



No. 630,189.

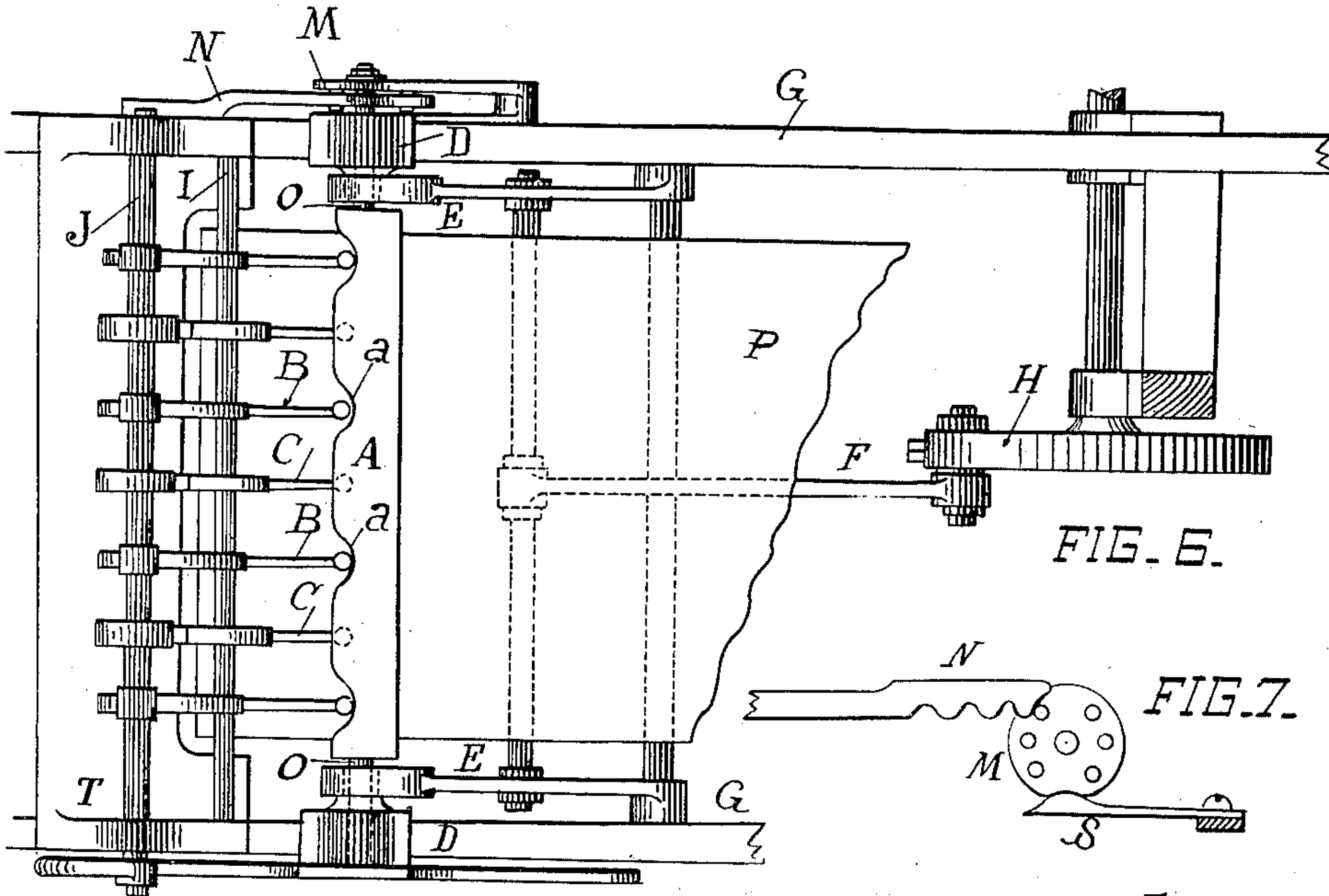
