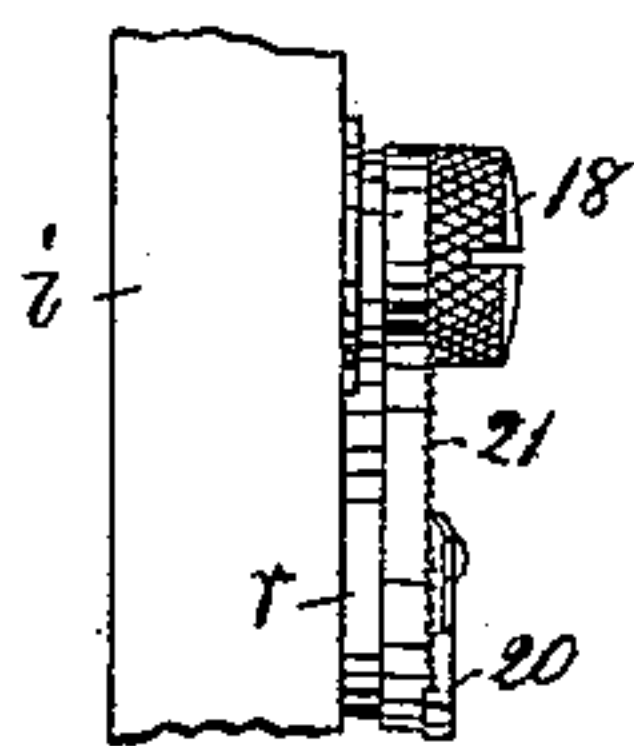


Fig:5.

