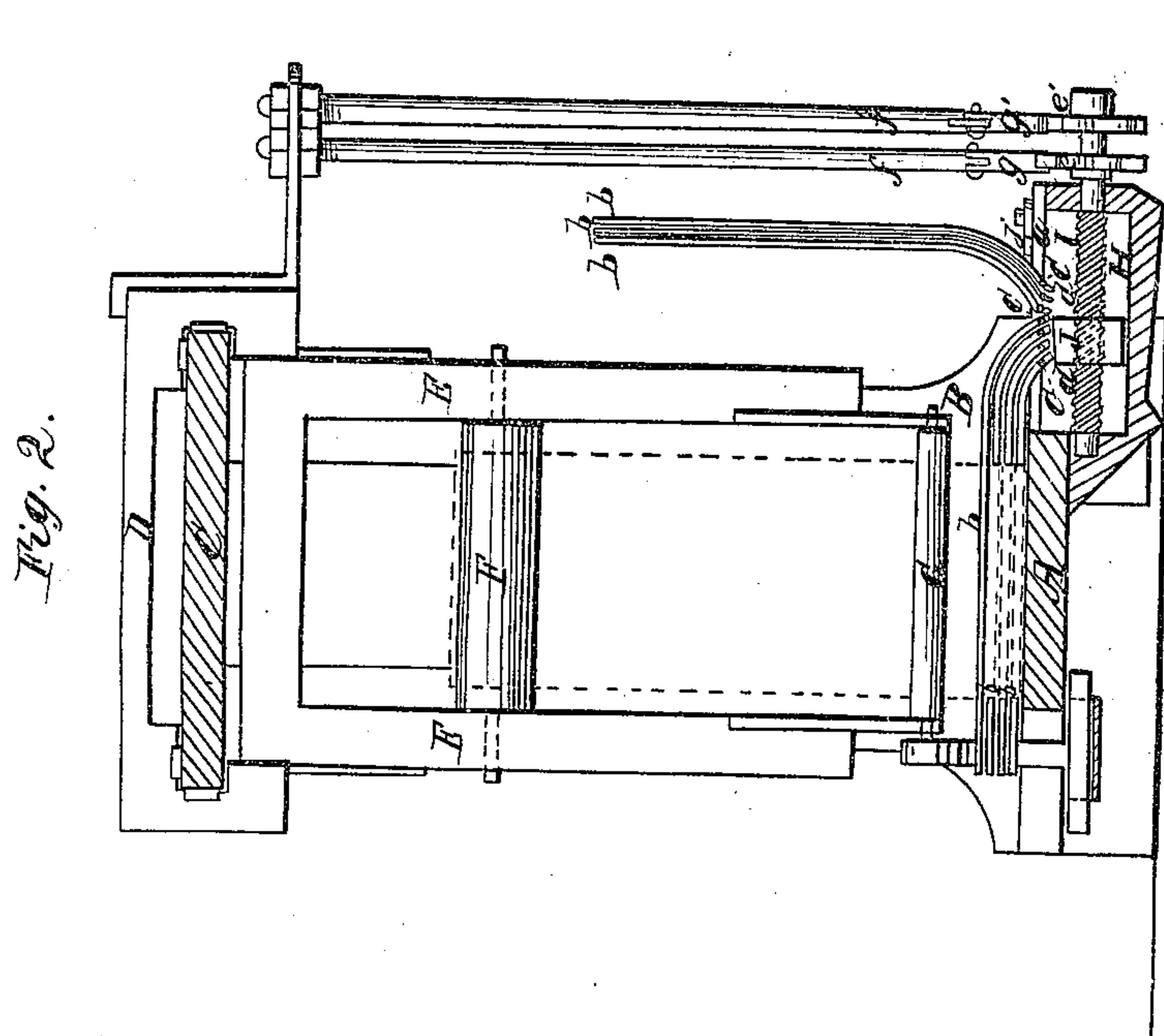
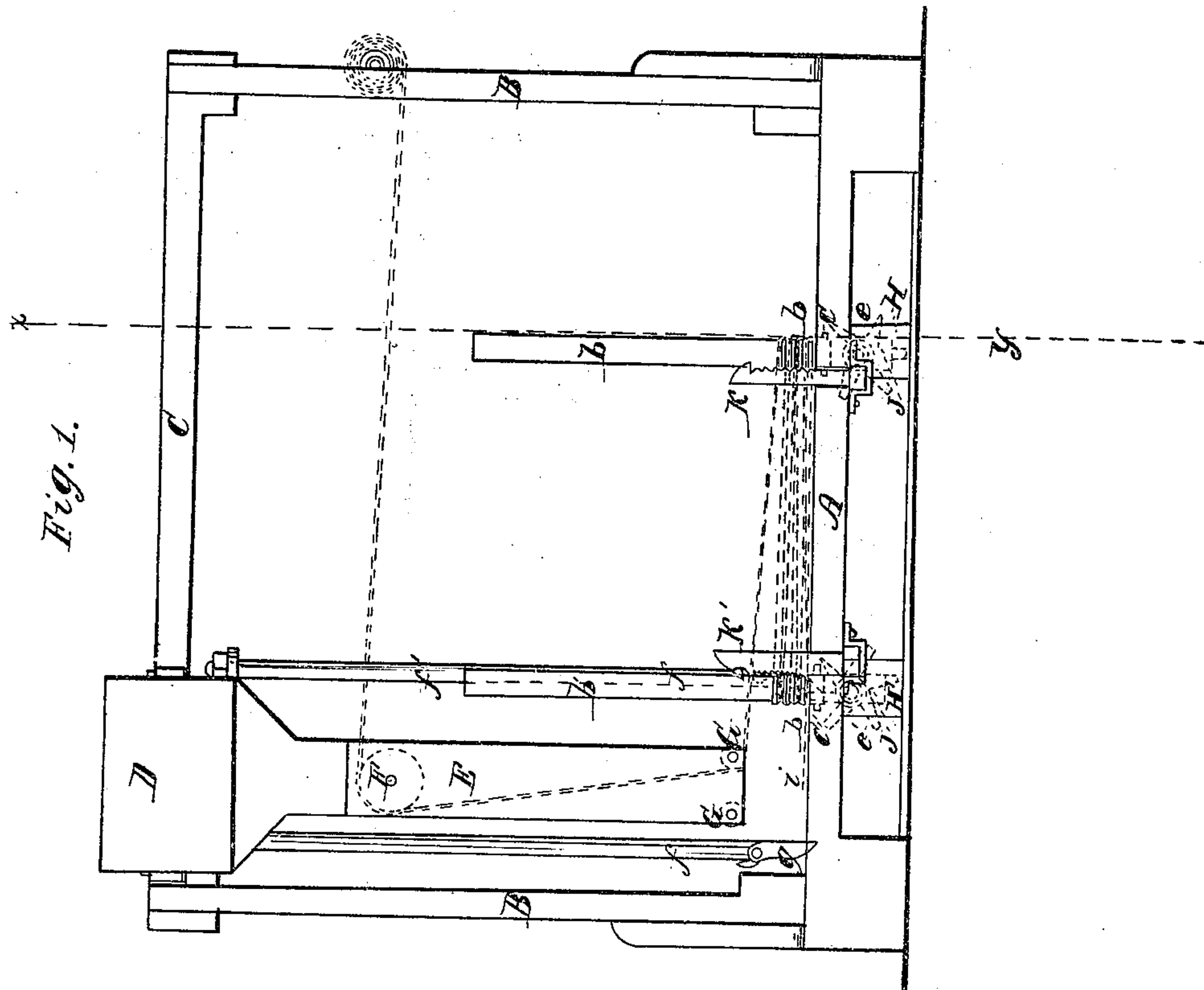


