

(No Model.)

T. HOLT, Jr. & J. MELLOR.

TERRY LOOM.

No. 327,685.

Patented Oct. 6, 1885.

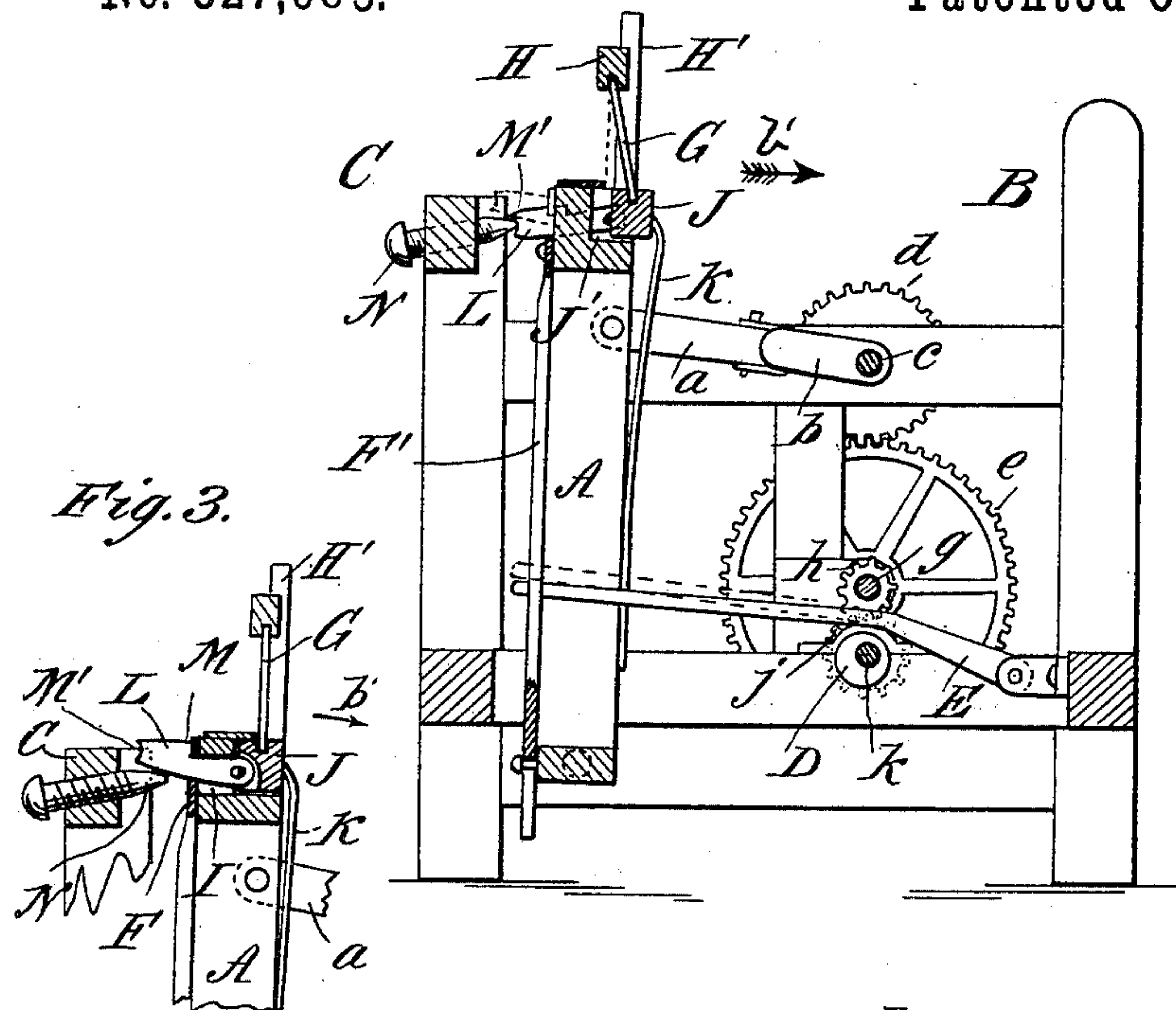


Fig. 4.

