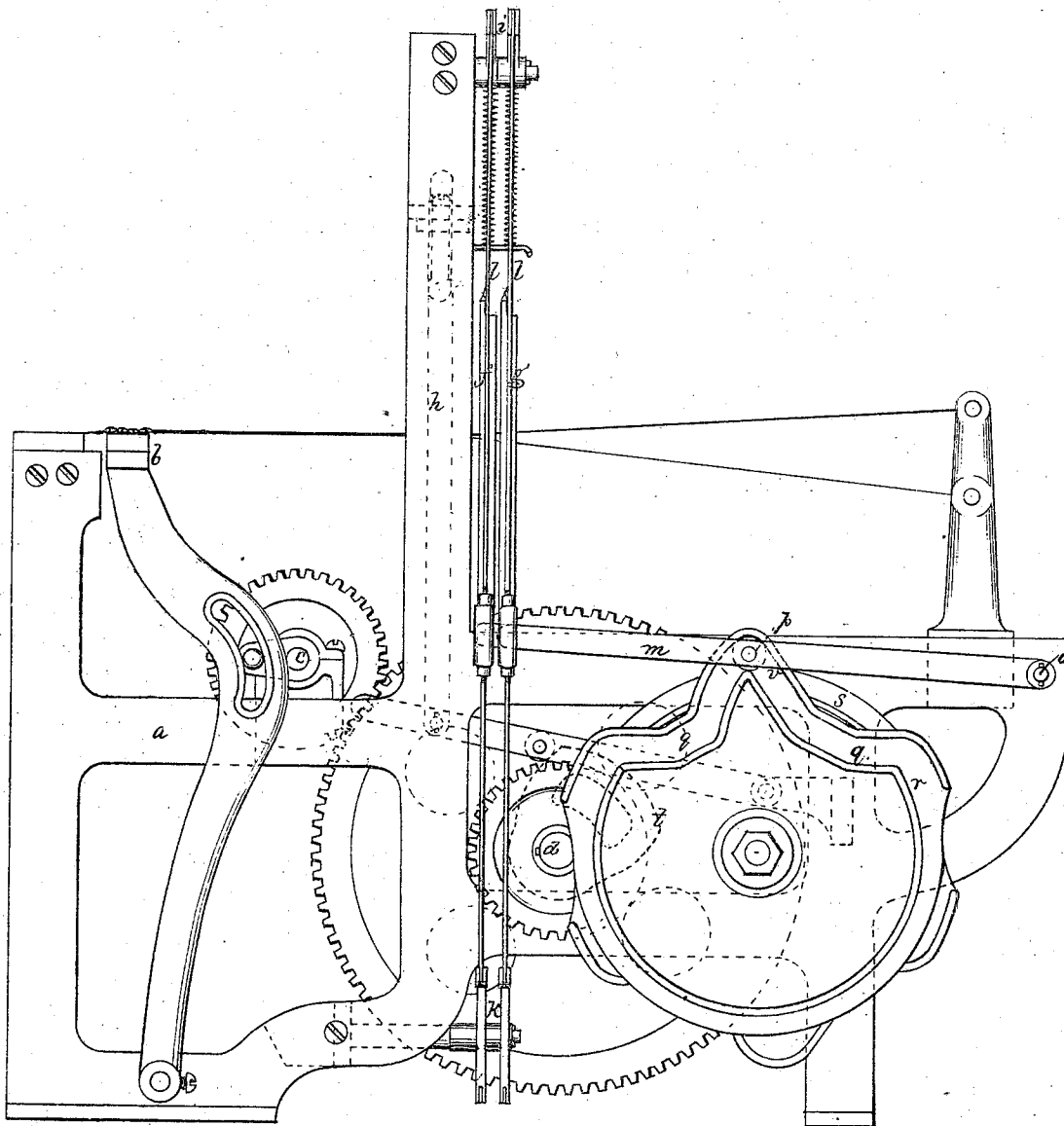


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No. 118,338.

Fig. 1.

Patented Aug. 22, 1871.



Witnesses { *W. M. Frothingham.*
P. B. Kider.

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By his Atty.
Crosby & Gould.

