

No. 849,810.

PATENTED APR. 9, 1907.

I. E. PALMER.
CREEL.

APPLICATION FILED NOV. 22, 1906.

2 SHEETS—SHEET 1.

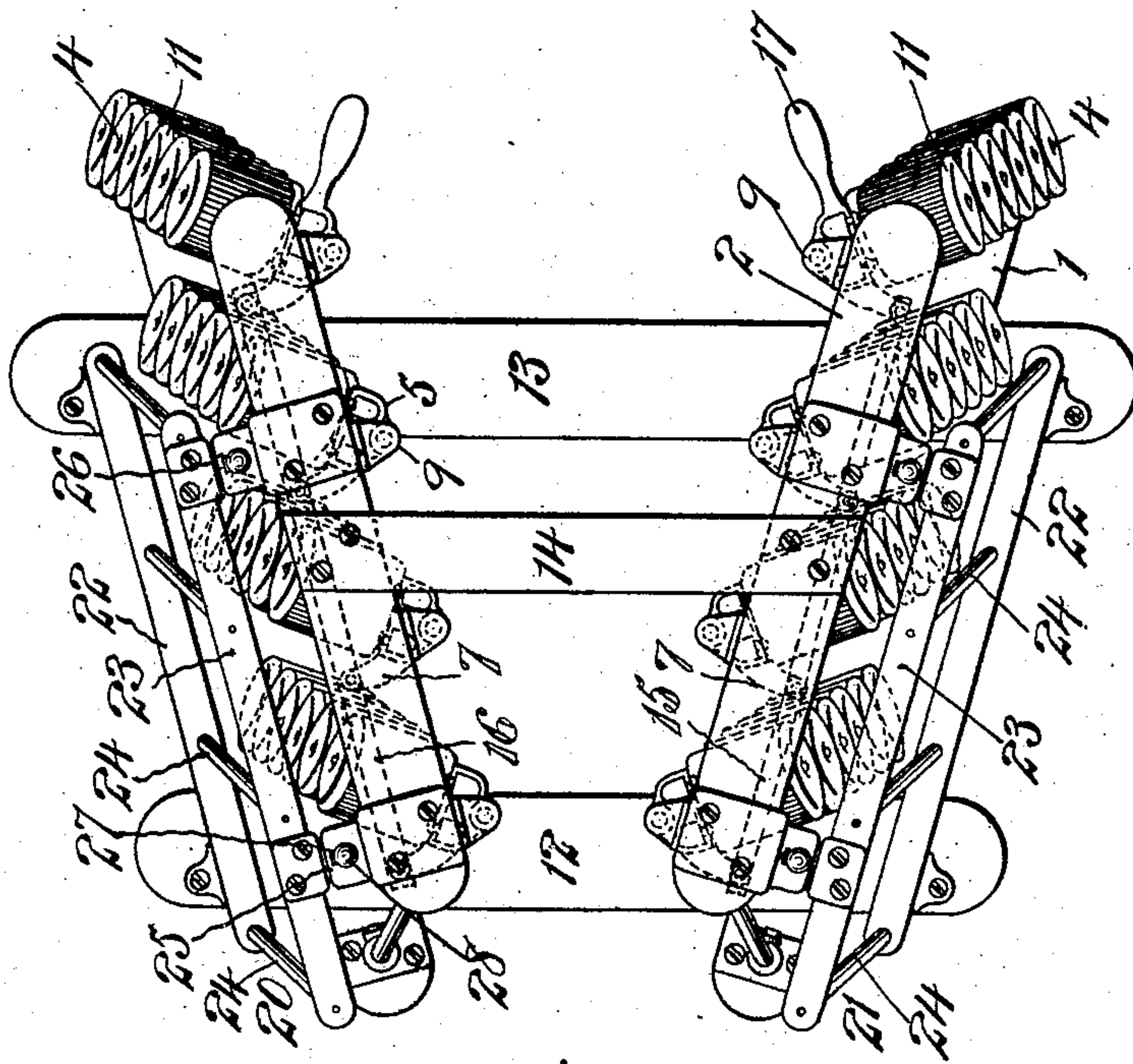


Fig. 1.