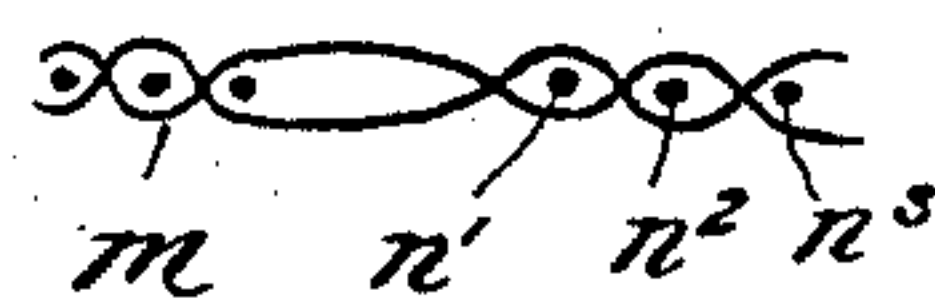
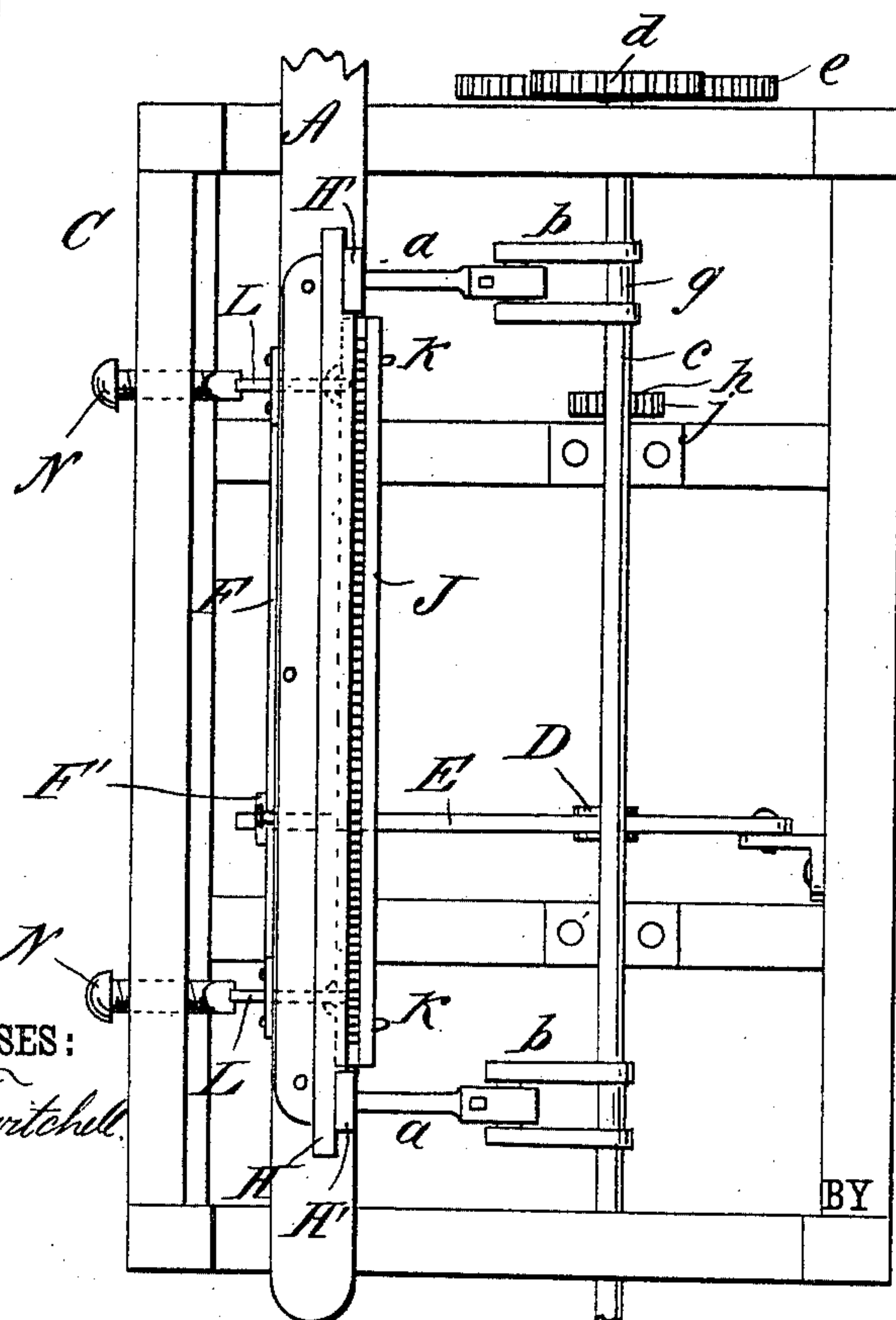


Fig. 5.