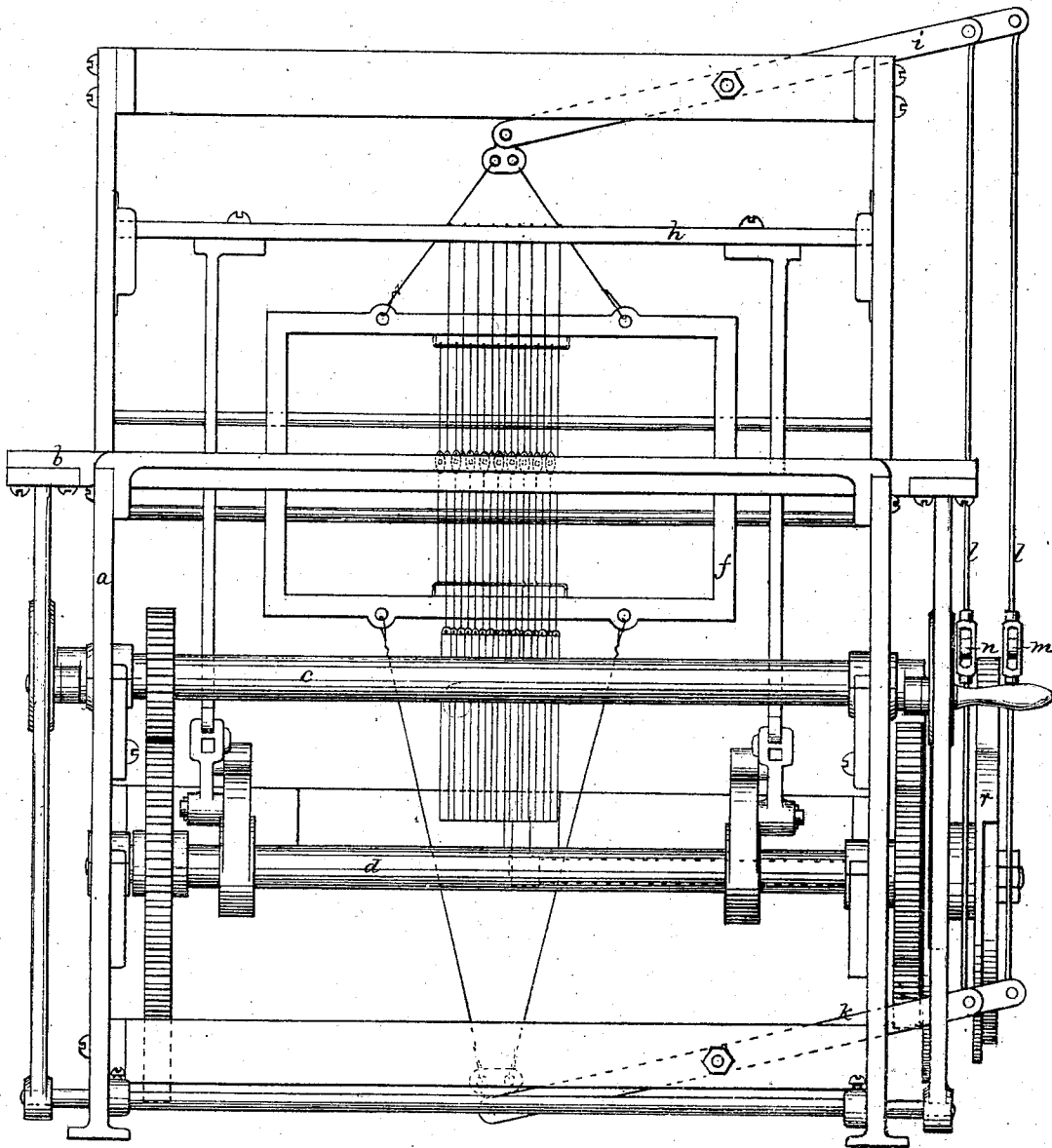
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Fig. 2.



