

No. 748,253.

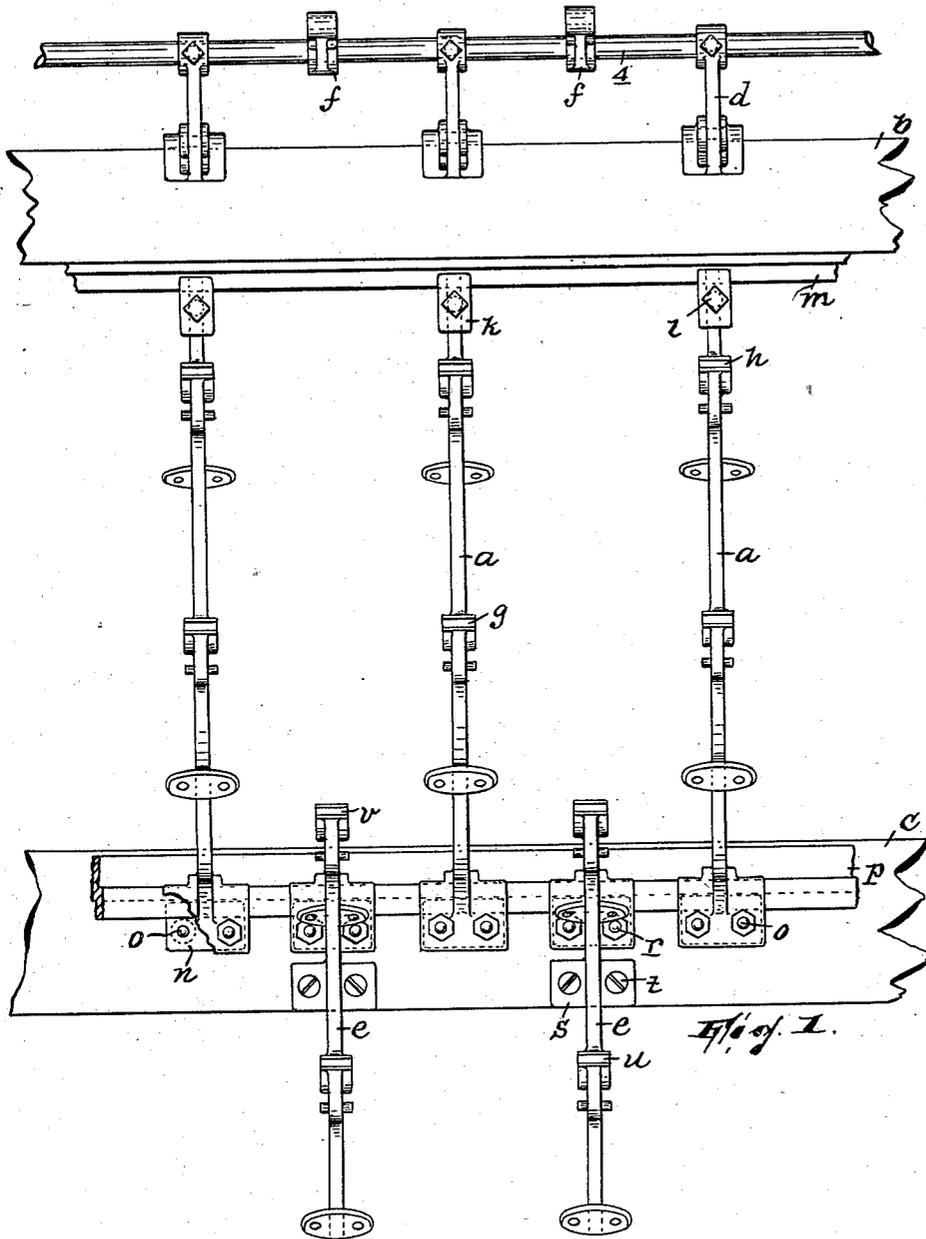
PATENTED DEC. 29, 1903.

F. BENZ, JR.
LET-OFF MECHANISM FOR LOOMS.

APPLICATION FILED MAR. 27, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

Wm. Drell.
Robert J. Tollitt.

