A. WOOLSON.

Improvement in Rests for Cloth-Shearing Machines.

No. 132,706. Patented Oct. 29, 1872.

Fig. 1

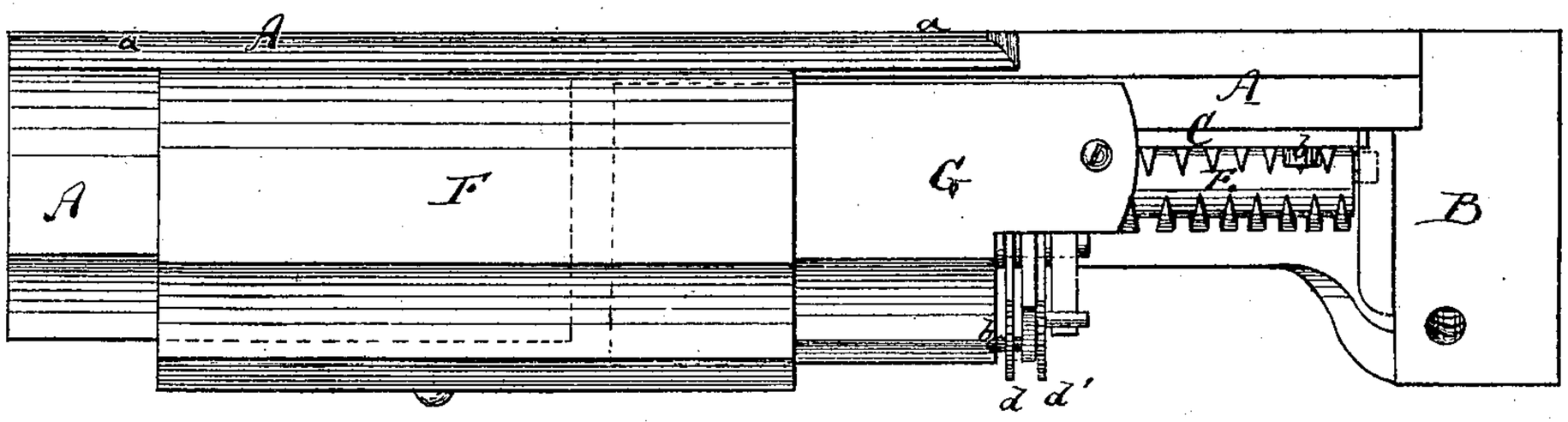


Fig. 2

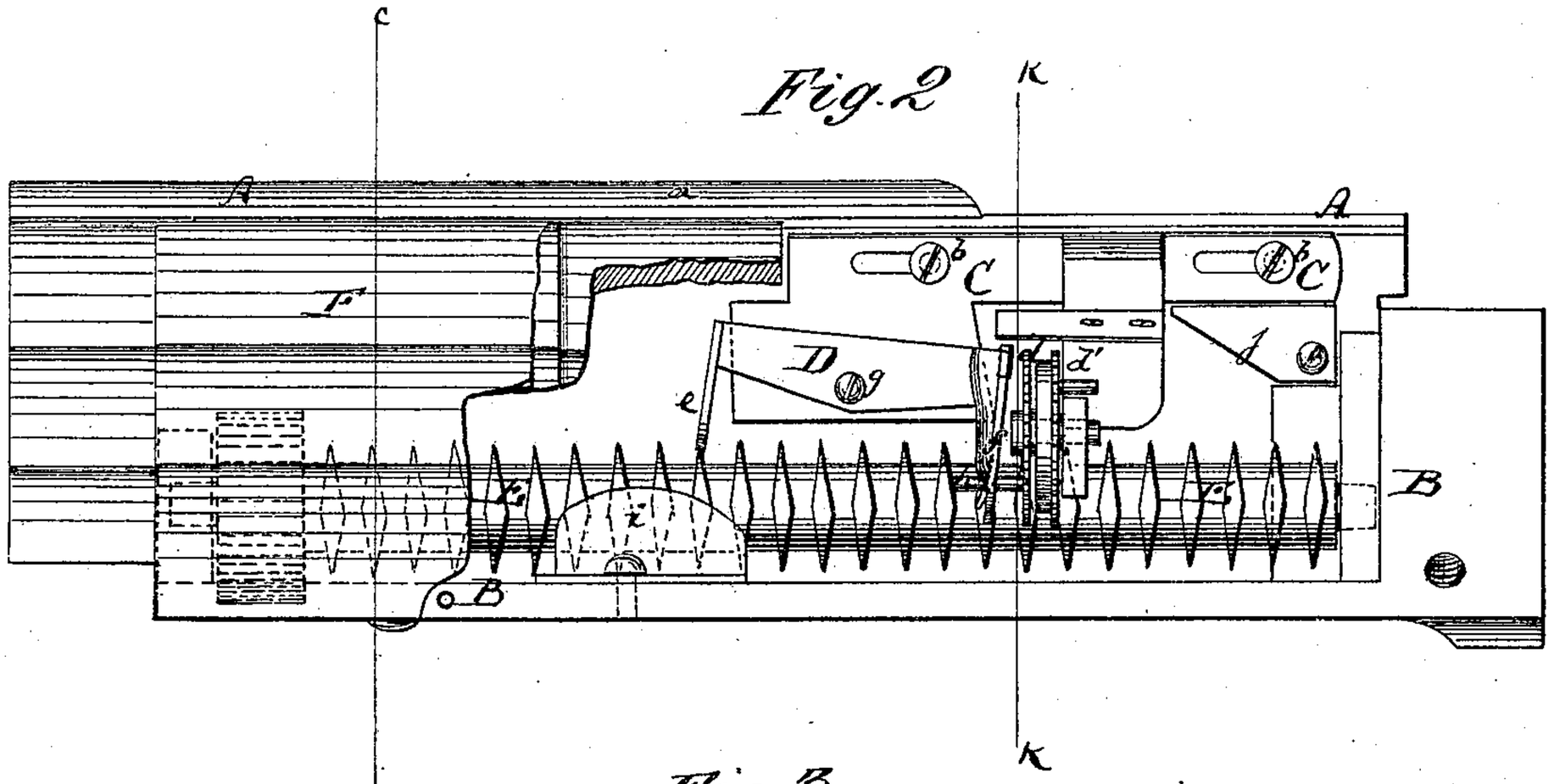


Fig. 3

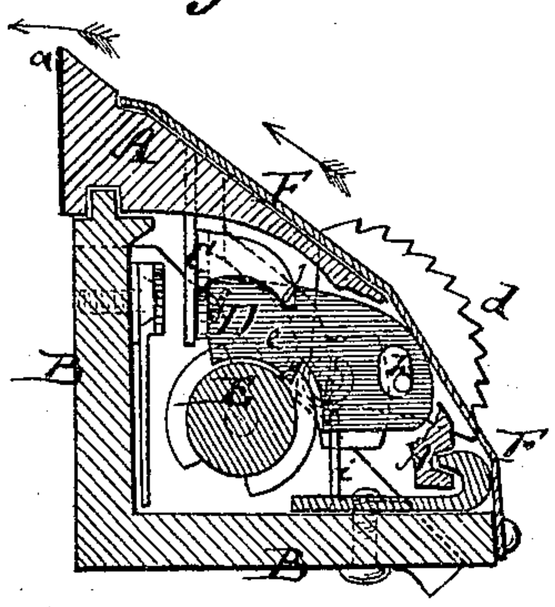
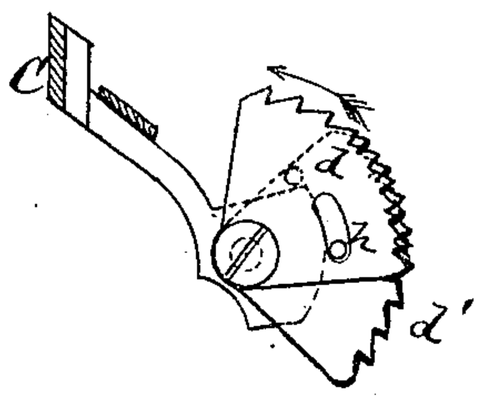


Fig. 4



Witnesses:
A. W. Almqvist
H. A. Graham

Inventor:
A. Woolson
Per
Attorneys.

UNITED STATES PATENT OFFICE.

AMASA WOOLSON, OF SPRINGFIELD, VERMONT.

IMPROVEMENT IN RESTS FOR CLOTH-SHEARING MACHINES.

Specification forming part of Letters Patent No. **132,706**, dated October 29, 1872.

To all whom it may concern:

Be it known that I, AMASA WOOLSON, of Springfield, in the county of Windsor and State of Vermont, have invented a new and Improved Automatic Rest for Cloth-Shearing Machines, of which the following is a specification:

The term "rest," or "shear rest," is applied to that part of a shearing-machine over which the cloth passes in the process of shearing. In shearing satinets and goods on which the lists are not saved, a solid stationary rest is all that is needed; but for cassimeres and all goods on which it is desirable to save the lists from being shorn, movable rests are required. Among these one of the most perfect ones is that for which Letters Patent of the United States numbered 7,407 were granted to me in 1850, and extended in 1864, and that improved and patented in August, 1864, numbered 43,878, the latter being called a self-extension rest. This self-extension rest is now in successful and general use in many large mills, but owing to its delicate structure and consequent high cost many, and especially the smaller, mills and manufacturers prefer certain sliding rests, whose entire rests slide on bearings by means of rack and pinion operted by the hand of the attendant, and so constructed that attention must be paid to both lists of a piece, making it consequently difficult to insure the proper effect. In this way both lists can only be saved by the constant attention of the operator, and by running the cloth at a slow speed.

My improvement is designed to make a hand-sliding rest self-sliding, thus releasing the operator from the care of one list, so that he can give the necessary attention to the other list. By this means a continuous or rotary feed may be used instead of the "run-back" feed heretofore used on such machines, which requires to have the cloth run back each time it is shorn over, costing time and labor. As most cloths have to be shorn over many times, it will be readily seen that there is great advantage in using the rotary or continuous feed. Besides, by using the self-sliding rest, the cloth may be run through the machine much more rapidly, and thus much time saved and the work done more perfectly than by the hand-sliding rest and by running the cloth backward and forward.

