

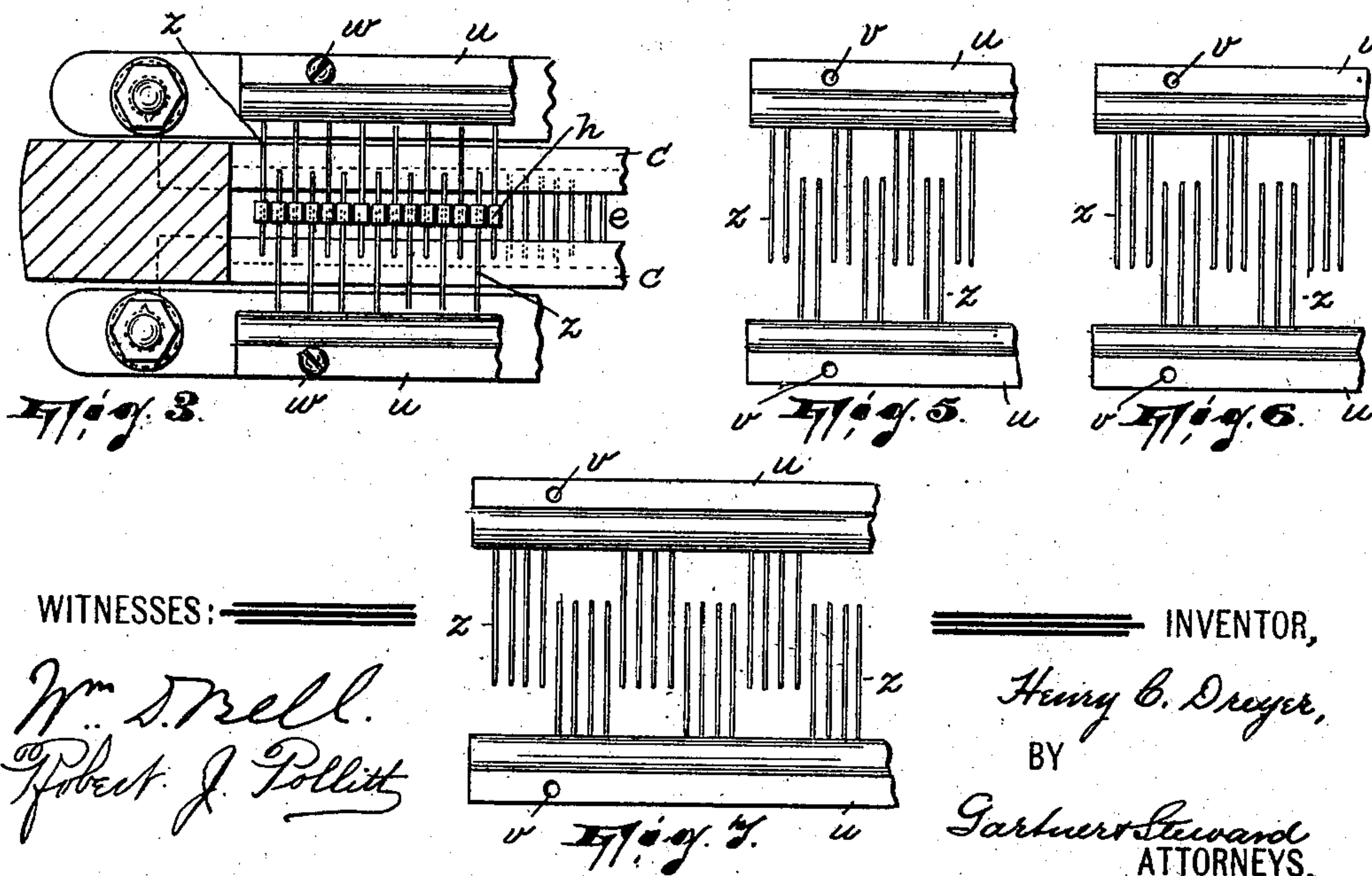
