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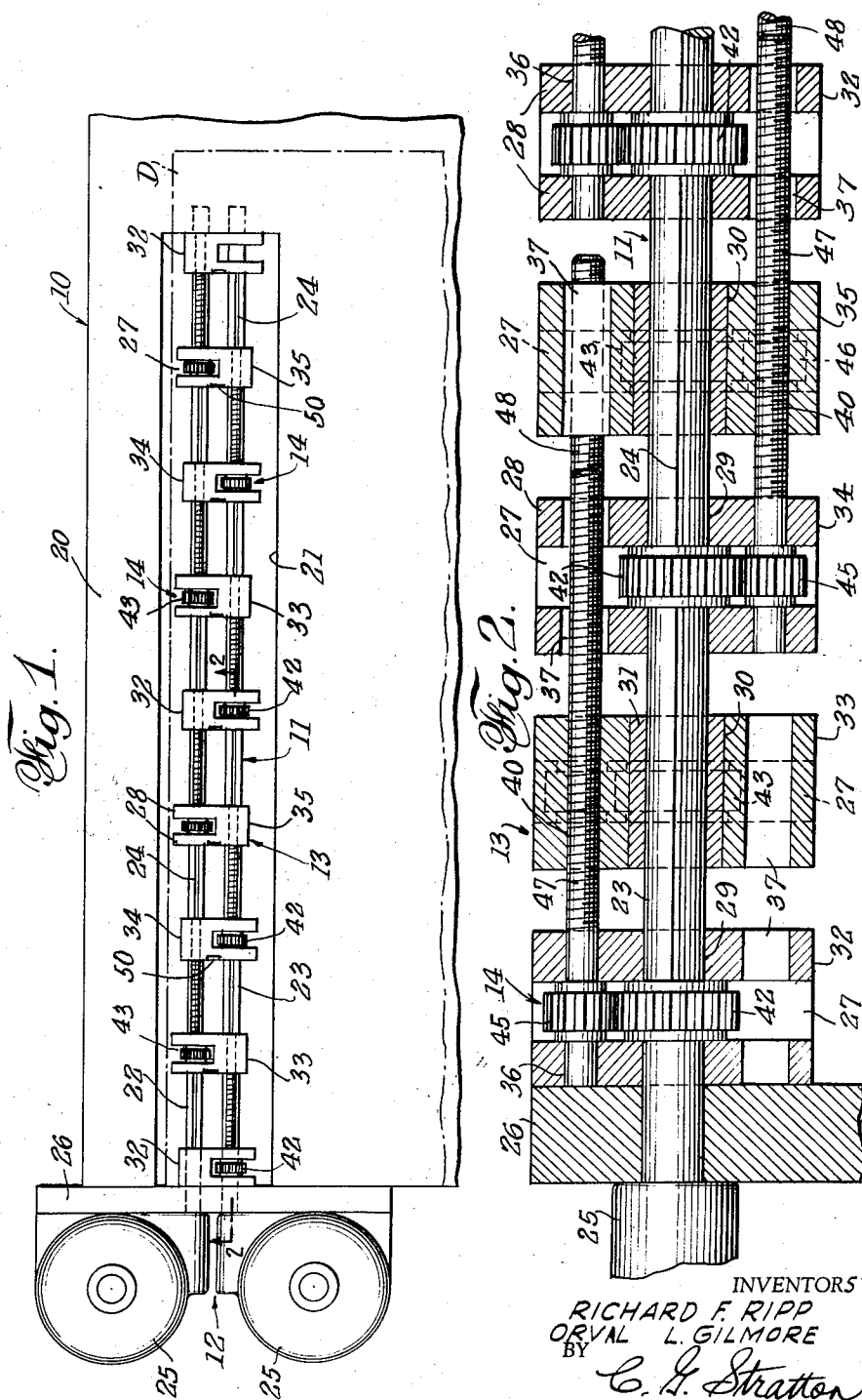
R. F. RIPP ET AL