Having made these explanations of the object and utility of my improvement, I will now describe the same with reference to the accompanying drawing, in which—

Figure 1 is a top view; Fig. 2, a face view; Fig. 3, a transverse section of my invention on the line *c c*, Fig. 2; and Fig. 4, a transverse section on the line *k k*, Fig. 2.

Similar letters of reference indicate corresponding parts.

The proportions of the drawing are correct transversely, but longitudinally they are reduced, the full-sized machine being proportionately longer, though the same can be made of any desired length, to shear goods of 3-4, 4-4, 6-4 yards, or wider woolen, cotton, or other goods on which the lists are not to be shorn.

A in the drawing is the sliding part of the "self-sliding rest," and may be in any form desired, and supported on a stationary bed, B, or else have the bearings on the frame of the machine on which the rest is used. The upper part of this piece A forms a sharp edge, *a*, which is cut away partly at the right hand side, so that the list can drop down away from the shear-blades and thus be saved from being shorn. The blades are placed just above the edge of this rest and far enough from it to let the cloth pass between the edge of the rest and the blades or cutters, so as to shear the mass to the required length. C is an "adjustable gage-bar," and is fastened to the slide-rest A by two screws, *b b*. It has slots where the screws pass through it so that it can be adjusted to save a list of any required width. To this gage-bar C is attached a set of feelers, *d d*, and also a double-pawl lever, D, with pawls *e f* formed on or attached to its ends, respectively. These pawls are so formed as to fit into the threads of a right-and-left-hand screw, E, hanging in the bed B below the slide A.

The double-pawl lever D may be made of any size, shape, length, and material best adapted thereto, and attached loosely to the gage-bar by a screw or pin, *g*, a little to the left of its center, and the right-hand pawl loaded so that it will fall of its own weight, in connection with the weight of the feelers,

into engagement with the screw E. The screw E is made to revolve in the direction of the arrows shown in Figs. 3 and 4. The cloth passes up and over the rest, its edge in contact with the inside feeler *d*. It thus carries this feeler up until it strikes the long pin *h* in the other feeler, which pin extends through a slot in the end of the double lever D and lifts the right-hand dog *f* out of the screw, and thus holds the rest stationary so long as the edge of the goods runs true in that line; but if it should sway outwardly it would take up the double or outer feeler *d'*, and thus raise the pin *h* and the double-pawl lever D so as to lower the opposite end of it and cause the dog *e* on that end to come down in contact with the screw, by which means the rest will be moved out until it liberates the outer feeler *d'* from the edge of the cloth, the inner feeler *d* being still held up until the cloth varies again. Should the cloth sway inward so that the list will leave the inner feeler *d*, said feeler will drop into engagement with the screw and the rest be moved in the opposite direction until said inner feeler *d* is again engaged by the list of the cloth. Thus the rest will slide of itself to adjust itself to the constantly-varying width of the goods and save the list evenly of the required width.

The screw E is made with the right-and-left-hand threads combined in the same space, crossing each other; but may be made with the right-and-left-hand threads separate from each other on the same stem, but, in that case, of twice the length that the rest should slide, the right-hand thread being then on one end and the left-hand on the other, and the pawl-lever D long enough to match and extend from one to the other thread.

The main advantage of operating a slide-rest with a screw, E, is, that it will give a strong power to operate a heavy rest, such as will be required for wide goods. Nevertheless, either of the automatic arrangements set forth in my aforementioned patents will answer as well as on this "self-extension rest."

Two cam pieces, *i* and *j*, are affixed to the support B in such positions as to lift the dogs *e* and *f*, respectively, out of the screw and stop the sliding of the rest when it has gone far enough either way. F is a sheet-metal cover, which is made fast to the lower edge of the stationary bed B, on which the rest slides, and is designed to relieve the sliding rest from the pressure and friction of the cloth as the same is drawn tightly over the rest and through the machine, and also to help hold the cloth from being swayed sidewise when the rest is moved under it to accommodate itself to the ever-varying widths of the cloth. Another short movable cover, G, is fastened to the adjustable gage-bar C, and is to protect the interior machinery from the flock, and also, in connection with the stationary cover F, to guide and lead the edge of the cloth on to the feeders.

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

1. A sliding rest made self-sliding, substantially as and for the purposes herein set forth.

2. The combination of the right-and-left-hand screw E with the sliding rest for operating the same automatically, as specified.

3. The stationary cover F, secured to the bed B, to be used for purposes herein specified.

4. The lever D having the pawls *e f*, and combined with the right-and-left screw, and loaded at one end, as set forth.

5. The combination of the gage-bar C and feelers *d d* with the lever D, pawls *e f*, and screw E, as set forth.

AMASA WOOLSON.

Witnesses:
GEO. W. HAYWOOD,
SAM. W. PORTER.