Witnesses:-
J. George Barry,
Henry Thime

Inventor:-
Isaac E. Palmer
By Brown & Howard
his Attorneys

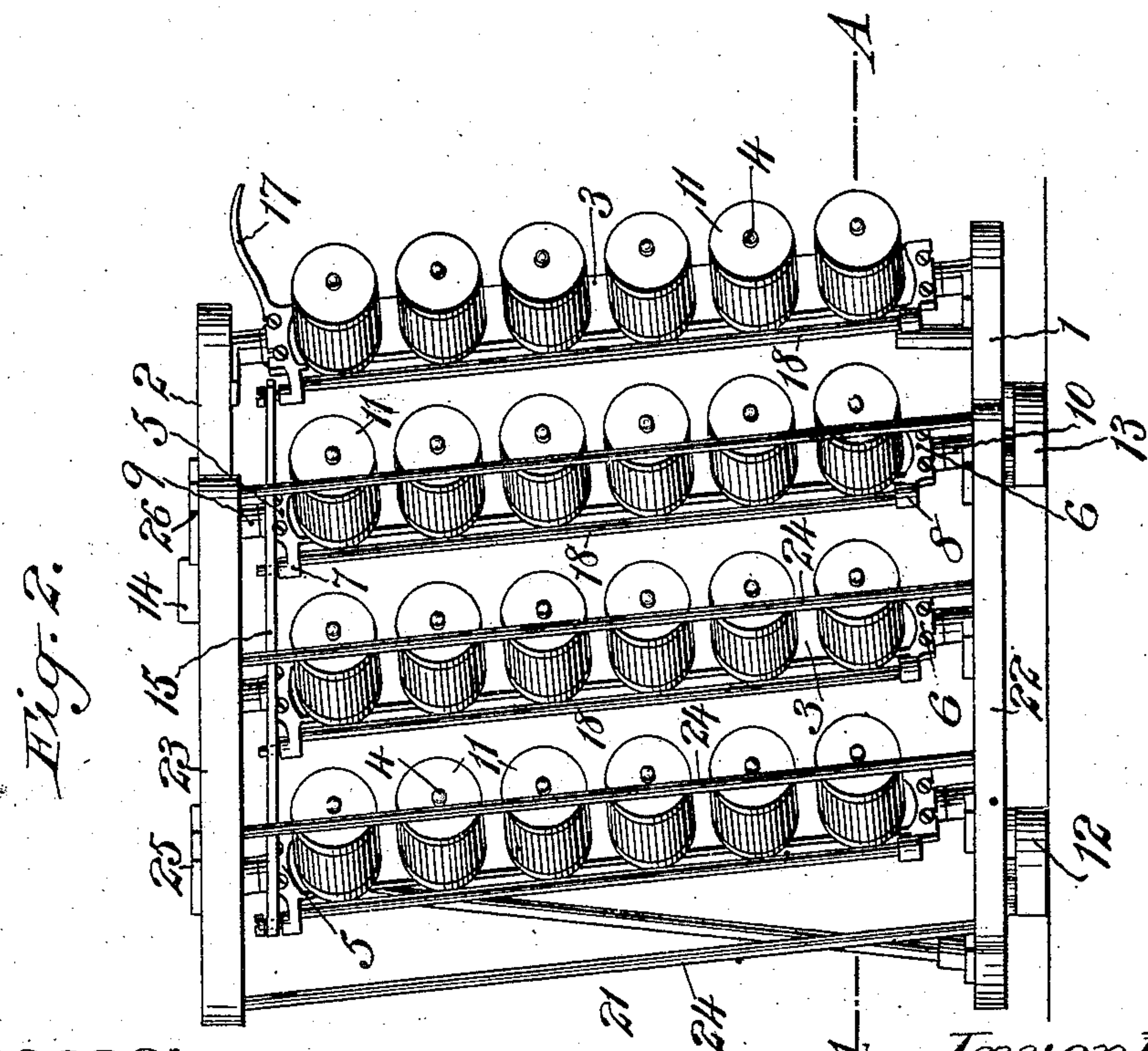
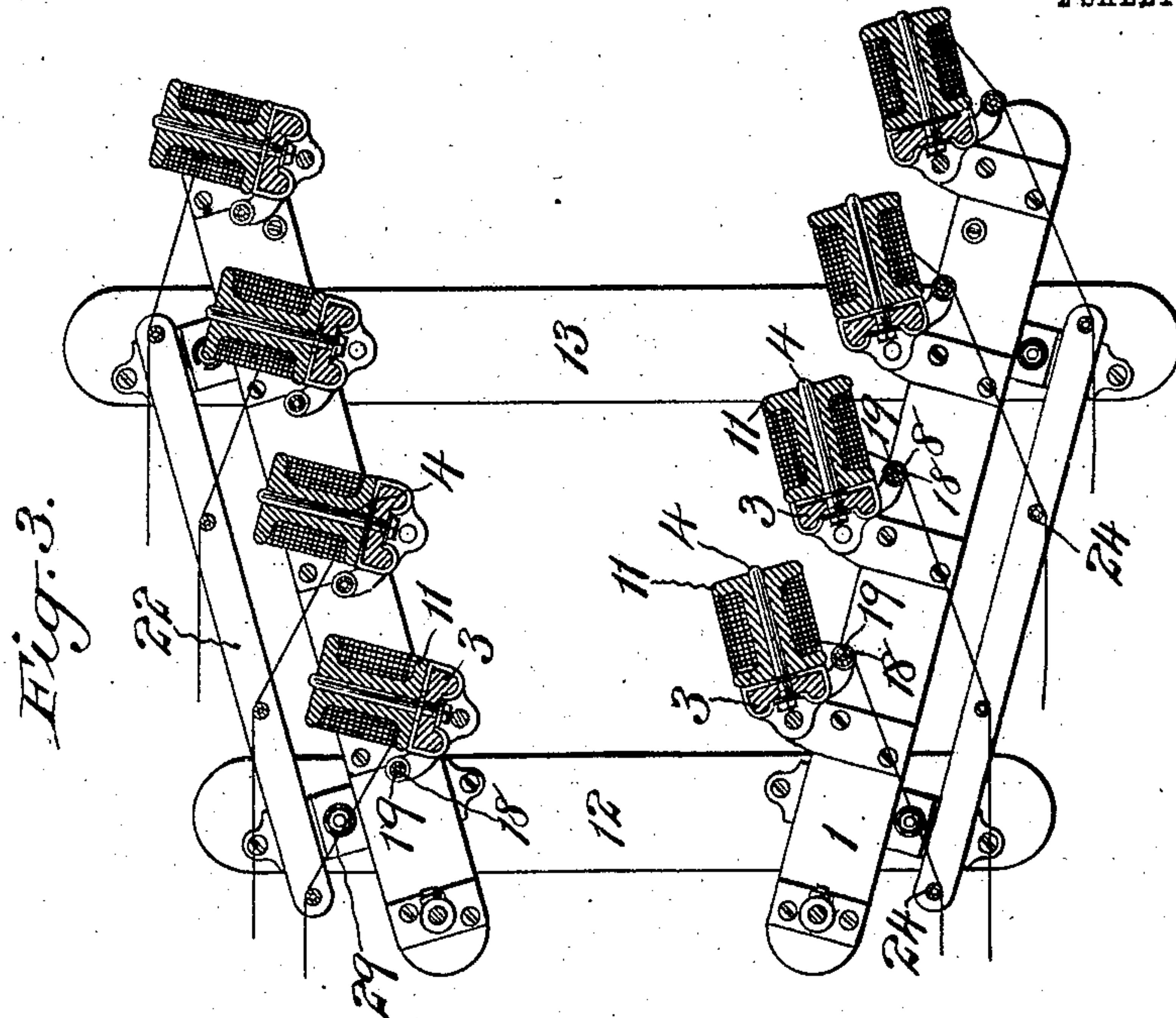
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Witnesses:
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Henry Shime.