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DRAPERY PLEAT-MARKER MECHANISM

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2 Sheets-Sheet 1



INVENTORS
RICHARD F. RIPP
ORVAL L. GILMORE
BY
C. H. Stratton
ATTORNEY

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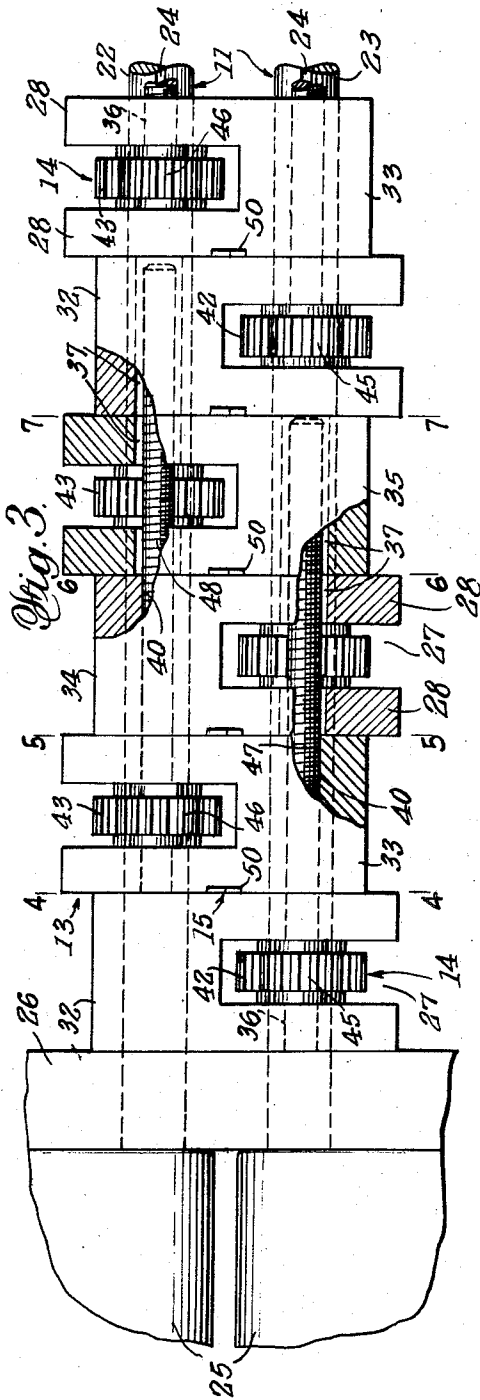
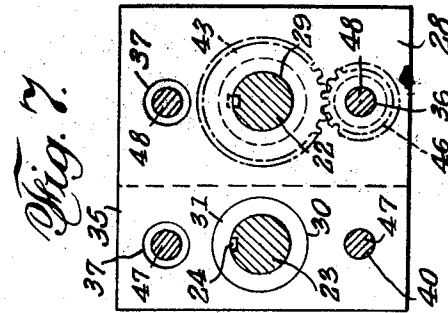
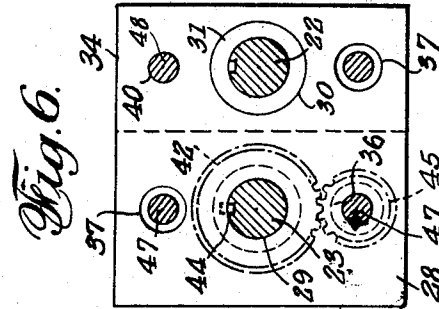
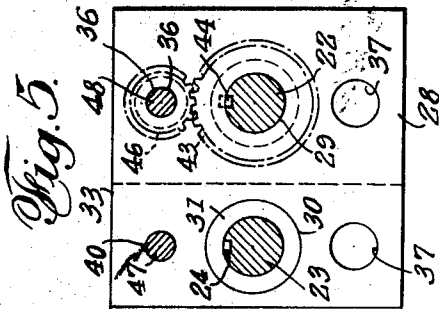
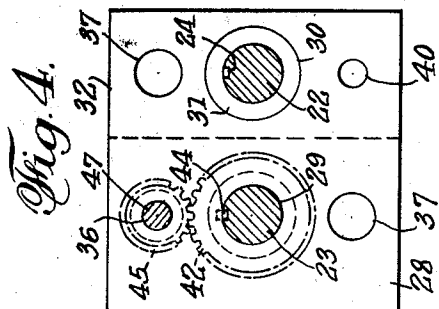
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DRAPERY PLEAT-MARKER MECHANISM