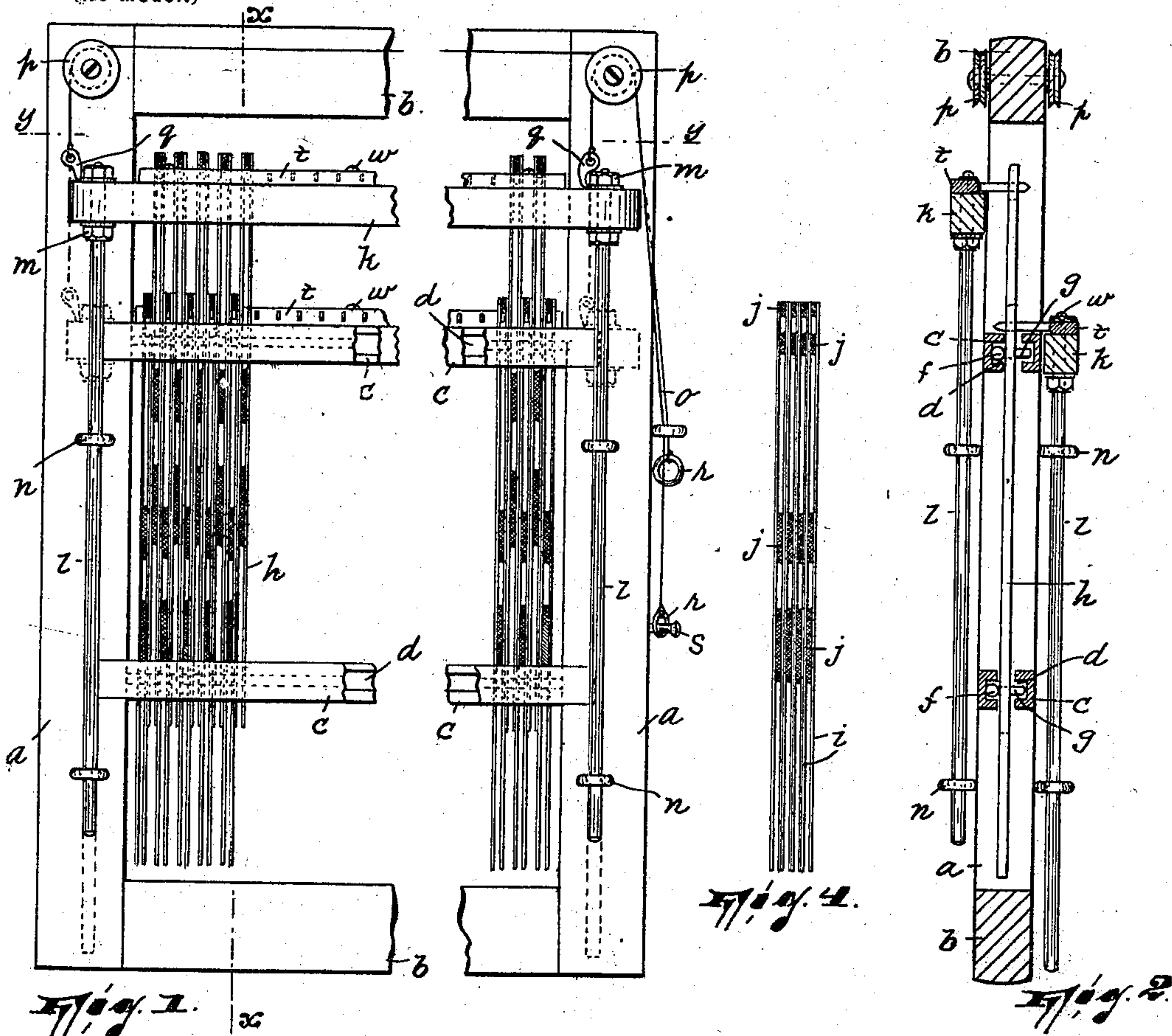
No. 658,104.