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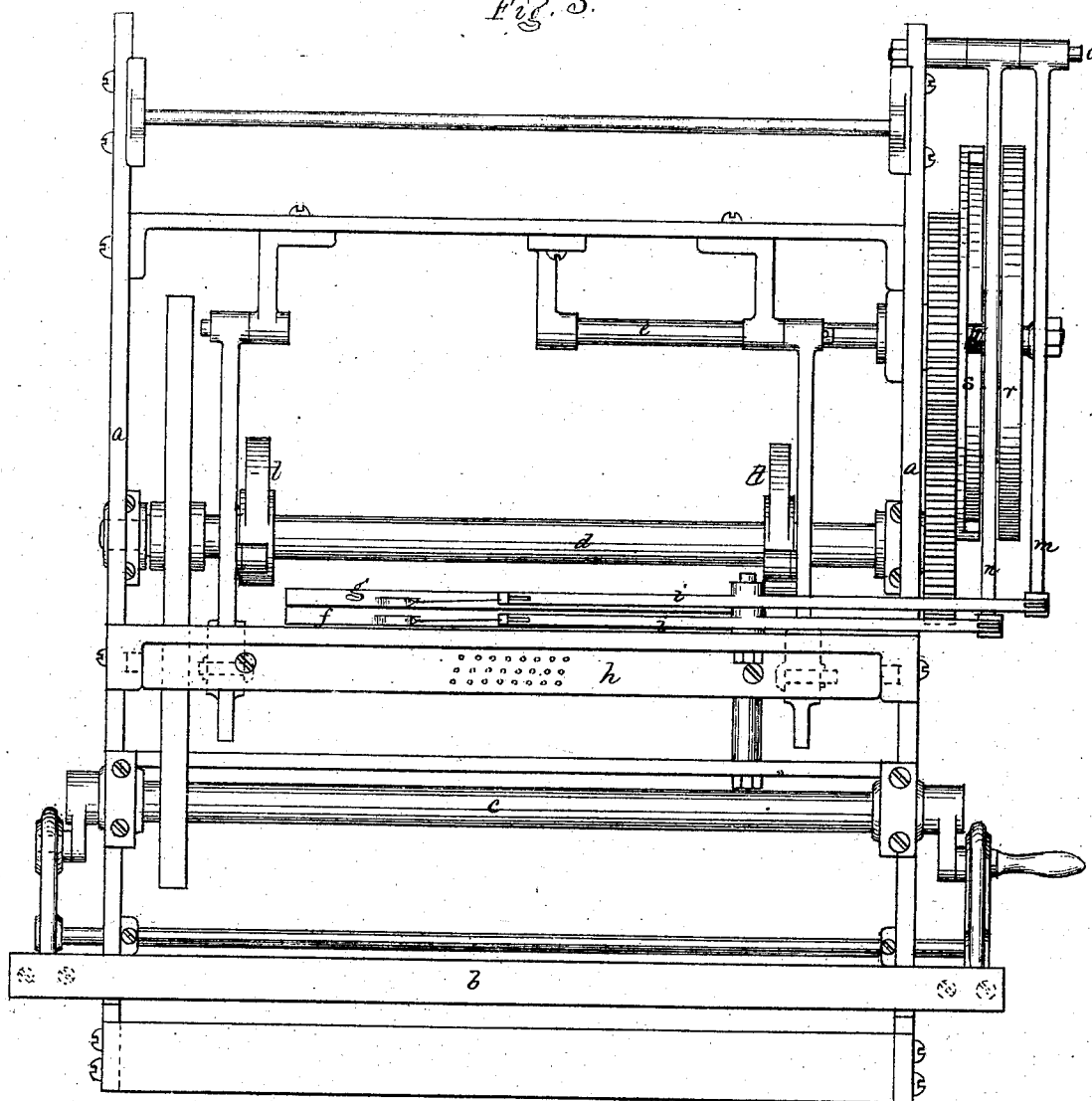
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Fig. 3.



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S. B. Kidder.

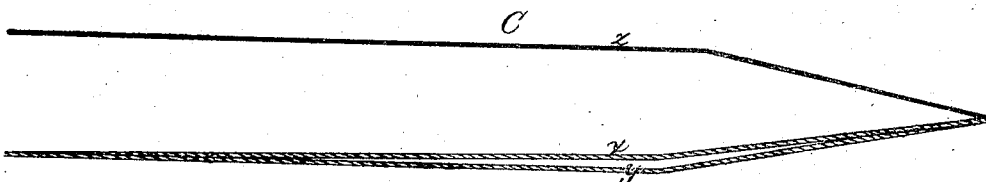
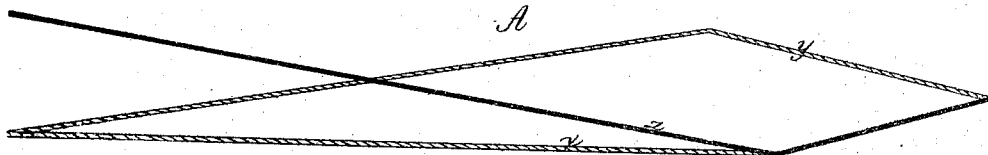
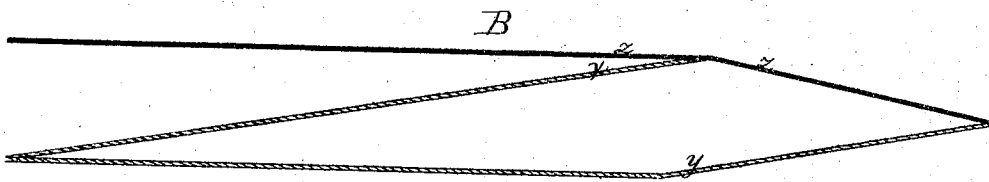
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Witnesses { *M. W. Frothingham.*
S. B. Kildet.

John P. Buzzell.
By his Atty.
Crosby & Gould.

UNITED STATES PATENT OFFICE.

JOHN P. BUZZELL, OF CLINTON, MASSACHUSETTS, ASSIGNOR TO "BIGELOW CARPET COMPANY," OF SAME PLACE.

IMPROVEMENT IN WEAVING BRUSSELS AND OTHER PILE CARPETS.

Specification forming part of Letters Patent No. 118,338, dated August 22, 1871.

