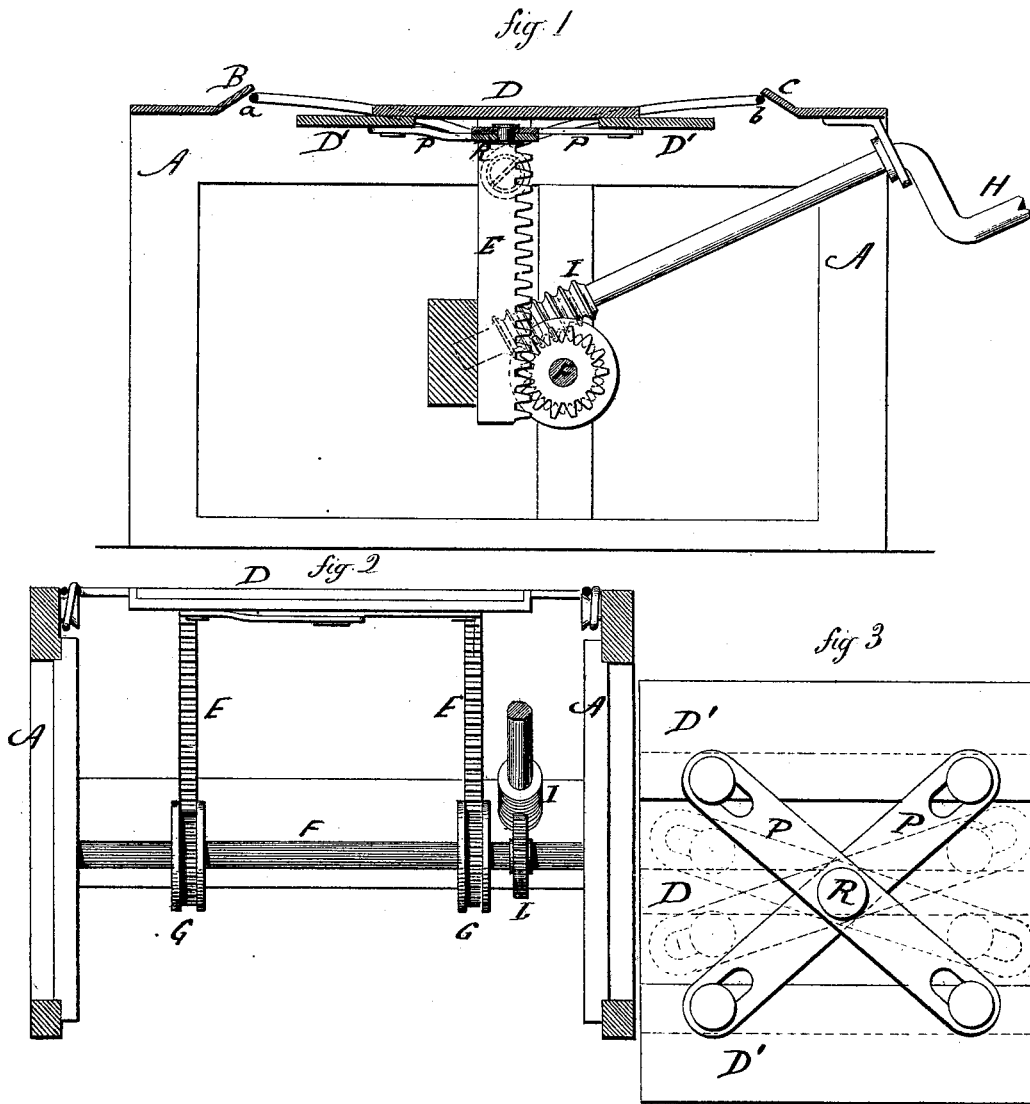


J. D. ELLIOT.  
CLOTH-FOLDING MACHINES.

No. 195,493.

Patented Sept. 25, 1877.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOSEPH D. ELLIOT, OF NEWTON, MASSACHUSETTS.

## IMPROVEMENT IN CLOTH-FOLDING MACHINES.

Specification forming part of Letters Patent No. **195,493**, dated September 25, 1877; application filed February 5, 1877.