J. Baxendale.
Folding and Measuring Cloth.

N^o 13,900.

Patented Dec. 11, 1855.



UNITED STATES PATENT OFFICE.

JAMES BAXENDALE, OF PROVIDENCE, RHODE ISLAND.

MACHINERY FOR FOLDING AND MEASURING CLOTH.

Specification of Letters Patent No. 13,900, dated December 11, 1855.

To all whom it may concern:

Be it known that I, JAMES BAXENDALE, of the city and county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Machinery for Folding and Measuring Cloth; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a side view of a folding and measuring machine constructed according to my invention. Fig. 2, a vertical section of the same in the plane indicated by the line x, y , in Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

This invention consists in the novel manner of applying and operating a series of folding rods which is described as follows.

A, B, C, is the framing of the machine consisting principally of a horizontal bed or table A, of a width at least equal to the greatest width of cloth to be folded and two standards B, B, erected at the ends of the said table and carrying a horizontal slide C affixed thereto, upon which there is fitted a sliding carriage D, E, E, which may be termed the "laying carriage" as its duty is to lay the cloth in folds upon the table A. This carriage is provided near the top with a roller F, which is arranged in proper bearings transversely to the direction of the movement of the carriage; and at or near the bottom it is provided with two other rollers G, G, which are arranged in suitable bearings side by side parallel with each other and with the roller F.