Fig. 2.



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UNITED STATES PATENT OFFICE.

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TERRY-LOOM.

SPECIFICATION forming part of Letters Patent No. 327,685, dated October 6, 1885.

Application filed February 20, 1884. Serial No. 121,430. (No model.)

To all whom it may concern:

Be it known that we, THOMAS HOLT, Jr., of
Midland Park, in the county of Bergen and
State of New Jersey, and JAMES MELLOR, of
5 Paterson, in the county of Passaic and State
of New Jersey, have invented certain new and
useful Improvements in Terry-Looms, of which
the following is a full, clear, and exact de-
scription.

10 The object of our invention is to provide
certain new and useful improvements in terry-
looms used for weaving Turkish toweling.

The invention consists in various combina-
tions of parts, as will be fully described and
15 set forth hereinafter.

Reference is to be had to the accompanying
drawings, forming part of this specification,
in which similar letters of reference indicate
corresponding parts in all the figures.

20 Figure 1 is a cross-sectional elevation of
part of a terry-loom provided with our im-
provements. Fig. 2 is a plan view of the
same. Fig. 3 is an enlarged detail cross-sec-
tional view of the upper part of the lay and
25 the breast-beam. Fig. 4 is a diagram of the
fabric, showing the manner in which it is
formed. Fig. 5 shows the completed fabric.

The lay A is pivoted at its bottom in the
frame B in such a manner as to swing in the
30 vertical plane toward and from the breast-
beam C. The lay is connected by connecting
rods *a* with the cranks *b*, formed on a shaft, *c*,
provided at one end with pulleys or other
suitable devices for revolving it and at the
35 opposite end with a gear-wheel, *d*, which en-
gages with a gear-wheel, *e*, having twice the
diameter of the gear-wheel *d*, and which is
mounted on a shaft, *g*, parallel with the shaft *c*,
and provided with a pinion, *h*, engaging with
40 a pinion, *j*, on a shaft, *k*, journaled below and
parallel with the shaft *g*, which pinion *j* is
once and a half the diameter of the pinion *h*,
so that the shaft *k* will revolve once for every
three revolutions of the shaft *c*.

45 On the shaft *k* a cam, D, is mounted, on
which rests a lever, E, pivoted in the frame
B, the free end of the lever extending below
the lay, and the said free end of the lever
passes through an aperture in the downwardly-
50 projecting shank F' of a flat frame, F, held to

slide vertically on the front of the lay—that
is, on the side toward the breast-beam—so
that when the shaft *k* is revolved the lever E
will be moved up and permitted to descend,
thereby moving the frame F up and down on
the face of the lay.

The reed G is held at its top in a groove in
the bottom of a bar, H, uniting standards H'
on the lay, and the lower edge of the reed G
is held in a groove in the upper surface of a
bar, J, held in a recess, J', in the rear upper edge
of the lay, which bar J is pressed in the direc-
tion toward the lay by springs K, secured on
the bottom of the lay and having their upper
ends held on the said bar J.

Two or more vertical slots, I, extend trans-
versely through the lay, and through the said
slots horizontal arms L pass which are piv-
oted to the bar J, the said arms being each
provided in its upper edge with a shoulder,
M, adapted to rest against that portion of the
face of the lay above the slots I. The lower
edges of the arms L rest on the upper edge of
the frame F, as is shown in Fig. 3. At their
outer ends the arms L are provided with
notches M', adapted to receive the beveled or
flattened ends of screws N, screwed through
the top of the breast-beam C, the beveled ends
of the screws projecting toward the face of the
lay.

A suitable shuttle-race is provided in the
same manner as in any other lay, and the re-
maining part of the loom is constructed in the
usual manner.