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INVENTORS
RICHARD F. RIPP
ORVN L. GILMORE
BY *C. S. Stratton*

ATTORNEY

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DRAPERY PLEAT-MARKER MECHANISM

Richard F. Ripp, Los Angeles, and Orval L. Gilmore,
Canoga Park, Calif.

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10 Claims. (Cl. 33—192)

This invention relates to mechanism for marking the locating of pleats on draperies or other such widths of fabric materials.

An object of the present invention is to provide automatic means that locates a plurality of members in such spaced relation as to be in position to mark the location of pleats on a width of drapery material.

Another object of the invention is to provide mechanism of the character above indicated in which all of the members are moved simultaneously to a uniformly spaced relationship to locate the marking pleats, as herein desired.

A corollary object of the invention is to provide mechanism for forming pleats in a drapery all at the same time.

The invention also has for its objects to provide such means that are positive in operation, convenient in use, easily installed in a working position and easily disconnected therefrom, economical of manufacture, relatively simple, and of general superiority and serviceability.

The invention also comprises novel details of construction and novel combinations and arrangements of parts, which will more fully appear in the course of the following description. However, the drawings merely show and the following description merely describes, one embodiment of the present invention, which is given by way of illustration of example only.

In the drawings, like reference characters designate similar parts in the several views.

Fig. 1 is a broken plan view showing drapery pleat-marking mechanism according to the present invention, the same being shown in extended position preparatory to marking the location of pleats on a width of drapery.

Fig. 2 is an enlarged vertical sectional view, as taken on the line 2—2 of Fig. 1, the mechanism being shown in somewhat contracted position.

Fig. 3 is a broken plan view of the mechanism shown in Figs. 1 and 2 partly in section, the same being fully contracted.

Figs. 4, 5, 6, and 7 are respectively cross-sectional views taken on the respective lines 4—4, 5—5, 6—6, and 7—7 of Fig. 3.

The present drapery pleat-marker mechanism comprises, generally, a base 10, a pair of parallel shafts 11 disposed transversely across said base, means 12 to drive said shafts in unison in one direction or the other as desired, a set of blocks or units 13 strung on said shafts 11, means 14 carried by each block and driven by one of the shafts to move the blocks longitudinally along the shafts to vary the spacing in uniform increments between the blocks, and means 15 on the blocks to mark the location of pleats to be formed in a width of drapery material D.

The base 10 may comprise a table top 20 in which is preferably provided an elongated cavity 21 to house the major portion of the present mechanism. The table top 20 may be of a size to accommodate a width of

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drapery D so that an operator may manipulate the latter with respect to the mechanism of the present invention.

The pair of shafts 11 is disposed longitudinally in the cavity 21. Thus, said shafts ordinarily would be disposed transversely to an operator manipulating the material of drapery D. The pair of shafts 11 comprises two similar shafts 22 and 23, each of which is provided with a keyway 24 extending for the entire length thereof.

The shaft-guiding means 12 is shown as a pair of similar reversing motors 25 that are preferably geared down so that their output speed is relatively low, imparting such low speed to the shafts 22 and 23. It is evident that but one drive motor may be used, providing the take-off has a separate connection for each of said shafts. The motors 25 or the motor, if one is used, may be mounted on a bracket 26 affixed to the end of the table top 20.