INVENTOR,

Frederick Benz, Jr.,

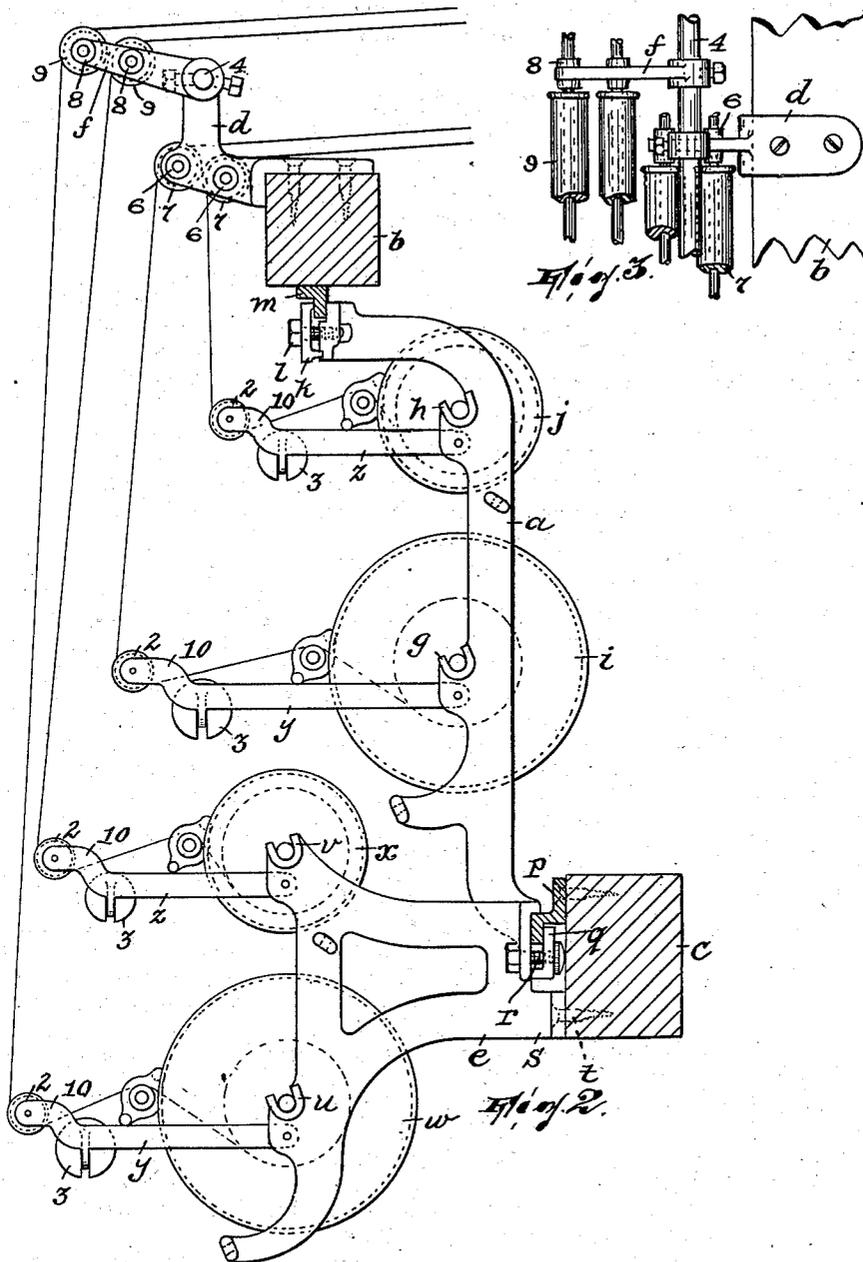
BY
Eaton & Leonard,
 ATTORNEYS.

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UNITED STATES PATENT OFFICE.

FREDERICK BENZ, JR., OF HALEDON, NEW JERSEY, ASSIGNOR TO FRANK & DUGAN, OF PATERSON, NEW JERSEY, A FIRM.

LET-OFF MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 748,253, dated December 29, 1903.

Application filed March 27, 1903. Serial No. 149,784. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK BENZ, Jr., a citizen of the United States, residing in Haledon, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Let-Off Mechanisms for Looms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to let-off mechanisms for looms, and particularly to let-off mechanisms for narrow-ware looms. The invention has for its principal object to provide an improved arrangement of the supporting mechanisms for the parts controlling the various warps, whereby a considerable economy of space in several particulars hereinafter indicated and increased accessibility to the goods are secured.