*To all whom it may concern:*

Be it known that I, JOSEPH D. ELLIOT, of Newton, in the county of Middlesex and State of Massachusetts, have invented a new Improvement in Cloth-Folders; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a longitudinal section; Fig. 2, a transverse section; and in Fig. 3, a plan of the under side of the table.

This invention relates to improvement in machines for folding cloth, with special reference to improvement in the patent granted to me September 12, 1855, and subsequent improvements patented to me July 9, 1861, and April 30, 1867.

Formerly it was the practice to fold goods in short cuts, say thirty to fifty yards; but in consequence of later improvements in cloth printing and bleaching machinery, it is now desirable to fold in longer cuts, often to the extent of several hundred yards.

In folding cloth, while the ends of the folds may be firmly held by the jaws, between these jaws the folds are free, and will not lie so close as under the jaws, thus gradually presenting a rounded surface, and, as the folds are of a predetermined length, it soon follows that the folds will not be held by the jaws. Again, the capacity of the jaws must be limited, and as they approach their limit the folder with difficulty will pass beneath them, and it is impracticable to make jaws which will gripe and hold the great number of folds now desirable.

The object of these improvements is to overcome these difficulties; and they consist in the combination of mechanism hereinafter described, and more particularly recited in the claims.

The device for folding the cloth—that is, in carrying the cloth from jaw to jaw—is not shown in the drawings, because it may be any of the known folders.

A represents the frame; B C, the stationary jaws, distant from each other a little less than the length of the fold, and so that the fold will be forced under first one and then the other

of these jaws. *a* and *b* are the movable or gripping jaws, here represented as spring-bars, parallel with the jaws B, and arranged so that they will be depressed as the folder advances, and permit the fold to be forced between the movable and stationary parts, and by the elasticity gripe each successive fold, so as to hold the same.

These jaws may be otherwise arranged than as shown, it only being necessary that they have an upward force, and so as to leave an open space between them and the table.

D is the table, which has heretofore been arranged substantially stationary between the jaws. This I now arrange upon suitable vertical guides E, here represented as toothed vertical racks; and transversely across the machine a shaft, F, is arranged in suitable bearings, in which are pinions G G, each engaging with one of the racks, and this shaft is turned by means of a crank, H, operating a worm, I, working in a toothed wheel, L, on the shaft F. This crank is arranged in a convenient position for the operator, and by turning it the shaft F is rotated, and, through the racks E, raises or lowers the table, according to the direction in which the crank is turned.

When the folding commences the table is raised to nearly the level of the jaws, and as it goes on, and the thickness of the fold increases, the operator turns the crank and lowers the table, so as to keep the upper surface substantially in line with the gripping-jaws.

The folds are laid successively between the jaws, and as the table is lowered the lower folds will pass from the grasp of the jaws when they open, and they will fall with the table; hence only a few of the folds will be griped between the jaws, and the depression of the table and folds already made will maintain a substantially level surface from jaw to jaw, thus giving a constant fold, and a sure grasp of each fold, regardless of the number of folds which may be made.

As the folds pass from the jaw they will naturally open more or less, and therefore occupy more vertical space than at the center; hence it is desirable to provide a space into which the edge of the folds may drop below the surface of the table. The table is therefore, in extent, made somewhat less than the

distance between the jaws; but as for some fabrics the space is required to be greater than in others, the table is made adjustable as to its length between the jaws, as seen in Fig. 3, the table being made in three sections—the central section D and end sections D' D'. These end sections are connected by slotted bars P, pivoted to the central section at R, so that the end sections may be drawn apart, as in Fig. 3, or forced together, as shown by the dotted lines in same figure, thus extending or contracting the table, as occasion may require.

I do not broadly claim a table in a cloth-folding machine adjustable vertically, as such I am aware is not new.

I claim—

1. The combination, in a cloth-folding ma-

chine, of a table made adjustable vertically, and over which the folds are successively laid, stationary upper jaws at each end of the table, gripping-jaws below, and a space between the said table and said gripping-jaws, substantially as and for the purpose specified.

2. In a cloth-folding machine, the combination, with the holding-jaws, of a table made adjustable as to its extent between the said jaws, substantially as described.

J. D. ELLIOT.

Witnesses:

A. E. MANNING,  
B. F. BAKER.