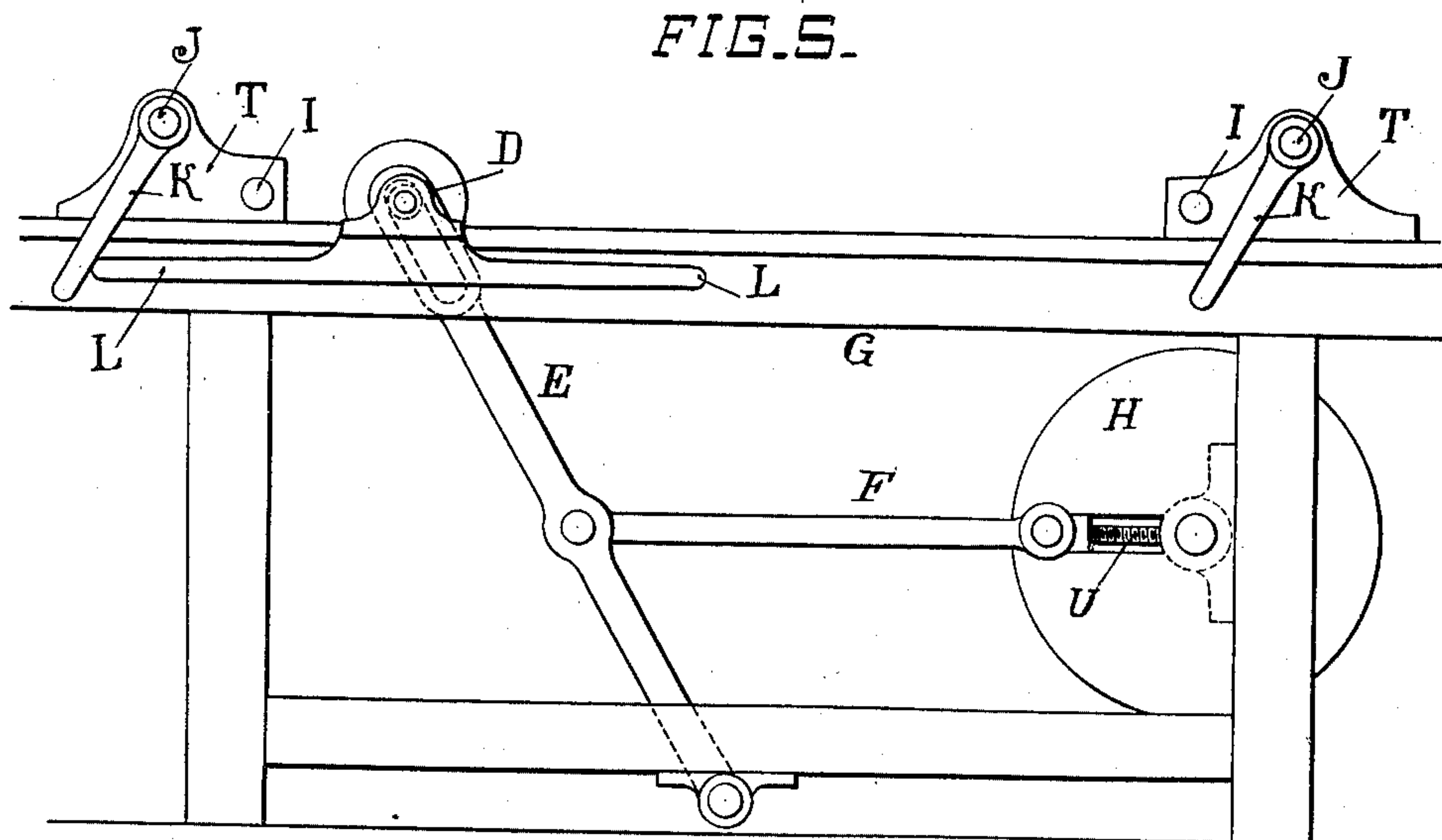
Patented Aug. 1, 1899.