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UNITED STATES PATENT OFFICE.

ISAAC E. PALMER, OF MIDDLETOWN, CONNECTICUT.

CREEL.

No. 849,810.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed November 22, 1906. Serial No. 344,543.

To all whom it may concern:

Be it known that I, ISAAC E. PALMER, a citizen of the United States, and a resident of Middletown, in the county of Middlesex and State of Connecticut, have invented a new and useful Improvement in Creels, of which the following is a specification.

My invention relates to creels, with the object in view of providing simple and effective means for doffing spools without interfering with threads leading from spools in operation, and with the further object in view of maintaining the direction of the threads from the creel to the warp-beam intact during the turning of the spool-support for doffing.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a top plan view of a creel composed of two racks. Fig. 2 is a view of the same in side elevation; and Fig. 3 is a horizontal section in the plane of the line A A of Fig. 2, showing the spools on one rack turned inwardly into the position for doffing, while those on the other rack are in their outward or normal position for delivering thread to the beam.

The racks are quite similar in construction, each consisting of a base 1 and top 2, between which a series of spindle-bars are arranged, as follows: In the present instance each rack is shown as carrying four spindle-bars, (denoted by 3.) The number of these bars in a single rack is a matter of choice and may be more or less than four, as desired. Each of these spindle-bars is provided with a series of spindles 4. In the present instance six spindles are shown on each spindle-bar. The spindle-bars are set at their upper and lower ends in socket-pieces 5 and 6, the said socket-pieces being provided with arms projecting outwardly therefrom, the socket-piece 5 at the top being provided with an arm 7 and the socket-piece 6 at the bottom with an arm 8. Each of the socket-pieces at the opposite ends of each of the spindle-bars 3 is provided with arms projecting outwardly in a manner quite similar to the arms 7 and 8. The socket-pieces 5 and 6 are pivotally secured in bearing-pieces 9 and 10, one at the top and one at the bottom, which bearing-pieces are made fast to the lower face of the top 2 and the upper face of the bottom 1. This arrangement permits the spindle-bar with its spools 11 thereon to be turned inwardly or outwardly.