H, H', are two boxes secured at one side of the table A, and having each an opening a , in the top as shown in Fig. 2, through which openings work the folding rods b, b' . Of these rods there is an equal number in each box, the whole number being equal to the greatest number of folds requiring to be given to a piece of cloth. They are made of thin flat iron straight for a portion of their length a little greater than the width of the table and they are severally pivoted near one of their ends to their respective boxes each by a separate pivot c , in such a manner as to be capable of swinging to an upright position or falling down to a horizontal position at right angles to the direction of the movement of the "laying carriage," the first one

of each set being of such form near the pivot as to fall flat upon the table and the others being severally curved or otherwise formed so that their straight parts may fall flat upon each other as is illustrated in Fig. 2. The boxes H, H', are fitted, one with a screw I, and the other with a screw I', the said screws being of rapid pitch, one being a right hand and the other a left hand screw, the said screws being arranged transversely to the table and fitted so as to turn freely but not to move longitudinally and each screw is furnished with a nut J, which is capable of sliding but not turning within its box H, or H'. Each folding rod b , has a small toe d , below its pivot c , with which, when the rod is in an upright position, the nut of its box comes in contact in being moved outward by the revolution of its screw, and thereby throws down the rod. The screws are provided with ratchet wheels e, e' , and to the laying carriage are attached two rigid rods f, f' , having dogs g, g' , attached to their lower ends in such a manner as to be rigid when meeting with resistance in one direction but yielding to any resistance in the opposite direction. By these dogs the ratchet wheels are acted upon to turn the screws just before the termination of the movement of the laying carriage in either direction.

On the opposite side of the table to the boxes H, H', are two posts K, K', so placed as to stand in contact with the inner or nearest edges of the two sets of rods b, b' , and b', b' , when the said rods are down, and thus prevent either set of rods being drawn toward the other set, thereby keeping them parallel with each other. These posts are beveled at the top to prevent the rods settling upon them, and slightly serrated on their outer faces and hooked at the top to prevent the rods rising. They should be so fitted as to be capable of removal from the table in a direction transverse to the table or lengthwise of the fallen rods, and preferably should be attached to the boxes H, H', so as to be movable therewith lengthwise of the table to bring the two sets of rods at any desired distance apart.

Near one end of the table are two or more hooks i , to attach one end of the piece of cloth during the folding operation. The piece of cloth may be carried upon the roller F, or by a roller placed at one end of the frame as shown in Fig. 1, where one edge

of the cloth is shown by a red line. In the latter case it merely passes over the roller F, and in either case it passes between the rollers G, G. Both edges of the cloth are shown in Fig. 2, by red lines.

The operation of folding is performed as follows. The end of the cloth is attached to the hooks *i*, while the laying carriage is over that end of the table where the said hooks are placed. The screws I, I', are turned by hand to carry their nuts close up to the table A, and the folding rods are all raised by hand to upright positions where they are arrested by a stop *j*, against which the upper or outer rod of each set rests. The operation is commenced by moving the laying carriage to the opposite end of the table. This unrolls the cloth from the roller. Just before the carriage arrives at the end of this movement, the dog *g*, comes in contact with the ratchet wheel *e*, and turns the screw I, far enough for the nut J, to act upon the toe of the innermost of the set of rods *b*, *b*, and cause the said rod to fall upon the cloth and hold it down flat upon the table. The laying carriage is then returned to the opposite end of the table, and the cloth being drawn tightly over the folding rod *b*, is caused to be again unrolled from the roller, and just before the laying carriage arrives at the end of this movement the dog *g'*, acts upon the ratchet wheel *e'*, and turns the screw I', far enough for the nut J', to act upon the toe of the first rod *b'*, which is thereby caused to fall upon the cloth. The next movement of the laying carriage to the right, draws the cloth tightly over the folding rod *b'*, and unwinds it for the next fold, the dog *g*, acting upon the ratchet *e*, before the movement is finished, to move the screw I, far enough for the nut J, to act upon the toe of the next folding rod *b*, and throw it down upon the cloth ready for another fold to be produced by the

action of the laying carriage. In this way the operation proceeds until the cloth is all taken from the roller, the rods *b*, *b*, and *b'*, *b'*, alternately falling one at a time to produce the folds and one being left within every fold of the cloth to retain it. The length of the fold is regulated by the distance between the outer or most distant edges of the rods *b*, *b*, and *b'*, *b'*, and this being known, the length of the piece is ascertained by counting the number of folds. If desired a registering apparatus may be attached to the machine to indicate the number of folds or length of the piece of cloth. When the cloth has been all folded, the posts K, K', are taken away and the cloth drawn off over the ends of the folding rods; after which the nuts may be moved back by turning the screws, and the folding rods raised up by hand ready to commence the folding of another piece in the same manner.

What I claim as my invention and desire to secure by Letters Patent, is,

1. The employment of separate rods *b*, *b*, *b'*, *b'*, for the several folds of the cloth, the said rods being arranged and operated to fall across the successive layers of the cloth as they are laid by the movements of a suitable reciprocating carriage over the folding table and to remain within the folds till the folding of the whole piece is completed, substantially as herein set forth.

2. The manner of operating the said rods *b*, *b*, *b'*, *b'*, to throw them from their upright positions across and upon the cloth by means of the nuts J, J', and the screws I, I', which are actuated by the movements of the reciprocating carriage, substantially as herein described.

JAMES BAXENDALE.

Witnesses:

ALBERT HEWITT,
HENRY MARTIN.