A. DAUVERGNE.  
MACHINE FOR FOLDING FABRICS.

(Application filed Sept. 9, 1898.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:

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# UNITED STATES PATENT OFFICE.

ANDRÉ DAUVERGNE, OF LYONS, FRANCE.

## MACHINE FOR FOLDING FABRICS.

SPECIFICATION forming part of Letters Patent No. 630,189, dated August 1, 1899.

Application filed September 9, 1898. Serial No. 690,588. (No model.)

*To all whom it may concern:*

Be it known that I, ANDRÉ DAUVERGNE, a citizen of the Republic of France, residing at Lyons, France, have invented certain new and useful Improvements in Machines for Folding Fabrics, of which the following is a full, clear, and exact description.

The machine which forms the subject of the present application has for its object the folding of fabrics in regular folds and of determined lengths. It is composed in principle of a double or split rule, through which passes the fabric. This rule receives a to-and-fro horizontal movement to form the folds and a movement of rotation upon itself at the two extremities of its course to present the folds to a series of clips which hold them when once formed.

The accompanying drawings represent at Figures 1 to 4 the relative movements of these essential parts. Figs. 5 and 6 show, by way of example, an elevation and a plan of a machine for obtaining these movements. Fig. 7 is a detail view of part of the mechanism.

The principal part of the apparatus for folding is the double or split rule, which is composed of two juxtaposed blades A A, Fig. 1, between which passes the fabric V, which is folded on a horizontal table P. The formed folds are held on each side by two series of clips B and C, which lift up alternately and one after the other, so as never to leave the fabric unheld. The rule A A is moved alternately from one fold to another. It can, moreover, turn upon the trunnions O with which its extremities are furnished. During its travel in one direction or the other its faces are vertical, as in Fig. 1. Arriving near the clips it makes a quarter-revolution and takes the position shown in Fig. 2 to lead the fold of the fabric above the preceding folds and below the clips B, which are lifted up while the clips C hold the preceding folds. Before the rule commences its return journey the clips B re-descend, and by entering the notches a a, Fig. 6, with which the rule is provided, have seized the fold just brought by this latter. The rule A A can then return in the contrary direction, again becoming vertical, which it is shown in the act of doing in Fig. 3. The clips C, which were engaged between

the last two folds, are withdrawn, becoming disengaged by a backward movement and have returned and taken the position shown at Fig. 3, ready to be lowered onto the fabric when the clips B are again raised. These same operations are repeated at the right for the following fold. As the thickness of the folded fabric increases the table P descends either by hand or automatically in order that the folding always takes place at the same height. The same result would be obtained if the blades A A, which compose the rule, were juxtaposed in the same plane; but then the rule would make a complete revolution before arriving under the clips. Fig. 4 shows this arrangement. During its travel the rule A A is horizontal and the fabric traverses it, as the figure shows. The rotation at the extremities takes place in the direction indicated by the arrow. The first half-turn brings the fabric to the position A', and the complete turn brings it to the position A<sup>2</sup>, where it is ready to be seized by the clips arranged as previously described. The horizontal rule, Fig. 4, is formed on its two sides with notches similar to those shown at a a, Fig. 6. If it is thought that the notches might injure the fabric they might in both cases be covered with a covering-piece having smooth edges which would be removed only at the moment when the clips B come to seize the fabric. When heavy or stiff fabrics are to be folded, it is found convenient in order to strain neither the rule nor the fabric to deliver this latter to the rule by a roller R, traveling at the same speed as the folding is taking place.

The parts above mentioned may be operated by any appropriate mechanical movements. Those hereinafter described are only given by way of example.

Fig. 5 is an elevation of the machine. Fig. 6 is a plan thereof, and Fig. 7 a detail of construction.

The trunnions of the rule A A are carried by two carriages D D, sliding horizontally on the frame G G of the machine. These carriages are constructed of two arms E E coupled together, receiving an oscillating movement by the rod F and the crank-pin on the rotating disk H.

At each end of the machine the two series



of clips B and C, acting alternately on the whole width of the fabric, oscillate on a fixed shaft I. They are made to bear on the fabric by independent springs *y* (shown, for example, in Fig. 4) and released at the desired times by cams mounted on a shaft J, which, toward the end of the journey of the rule, receives an oscillating movement by means of the lever K, which has been moved by the push-piece L, fixed to the carriage D. The clips C, which receive a backward movement before rising by means of the springs *z*, Fig. 2, are capable of sliding on the shaft I, and the cams which operate them forwardly are shaped in such a way as to give this movement. The clips are covered with a material more or less hard or soft, according to the class of fabric to be folded. The rotation of the rule is obtained by a pin-wheel M, Fig. 6, (seen in detail Fig. 7,) fixed on one of the trunnions of the rule and engaged by a fixed rack N, which causes it to make a quarter-revolution at the end of each traverse and returns it into position in the first moments of the traverse in the contrary direction. This position is assured during the travel of the rule by a spring-catch S, which engages with a notch in the wheel.

In the case of the horizontal rule shown at Fig. 4 the mechanism remains the same, with the exception that the rack N has a sufficient length to cause the rule to make a complete revolution.

In order to be able to vary the length of the folds, the clips B and C and the rack N are mounted on two movable carriers T T, which may approach or recede from each other symmetrically. The travel of the rule is accordingly regulated by displacing the trunnion or axis of the rotating disk H, which is moved by means of a screw in the slide U.

Finally, the invention is not limited to the mechanical means which are above described by way of example only.

Having fully described my invention, what

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

1. A machine for folding fabrics comprising a rule formed of two parallel blades between which the fabric passes, means for imparting to said rule, a horizontal traveling movement, two sets of clips at each end of the line of travel of said rule, and means for alternately operating the clips of each set whereby one or the other of said clips is always in engagement with the folded edge of the cloth, substantially as described.

2. A machine for folding fabrics comprising a rule formed of two parallel blades between which the fabric to be folded passes, means for imparting to said rule a horizontal traveling movement and also a rotary motion on its own axis, two sets of clips at each end of the line of travel of said rule, and means for alternately operating the clips of each set to cause them to alternately engage and release the folded edges, substantially as described.

3. A machine for folding fabrics comprising a rule formed of two parallel blades having notched edges, means for imparting to said rule a horizontal traveling movement, and simultaneously a rotary motion on its own axis, a set of clips at each end of the line of movement of the rule arranged to aline with the notches in the rule, means for rocking said clips to cause them to engage and release the freshly-folded edge of the cloth, a second set of clips interposed between the clips of each of the first sets, and means for giving said clips a combined rocking and reciprocating movement alternately of the movement of the first clips, substantially as described.

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

ANDRÉ DAUVERGNE.

Witnesses:

GASTON JEAUNIAUN,  
MARIUS VUCHO.