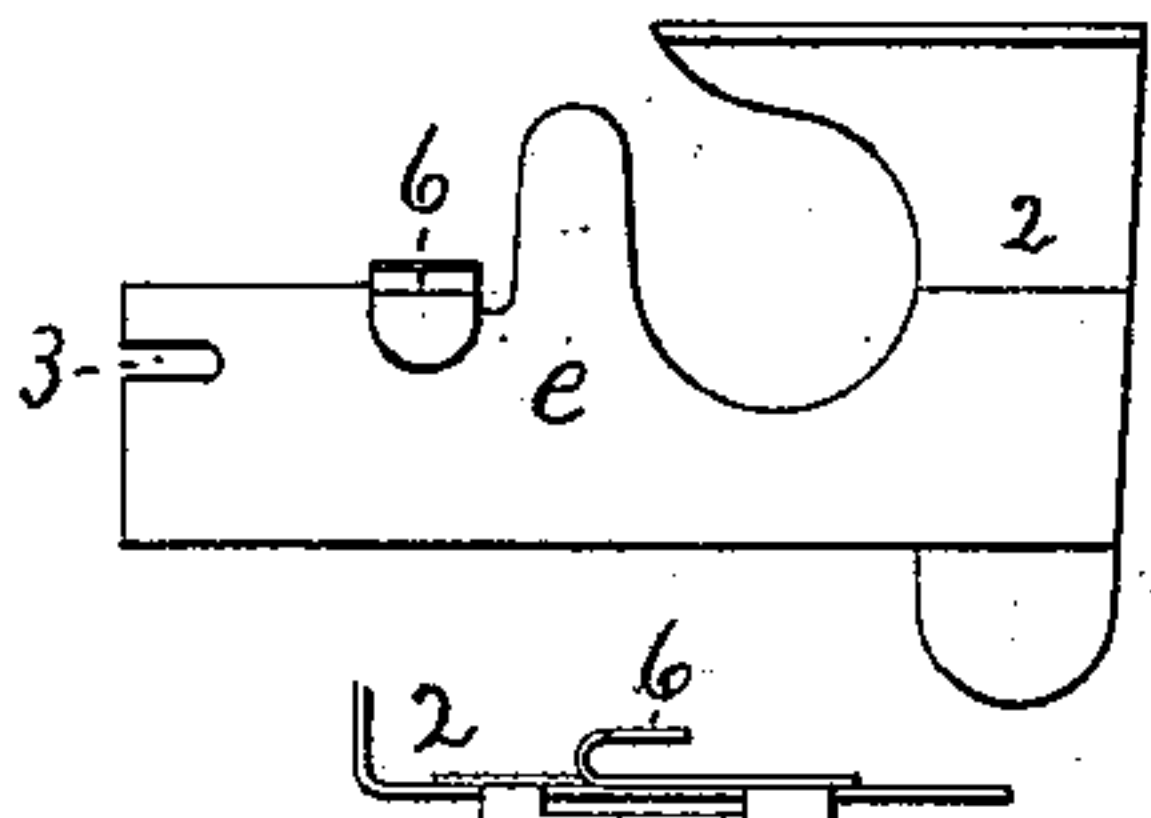


Fig:6

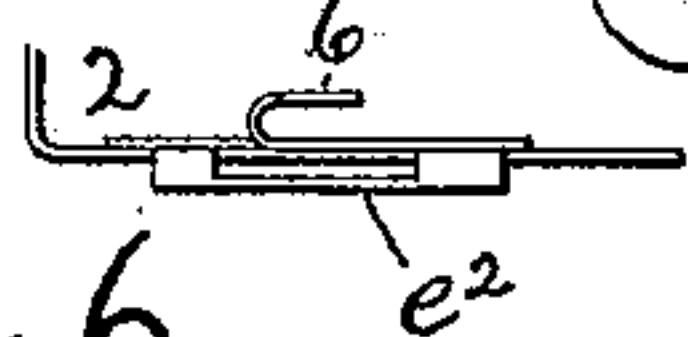


Fig:3.