To all whom it may concern:

Be it known that I, JOHN P. BUZZELL, of Clinton, in the county of Worcester and State of Massachusetts, have invented an Improvement in Weaving Brussels and Wilton Carpets and other Pile Fabrics; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention, sufficient to enable those skilled in the art to practice it.

In weaving Brussels and Wilton carpets and other pile fabrics the shed of the linen warp has always been kept open when the filling was beat up for the under shoot, and the comminglement of the worsted yarns with the linen threads often results in the cockling of the worsted as the filling is beat up, causing the loose or slack worsted to be beat in with the filling. To remedy this defect is the object of my invention, and I accomplish this object by closing, or partially closing, the linen shed after the under shoot, so as to separate the linen warp entirely from the worsted in the plane of the harness-frames, the lathe being thereby freed from the presence of the worsted yarns, thereby making a more compact or closer texture, enabling a greater strain to be put upon the linen or ground-warp, and preventing the worsted from being beat in with the filling. My invention consists in this improvement in weaving Brussels carpets and similar fabrics, or in separating the warp-shed from the worsted yarn after the under shoot, and so that the filling is beat up without the comminglement of the worsted yarns and the linen warp, and in the mechanism or arrangement of mechanism by which the result is effected.

The drawing represents such parts of the loom as may be necessary to a clear understanding of the invention. Figure 1 shows a side elevation of the loom. Fig. 2 is an end elevation of it. Fig. 3 is a plan of it.

a denotes the frame; *b*, the lathe; *c*, the crank-shaft that operates the lathe; *d e*, the cam-shafts; *f g*, the warp-harness; *h*, the worsted-harness or frame. The warp-harness or harness-frames *f g* are connected to the inner ends of upper and lower harness-levers *i k*, and the outer ends of each pair of levers *i k* are connected by a rod, *l*. The two rods *l* are jointed to lifter and depresser levers *m n*, pivoted at *o*, and having pins or rolls

p running in cam-grooves *q* of the cam-wheels *r s*. The worsted-frame *h* is raised by cams *t* on the cam-shaft *d*, and falls by gravity. When the shed is open for the upper shoot the lower linen-warp threads or yarns are in the position seen at *x* in the diagram A, the upper threads or yarns in the position seen at *y*, and the worsted yarns in the position seen at *z*, the worsted and the lower linen-warp yarns being together; and while they are maintained in this relative position the upper shoot is driven through the shed and is beaten up by the lathe as the shed closes. Then the figure-shed is made for the wire, and the wire is introduced and beat up by the lathe in the usual manner. Then the shed is closed, and the new shed is made for the under shoot—the worsted yarns and the upper-warp yarns being together, the respective yarns being in the position shown at B, *x* being, as before, the upper linen-warp yarns, *y* the lower linen-warp yarns, and *z* the worsted yarns, the latter being with the upper yarns of the linen warp. The under shoot is now driven in. Prior to beating the under shoot up, however, the shed is closed, or nearly closed, the linen-warp yarns *x y* being brought into one plane, as seen at C, and the worsted yarns being in a separate plane, as seen at *z*, the harness-frame and the lower warp threads retaining their position, and the harness-frame descending with the upper warp threads, bringing them into the plane of the lower threads, and thus closing the shed, while the worsted warp retains its position, or remains above the plane of the lower linen warp. In effecting this relation of the worsted and linen warps, the worsted frame is held up by the cam *t*, the warp harness-frame *f* is kept down, (the pin *p* of the lifter and depresser-lever *n* being upon the concentric flange of the cam-wheel;) but the other harness-frame, *g*, having been raised (by the cam-groove *q*) to produce the ground-warp shed, is depressed by the action of the portion *v* of the cam-groove, which, acting on the pin or roll *p*, throws up the lever *m*, thereby throwing down the harness *g* and carrying its warp yarns toward or into line with the lower warp yarns, closing or partially closing the shed, or carrying the upper yarns of the shed away from the worsted or figure-yarns.

Of course the detail of arrangement or operation of the mechanism may be changed, the im-

provement embracing any mechanism by which such a relative disposition of the ground-warp yarns and the figure-yarns is produced as will separate the ground-warp yarns and figure-yarns after the under shoot and before the filling is beat in.

I claim—

1. The herein-described improvement in the method of weaving pile fabrics, consisting in separating the ground-warp shed from the worsted or figure-yarns after the under shoot of filling is introduced, and beating it up during such separation.

2. An organization of mechanism, substantially such as herein described, by which the worsted or figure-yarns are retained in position after the under shoot of filling is introduced and while the ground-warp shed is closed or separated from the worsted or figure-yarns and the filling beat up.

JOHN P. BUZZELL.

Witnesses:

FRANCIS GOULD,
M. W. FROTHINGHAM.