The invention will be found fully illustrated in the accompanying drawings, wherein—

Figure 1 is a view in front elevation. Fig. 2 is a side view, and Fig. 3 a fragmentary top plan view.

In that adaptation of the invention shown in the drawings, *a* designates a series of vertical stands secured in horizontal beams *b c* of the loom structure, as hereinafter more particularly set forth, said stands constituting that portion of the supporting means of one group of units which carries a ground-warp beam, a selvage-warp beam, and the accompanying tension mechanisms.

d designates stands secured on beam *b* in vertical alinement with stands *a* and serving as supports for the rollers belonging to the units in the group referred to above.

e designates stands secured to the beam *c* in a manner hereinafter set forth in alternating disposition relatively to stands *a*, said stands *e* constituting that portion of the supporting means for the other group of units which carries a ground-warp beam, a selvage-warp beam, and the accompanying tension mechanisms.

f designates stands which are arranged in vertical alinement with stands *e* and serving as supports for the rollers belonging to the units in the group last above referred to, said stands *f* being sustained as hereinafter more particularly described.

It should be remarked, as best seen in Fig. 2, that the mechanism forming the last-mentioned group of units projects somewhat farther outwardly than the first-mentioned group, so that the warp on the one will clear the parts of the other.

Stands *a* are formed with bearings *g* and *h* for the reception of the adjoining trunnions of the ground-warp beams *i* and selvage-warp beams *j*, respectively. The upper end of each coacts with a plate *k* and a screw *l* as a clamp which engages a rail *m*, carried by beam *b*. The lower end of each likewise coacts with a plate *n* and bolts *o* as a clamp engaging a rail *p*, secured to beam *c*.

Stands *e* project outwardly from beam *c* and have the portion thereof adjacent rail *p* coacting with a plate *q* and bolts *r* as a clamp engaging said rail, while the portion of the stand immediately under the rail, as at *s*, is extended back as a foot taking against the face of the rail and secured thereto by screws *t*. Stands *e* are formed with bearings *u v*, respectively receiving the adjoining trunnions of ground-warp beams *w* and selvage-warp beams *x*.

Each two adjacent stands *a* and likewise each two adjacent stands *e* have pivoted in them the tension-brackets *y z* for the two kinds of warp—ground and selvage. They are provided with the usual warp-guiding rollers 2 and weights 3.

Stands *d* carry a shaft 4, on which are secured the stands *f*. In stands *d* are formed the bearings 6 for the trunnions of the rollers 7, (over which the warps pass after leaving the tension mechanisms,) belonging to the first group of units above referred to, while stands *f* are formed with bearings 8 for the trunnions of the rollers 9, belonging to the other group of units.

The weights 3 are disposed relatively inside of their corresponding rollers 2. This arrangement is of considerable importance in that it saves the waste of space involved, ac-

cording to the usual construction, in placing the weights outside of the rollers. Furthermore, the rollers being at the ends of the brackets the warps are brought to the point
 5 most accessible to the attendant for whatever purpose they may need to be manipulated.

The free ends of the brackets are upturned, as at 10. This not only gives clearance between the warps and the weights when the
 10 latter are in place, but also for applying or removing them, as in adjusting the tension.

By arranging stands *a* and *e* and corresponding stands *d* and *f* in alternating disposition an economy of space with respect to
 15 the width of the loom is secured. Thus either wider or an increased number of ribbons may be produced and the product of the loom consequently augmented.

Having thus fully described my invention, 20 what I claim as new, and desire to secure by Letters Patent, is—

1. In a let-off mechanism for looms, the combination of substantially parallel and superposed horizontal supports, upper and
 25 lower stands arranged side by side, means for securing the upper stands to the upper

support, means for securing the lower stands to both supports, said upper stands being respectively alined with the lower stands, a shaft carried by the upper stands, other upper and lower stands, means for securing said last-named upper stands to the shaft between said first-named upper stands, means for securing said last-named lower stands to the lower support between said first-named lower
 35 stands, and warp carrying, guiding and controlling means arranged in each two adjoining upper and lower stands of each set, substantially as described.

2. The combination of a suitable support, 40 pairs of roller-carrying brackets extending from said support, a shaft carried by said brackets, and other roller-carrying brackets carried by said shaft, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 21st day of March, 1903. 45

FREDERICK BENZ, JR.

Witnesses:

JOHN W. STEWARD,
 ROBERT J. POLLITT.