The operation is as follows: When the cam
D does not raise the lever E, the frame re-
mains lowered, as do also the arms L, and
when the lay swings toward the breast-beam
the outer ends of the arms L come in contact
with the inner ends of the screws N, whereby
the arms L will be pushed in the inverse
direction of the movement of the lay—that is,
in the direction of the arrow *b'*—thereby swing-
ing backward the reed G and preventing the
said reed from driving the last weft home—
that is, preventing the reed from driving the
last weft against the finished edge of the cloth;
but if the cam D raises the lever E the frame
F will be moved upward and the arms L will
be raised so that their shoulders engage with

the face of the lay, and the free ends of the arms L will be raised to such an extent that they will pass over the beveled ends of the screws N, and the bar J, or lower part of the reed, will not be pressed in the direction of the arrow *b'*, thus permitting the reed to drive the last weft home.

The loom described is so arranged that for two strokes of the lay the reed is pressed back, and in the third stroke the cam D raises the lever E so that the arms L will be raised above the ends of the screws N, thus permitting the weft to be driven home—that is, every third weft is driven home. This is illustrated in Fig. 4, in which *m* represents the edge of the cloth. At the first stroke of the lay the first weft, *n'*, is not driven home. At the second stroke the second weft, *n''*, is driven against the first weft, *n'*, but no farther, as the lower edge of the reed is pressed in the direction of the arrow *b'* by the screws N; but the third weft, *n'''*, is driven home as the arms L are raised during this stroke of the lay; and the weft *n'''* presses the two preceding wefts *n'* and *n''* along with it, pressing them up against the finished edge *m* of the cloth. The warps will thus form the loops *o*, as shown in Fig. 5.

It is evident that the loom can be so constructed as to drive the second, third, fourth, fifth, or sixth weft home, as may be desired, and according to the number of loops desired in the fabric. The length of the loops is adjusted by means of the screws N, for the farther the said screws project from the breast-beam the greater will be the distance that the bar J is swung back, and thus the greater will be the distance between the finished edge of the cloth and the first weft, *n'*. When the lay drives the wefts home, the bar J is locked in place within the lay by the shouldered arms L, and does not rely upon any springs to exert their pressure in driving the wefts home, the springs K only serving to pull the bar J in place. The arms L always have a positive motion, as their shouldered ends rest against the surface of the lay.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a loom-frame and lay, of projections on the breast-beam, a swinging reed, pivoted projections on said swinging reed, and means, substantially as described, for raising and lowering the projections on the swinging reed to bring them into or out of line with the projections on the breast-beam, substantially as herein shown and described.

2. The combination, with a loom-frame and lay, of projections on the breast-beam, a swinging reed, projections pivoted on the lower part of the swinging reed and project-

ing through the lay, a sliding frame on the lay, and a lever and cam for raising and lowering said sliding frame, substantially as herein shown and described. 65

3. The combination, with the loom-frame, a lay, and mechanism for operating the latter, of a reed having its lower edge adapted to swing toward and from the rear surface of the lay, projections pivoted to the swinging edge of the reed and extending through slots in the lay toward the breast-beam, projections on the breast-beam, a sliding frame on the lay for the purpose of raising the projections pivoted to the reed, a lever passed through the sliding frame, a cam for raising the said lever, and intermediate mechanism for operating the cam from the lay-operating mechanism, substantially as herein shown and described. 70 75 80

4. The combination, with the loom-frame, a lay, and mechanism for operating the latter, of a reed having its lower edge adapted to swing toward and from the rear surface of the lay, projections pivoted to the swinging edge of the reed and extending through slots in the lay, adjustable projections on the breast-beam, which projections extend toward the lay, a lever and cam for alternately raising and lowering the projections pivoted on the reed, and intermediate mechanism for operating the said cam from the lay-operating mechanism, substantially as herein shown and described. 85 90

5. The combination, with the loom-frame, a lay, and mechanism for operating the latter, of a reed having its lower edge adapted to swing toward and from the rear surface of the lay, projections L, pivoted to the swinging edge of the reed and extending through slots in the lay, each of which projections L has a shoulder in its upper edge, projections on the breast-beam, a lever and cam for alternately raising and lowering the projections on the reed, and intermediate mechanism for operating the said cam from the operating mechanism of the lay, substantially as herein shown and described. 95 100 105

6. The combination, with the loom-frame and a lay, of the reed G, having its bottom bar, J, adapted to swing toward and from the outer surface of the lay, the springs K, for pressing the bar J toward the lay, the projections or arms L, pivoted to the bar J and passing through slots I in the lay, the sliding frame F on the lay, the screws N on the breast-beam, and a lever and cam for automatically raising and lowering the frame F, substantially as herein shown and described. 110 115

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Witnesses:

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