The set of blocks 13 is shown in full detail in Figs. 4—7, wherein it will be seen that, while the blocks are generally similar, they are individually slightly different, as will be seen from the following description thereof.

Each block is provided with a bifurcation 27 that is defined between bearing arms 28, a through bore 29 that passes through the arms 28, and a preferably larger bore 30 that passes through each said block beyond the bifurcation 27. The bore 30 is provided with a bushing 31 having an internal size similar to the size of bore 29. Thus, each block is provided with two similar bores, the bores being of a size to receive the shafts 22 and 23. It will be clear, therefore, that the different blocks of the set 13 are adapted to slide along the shafts 22 and 23, and that the latter are free to turn within the bores of said blocks.

In the present mechanism, the set of blocks 13 comprises four different blocks with respect to the sizes of the bores therein, Fig. 4 showing a block 32, Fig. 5 a block 33, Fig. 6 a block 34, and Fig. 7 a block 35. In Figs. 1, 2, and 3 it will be seen that said blocks are arranged in side-by-side relationship from the drive end toward the opposite end of the shafts 22 and 23, and that where more than four blocks are used in the mechanism the same are repeated. Thus, the first and fifth blocks in Fig. 5 are blocks 32, the second and sixth blocks are blocks 33, etc.

Each block 32 is provided with a small bore 36 vertically aligned with the bore 29 and with a larger clearance bore 37 also aligned with the bore 29. Thus, in Fig. 4, the bores 29, 36, and 37 pass through the arms 28 and open on the bifurcation 27. The block 32 is further provided with a clearance bore 37 and with a small tapped bore 40, both aligned with the bore 30 and the bushing 31 therein. Thus, the block 32 is provided with six bores arranged in three-by-three side-by-side relationship.

In the block 33, the bores aligned with the bore 29 are similar to those in the block 34. Thus, block 35 has a small bore 36 and a clearance bore 37 aligned with bore 29. However, a small tapped bore 40 and a clearance bore 37 are aligned with the bore 30 in block 33.

Block 34 has a clearance bore 37 and a bearing bore 36 aligned with its bore 29, and the bore 30 has a tapped hole 40 and a clearance bore 37 aligned therewith.

Block 35 has its bores 36 and 37 on one side and tapped hole 40 and clearance bore 41 on the other side, similar but upside-down with respect to the bores in block 33. It will be noted that the same upside-down relationship exists between the bores in blocks 32 and 34.

The means 14 comprises a gear 42 in the bifurcation 27 of each of the blocks 32 and 34, a gear 43 in each of the bifurcations 27 of the blocks 33 and 35, keys 44 rotationally and slidingly connecting the gears 42 to the

shaft 23 and the gears 43 to the shaft 22, a pinion gear 45 in mesh with each of the gears 42, a pinion gear 46 in mesh with each of the gears 43, a threaded stem or stud 47 affixed to each pinion gear 45 and extending through the tapped hole 40 of the next adjacent block and through the clearance holes 37 in the other two blocks of the set of four, and a similar stud 48 connected to each of the pinion gears 46 and extending through the tapped hole 40 of the adjacent block and through the clearance holes 37 of the other two blocks of such a set of blocks.

It will be seen from Figs. 4-7 that the pinion gears 45 and 46 are arranged two above and two below the shafts 22 and 23 and that the studs connected to said gears extend in full clearance through the next three blocks, in each case.

The first block 32 adjacent the bracket 26 may be affixed to said bracket so as to be immovable. All of the other blocks move toward the right relatively away from each other the same amount under the drive control of the means 14. Thus, as seen in Fig. 2, from the closed position of Fig. 3, the blocks separate a like amount so that their spacing, relatively, is the same. As the drive of the means 14 continues, the blocks are moved farther apart but the spacing remains uniform between the adjacent blocks. Consequently, it will be clear that the means 14 may be employed to spread the blocks so that the increment of space between adjacent blocks is as desired. Conversely, from a spread condition, it is understood that the blocks will contract generally in the same manner, upon reversal of the drive means 12.