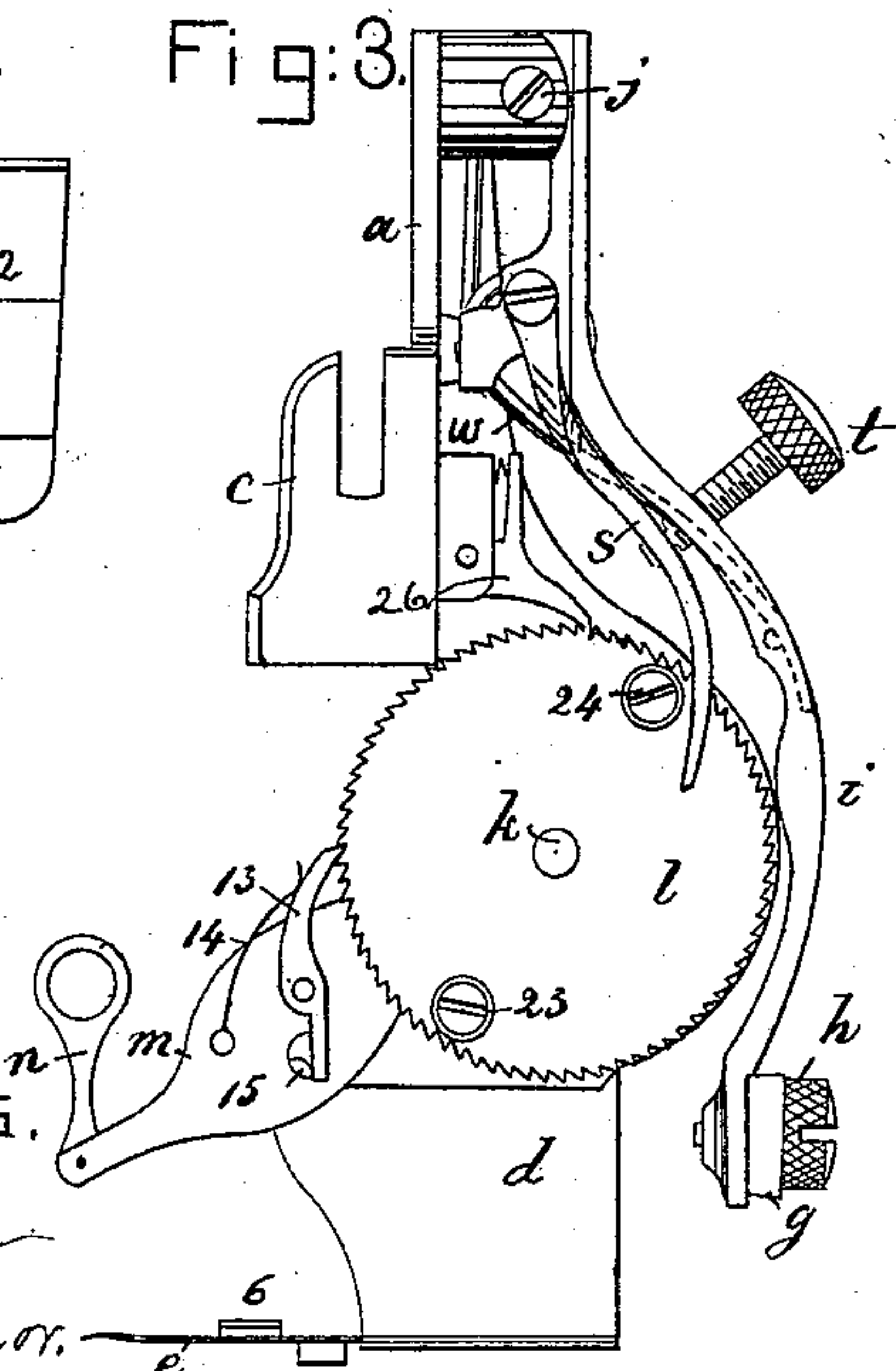
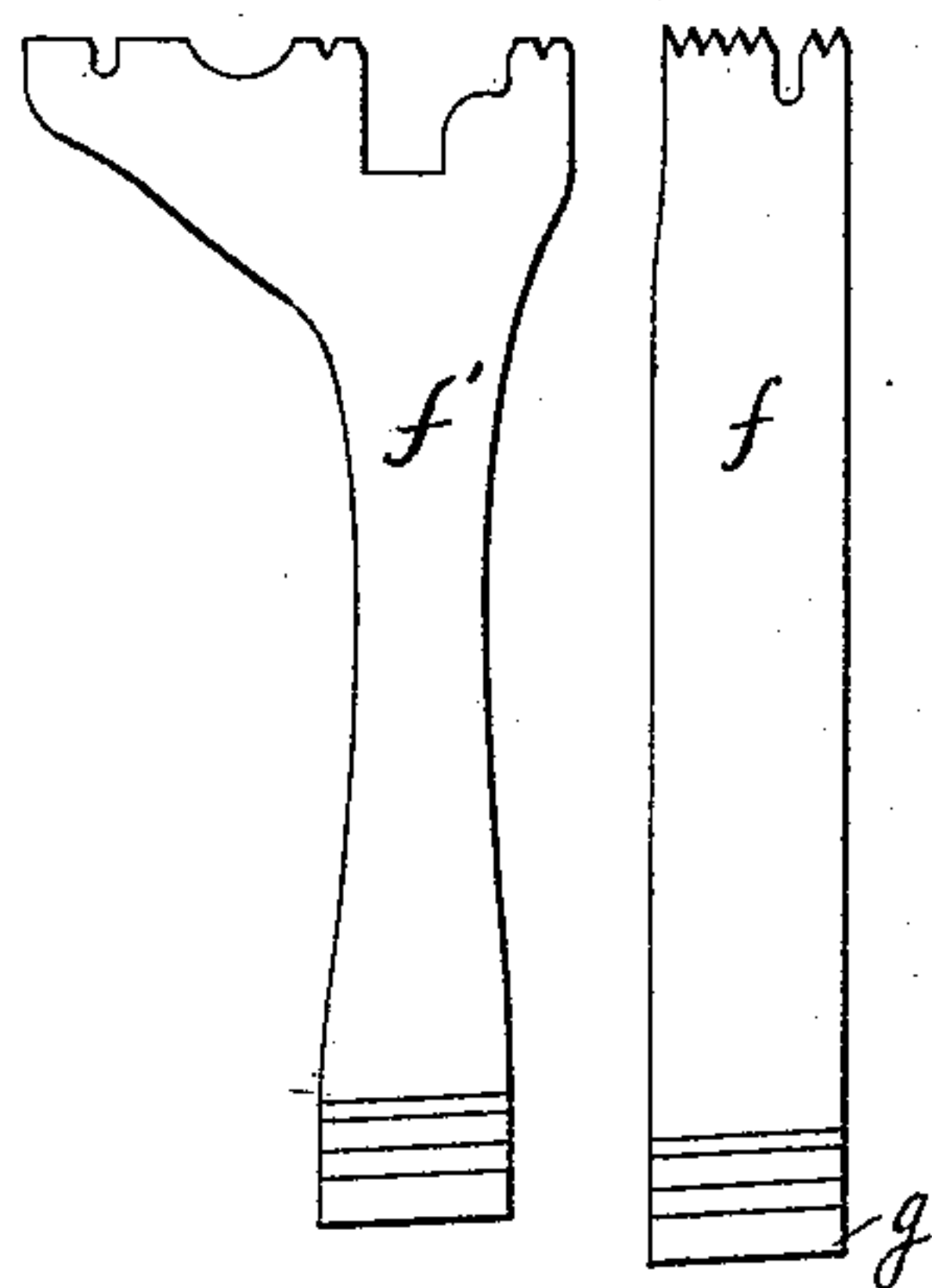