Patented Sept. 18, 1900.

H. C. DREYER.
UNIVERSAL WARPING REED.

(Application filed May 21, 1900.)

(No Model.)



WITNESSES: _____

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UNITED STATES PATENT OFFICE.

HENRY C. DREYER, OF WILKES-BARRÉ, PENNSYLVANIA.

UNIVERSAL WARPING-REED.

SPECIFICATION forming part of Letters Patent No. 658,104, dated September 18, 1900.

Application filed May 21, 1900. Serial No. 17,334. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. DREYER, a subject of the Emperor of Germany, residing in Wilkes-Barré, Luzerne county, State of Pennsylvania, have invented certain new and useful Improvements in Universal Warping-Reeds; 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 of reference marked thereon, which form a part of this specification.

15 This invention relates to the mechanism employed for arranging the warp in preparation for weaving; and it consists in an improved construction of reed designed to facilitate this operation.

20 In some kinds of weaves it is necessary in preparing the warp for the loom to effect a certain arrangement of the warp-threads, according to the particular pattern selected, with reference to the corresponding parts of the harness to be directly connected to them. For instance, it may be necessary that the threads be arranged in sets of two, three, four, &c., acting together. This preliminary arrangement of the warp-threads and any change therein subsequently called for are usually effected while the material is still in the warping-machine, the operation being facilitated by the use of specially-constructed reeds.

35 My invention therefore consists in an improved form of reed of the nature above indicated, the same being constructed with a view to securing simplicity, durability, facility of operation, and reduced cost of manufacture.

40 Referring to the accompanying drawings, in which corresponding letters of reference indicate like parts, Figure 1 is a view in front elevation of my improved reed, portions thereof being broken away. Fig. 2 is a vertical sectional view of the reed on the line $x-x$ in Fig. 1. Fig. 3 is a horizontal sectional view of a portion of the reed, the section being taken on the line $y-y$ in Fig. 1. Fig. 4 shows some of the dents of the reeds in their aligned or rest positions, and Figs. 5, 6, and 7 are views

showing various kinds of lifting-combs employed in connection with my improved reed.

The frame of the reed is of the usual rectangular form, consisting of the side bars a and the top and bottom bars b . Connecting the side bars a and disposed parallel with the top and bottom bars b are two appreciably-spaced pairs of other bars c , the members of each pair being spaced, as seen in Fig. 2, and provided with longitudinal grooves d , formed in their adjacent faces. Between the two members of each pair of bars is arranged a guiding-comb e , which consists of a rod f , which is secured in the groove of one of said members, and parallel fingers or teeth g , projecting from said rod into the groove of the other member.

h designates the dents of the reed. Each of these dents consists of a pair of strips i , connected together by small metallic and spaced blocks j , said blocks being arranged in two pairs, the one pair being disposed at the top of the dents and the other pair about half-way between its ends. Through the lower pairs of blocks the warp-threads are adapted to extend. The dents are longitudinally movable in the reed, each dent being guided by corresponding teeth of the guiding-combs e , said teeth being respectively disposed above and below the lower set of blocks in the dent.

The frame of the reed carries two other movable frames. These frames are arranged on opposite sides of the main frame, each of them consisting of a cross-bar k , to the ends of which are connected parallel guide-rods l . The cross-bar is penetrated by the upper ends of the guide-rods, the latter being secured thereto by means of binding-nuts m , arranged on the guide-rods and taking against opposite sides of the cross-bar. The guide-rods move in eyelets n , projecting from the side bars of the frame. In order to raise and lower each movable frame, a pair of cords o is provided therefor, said cords passing over pulleys p , disposed at the upper ends of the side bars of the reed-frame, being connected at one end to attaching devices q , that are secured in place to the movable frame by the upper nuts m and being provided at their

other ends with rings *r*, which may be hooked over pins *s*, projecting from the frame, to hold the movable frame elevated.

Upon the cross-bars *k* are adapted to be secured combs *t*. (See Figs. 3, 5, 6, and 7.) Each of these combs consists of a strip or plate *u*, having apertures *v*, through which securing-screws *w*, for attaching the combs to the cross-bars, may extend, and fingers or teeth *z*, projecting from said strips or plates. The combs are arranged on the cross-bars so that the teeth of one comb project toward the other comb, each tooth extending through the upper pair of blocks in a dent *h*. The teeth of the two combs may be arranged to connect with every other dent or, as shown in Figs. 5, 6, and 7, to connect with every other two, three, or four dents, &c.

It will be understood that in the use of my improved reed to effect the arrangement of the threads it is only necessary to lift the one or the other of the movable frames, and consequently the comb which it carries, so as to elevate the dents connected thereto and the corresponding threads penetrating said dents. Should it be desired to alter the arrangement of the threads instead of reeeding them,

only the combs have to be changed for others having their teeth in a different disposition.

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

The combination of a suitable frame, other and movable frames each comprising parallel guide-rods and a cross-bar connecting said guide-rods, guiding-eyelets projecting from said first-named frame and receiving said guide-rods, individually-movable dents, a dent-sustaining comb carried by each cross-bar, said comb being movable so as to be interchangeable for others having different arrangements of teeth; pulleys arranged on said first-named frame, and cords extending over said pulleys and connected to the movable frame, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of May, 1900.

HENRY C. DREYER.

Witnesses:

H. L. WILLIAMS,
JOHN I. LABAGH.