The means 15 may comprise indicators or markers 50 or any means that may be used to show on a drapery or mark the same where the pleats thereof are to be located when the same is to be pleated, as can be understood. Fig. 1 shows how a width of drapery may be marked for nine pleats to be provided therein, it being clear that a closer spacing of blocks may be used for narrower widths of drapery. The indicators 50 represent clamps or grippers also. Thus, whether for showing the location of seams on a width of drapery or for actually gripping the material thereof and moving the same into pleated condition when the mechanism is moved from an extended to a contracted position, the foregoing means is fully automatic and comprises mechanism that realizes the objects of the present invention.

While the foregoing specification illustrates and describes what we now contemplate to be the best mode of carrying out our invention, the construction is, of course, subject to modification without departing from the spirit and scope of our invention. Therefore, we do not desire to restrict the invention to the particular form of construction illustrated and described, but desire to cover all modifications that may fall within the scope of the appended claims.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. Drapery pleat marker mechanism comprising a pair of parallel shafts, means to rotate said shafts in both directions, selectively, a set of blocks strung on said shafts to move therealong in a direction according to the direction of rotation of the shafts, a threaded stud car-

ried by each block, a threaded seat in each adjacent block receptive of said stud, a driving connection between said shafts and said studs to rotate the latter and, according to the direction of rotation thereof, to move the blocks along the shafts, accordingly, and means on each block to mark the location of a pleat on a drapery placed over the set of blocks when extended along the shafts.

2. Drapery pleat marker mechanism, according to claim 1, each block having a bifurcation, and the mentioned driving connections between the shafts and studs being disposed in said bifurcations.

3. Drapery pleat marker mechanism, according to claim 1, each block having a bifurcation, and the mentioned driving connections between the shafts and studs being disposed in said bifurcations; and comprising a gear slidably mounted on and rotational with the shaft and a meshing gear affixed to the stud.

4. Drapery pleat marker mechanism, according to claim 1, in which each block is provided with at least one clearance hole to receive the stud of an adjacent block when the blocks are in at least partly contracted position.

5. In drapery pleat marker mechanism, a set of marker-mounting blocks, a pair of shafts mounting said blocks in longitudinal array, each block being provided with a rotational, threaded stud and with a threaded seat to receive the stud of an adjacent block, reversing means to rotate the shafts, and a driving connection between said shafts and the mentioned studs.

6. In drapery pleat marker mechanism according to claim 5, each block having a bifurcation and the mentioned driving connections being disposed in said bifurcations.

7. In drapery pleat marker mechanism according to claim 5, each block having clearance holes to receive the studs of adjacent blocks when the latter are in at least partly contracted position.

8. In drapery pleat marker mechanism according to claim 5, said set of blocks including at least four blocks in which the threaded studs are each differently oriented with respect to the shafts that mount the blocks.

9. In a drapery pleat marker mechanism a set of bifurcated blocks, the bifurcations of successive blocks being alternately oppositely directed, a pair of shafts extending through all of the blocks, one shaft through the bifurcations on one side and the other shaft through bifurcations on the opposite side, a threaded connection carried by each block and connected to an adjacent block, and means residing in said bifurcations to drivingly connect the shafts to the mentioned threaded connections.

10. In a drapery pleat marker mechanism a set of bifurcated blocks, the bifurcations of successive blocks being alternately oppositely directed, a pair of shafts extending through all of the blocks, one shaft through the bifurcations on one side and the other shaft through bifurcations on the opposite side, a threaded connection carried by each block and connected to an adjacent block, and a pair of meshing gears in each bifurcation, one on the shaft extending therethrough and the other affixed to the driving connection.

No references cited.