Fig:4.



Witnesses.

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Inventor.

William T. Elliott.  
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# UNITED STATES PATENT OFFICE.

WILLIAM T. ELLIOTT, OF ORANGE, MASSACHUSETTS, ASSIGNOR TO GOLD MEDAL SEWING MACHINE COMPANY, OF SAME PLACE.

## COMBINED PLAITER AND RUFFLER.

SPECIFICATION forming part of Letters Patent No. 229,877, dated July 13, 1880.

Application filed September 29, 1879.

*To all whom it may concern:*

Be it known that I, WM. TAYLOR ELLIOTT, of Orange, county of Franklin, State of Massachusetts, have invented an Improved Combined Plaiter and Ruffler, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to improvements in sewing-machine attachments adapted for use either as a ruffler or plaiter; and the invention consists in the several combinations of devices hereinafter specified and claimed.

Figure 1 represents, in front side elevation, a ruffling attachment containing my invention, part of its outer frame being broken away to show the parts at the rear of it, the said figure also showing the needle-bar, presser-bar, its foot, and part of the head of a sewing-machine; Fig. 2, a detail from the end of the attachment, showing the end of the yoke and the throw-adjusting device; Fig. 3, a partial view taken from the rear side of the attachment shown in Fig. 1, a part of the frame of the attachment being omitted to show the plaiting device; Fig. 4, a top view of a blade I prefer to use when plaiting, also the ruffling-blade; Fig. 5, a section on the line *xx*, Fig. 1, showing, in top view, the separating-plate and its guide; and Fig. 6, an end view of Fig. 5.

The frame-work *a*, of suitable shape to contain and hold the working parts of the ruffler, and adapted to be attached to the head *b* of the machine by a screw through the ear *c*, has attached to its lower end the plate *d*, which, at its lower portion, is bent laterally, as at 2, to form a finger to support the separator-plate *e*, notched at its forward end at 3, extended forward between the usual feeding device 4 and the presser-foot 5, and provided with a guide, 6, for one edge of the piece or strip being ruffled, and applied to the cloth or material lying between the separator and the usual work-support of the sewing-machine.

The ruffling-blade *f* is notched and serrated at its front end in the usual manner, and adapted to engage and carry the strip to be ruffled and carry a gather or fold made in it under the toe of the presser-foot 5. This blade *f* is connected with a block, *g*, which latter may be adjustably attached by a screw, *h*, to the blade-carrying

arm, *i*, pivoted at *j* to a lug at the upper end of the frame.

Upon a shaft, *k*, suitably supported in the frame-work *a*, I have secured a ratchet-wheel, *l*, and at one side of said ratchet-wheel I have supported loosely the sleeve-like portion 8 of the lever *m*, connected in the usual way with the needle-bar or a projection thereon by a link, *n*, the said lever being provided at its other end with a short arm, 10, and a stud or projection, 12. On this lever is a pawl, 13, acted upon by a spring, 14, and the tail of the pawl is acted upon by a pawl-adjuster, (shown as a screw having an eccentric projection, 15,) which may be turned to act upon and lift the pawl and prevent it engaging the ratchet as the lever is vibrated by the needle-bar.

The yoke *r* is connected with the arm *i* by the screw 18. This yoke, shaped as shown, has a slot made in it to permit the yoke to be moved backward and forward over the shaft *k* and sleeve 8, and a notch or surface, 16, to be struck by the pin 12, to carry the ruffling arm and blade forward; and upon the portion 17 of the said yoke is pivoted the throw-adjusting device 20, adapted to be struck by the said pin to move the arm *i* and blade backward, the said pin acting to move the said yoke, arm, and blade positively backward and forward.

The long arm of the throw-adjusting device is adapted to engage one of a series of notches, 21, in the portion 19 of the yoke, said notches holding in adjusted position the device 20, which determines the extent or size of the ruffle or gather.

The parts as represented in Fig. 1 are adapted for ruffling, the pawl 13 being held back out of operative position.

The arm *i* has connected with it a pivoted finger-piece, *s*, made adjustable by means of a screw, *t*.

The ratchet-wheel *l* has two projecting pins or rollers, 23 24.

When it is desired to plait a fabric the pawl 13 is permitted to engage the ratchet, the yoke *r* is detached from the arm *i*, the lower end of the spring *w* is made to engage the pin 25 on the arm *i*, and preferably the blade *f* is removed, and in its place is employed the plaiting-blade *f'*, Fig. 4.



The pawl being engaged with the ratchet and the parts being arranged as described, rotation of the ratchet by the lever *m* will cause the pins 23 24 to act upon the finger-piece *s* and gradually move the arm *i* and plaiting-blade back over the material to be plaited; and twice during each revolution of the said ratchet, as the pins pass the end of the said finger, the spring *w* acts to throw the arm and its blade forward to form a long plait.

The pawl 26 prevents back movement of the ratchet-wheel.

At the under side of the separator *e*, I have added a guide, *e*<sup>2</sup>, for leading and laying a narrow braid, ribbon, or band between the two pieces of fabric being passed under the presser-foot 5.

I claim—

1. The frame *a*, its pivoted reciprocating arm *i* and attached spring-blade, the shaft *k*, the vibrating lever *m*, its sleeve 8, arm 10, and pin 12, in combination with the yoke *r*, its notched

portion 16 and rack 19, and the throw-adjuster 20, all constructed and arranged substantially as shown.

2. A combined or convertible plaiter and ruffler attachment for sewing-machines, composed of the following elements or devices, viz: a frame, a pivoted reciprocating arm carrying a spring-blade, a finger, *s*, screw *t*, spring *w*, and pin 25, connected with said arm, a ratchet-wheel having pins 23 and 24, a shaft, *k*, and a detent, a lever, *m*, having a pawl, 13, sleeve 8, arm 10, and pin 12, a yoke, *r*, its notched portion 16 and rack 19, and a throw-adjuster, 20, combined and arranged to operate substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM TAYLOR ELLIOTT.

Witnesses:

CHAS. E. HIBBARD,  
N. E. WHITNEY.