The base 1 and the base of the companion rack are supported upon suitable cross-pieces 12 and 13, and the top 2 and the top of the companion rack are held spaced the proper distance apart by means of a cross-piece 14. In setting up the racks with their spindle-bars the racks are preferably set with their tops a little nearer together than their bases, and the spindle-bars are set at a slight angle to the plane of the base. The arm 7 and the corresponding arm extending from the top socket-pieces 5 of the rack may be connected at their outer ends to a continuous bar 15. In like manner the arms leading from the top socket-pieces of the companion rack may be pivotally connected to a continuous bar 16.

The bars 15 and 16 are used for simultaneously swinging the several spindle-bars of their respective racks with spools thereon from the position shown in Figs. 1 and 2 to the position shown in Fig. 3, reference being had in said figure to the rack represented as nearest the observer or nearest the bottom of the sheet as the latter is held in reading. For convenience in swinging the several bars of a rack simultaneously one of the socket-pieces—for example, the socket-piece on the bar at the end of a rack—may be provided with a handle 17, which may be grasped by the hand of the operator to swing the several bars simultaneously inward and outward. It is obvious that these several spindle-bars might be connected by arms projecting from their socket-pieces at the base instead of at the top, as this would be a mere reversal of position, and it is also obvious that the connecting-rods for simultaneously moving the several spindle-bars might be omitted, thereby leaving the bars to be moved independently and also that they might be connected in groups of two or more instead of all being connected together.

Each arm 7 at the top is connected with its arm 8 at the bottom by a guide rod or roller 18, over which the threads from the several spools pass on their way to the warp-beam. In the present instance the guide 18 is shown as a roller mounted on a central axis 19; but this is a matter of choice, as the roller might be omitted and the axis alone serve as a guide, if so preferred.

At the outer side of each rack and spaced the proper distance therefrom I locate a supplemental rack, these supplemental racks being denoted, respectively, by 20 and 21. Each of these racks consists of a base 22, top

23, and guide rods or rollers 24, connecting the top and bottom, one guide-rod for each spindle-bar. The racks are secured at their bases to the cross-pieces 12 and 13 and at
5 their tops are attached to the tops of the spindle-racks by fastenings 25 26.

The fastening devices 25 and 26 and the corresponding fastening devices for the companion supplemental rack preferably each
10 consist of two parts having a limited sliding adjustment relative to one another, as shown by the slot 27 in one of the parts, through which a bolt 28 passes into the other part, where it is provided with a nut—such, for
15 example, as the nut 29 shown in Fig. 3—for adjusting the top of the supplemental rack nearer to or farther away from the spindle-rack, as may be desired.

The guide rods or rollers 24 of the supplemental racks are so arranged as to direct the
20 threads properly from the group of spools carried by the spindle-bar and maintain these threads in position relative to the warp-beam no matter what the position of the spool itself may be throughout its swing-
25 ing movement from its normal outward position to its inward position for doffing. Furthermore, when the spool is swung inwardly for doffing the thread leading from the spool
30 is prevented from cutting or chafing or snarling over the end of the spool by means of the guide rod or roller 18, which swinging together with the spool causes the thread to lead away from the surface of the spool over
35 the bar 18 before it passes to the stationary guide rod or roller 24.

By the above construction and arrangement one or more of the spindle-bars may be swung inwardly at pleasure without in any
40 manner disturbing the final direction of the thread from the rack to the warp-beam, while the threads are prevented from snarling or chafing by bringing into action when the spools are swung inwardly the guide rods
45 or bars which swing together with the bars. It will be observed that the foregoing arrangement provides also for manipulating

any of the spools on either of the racks from a position intermediate of the racks, as the
50 spools may be readily swung within convenient reach of the attendant located between the racks.

What I claim is—

1. A creel comprising racks set at an angle to each other, spool-carrying bars pivoted to
55 the racks, guide-bars arranged in proximity to the spools for determining the direction of thread from the spool and guide rods or rollers located at a greater distance from the
60 spools for determining the direction of the thread as it leaves the rack.

2. A creel comprising racks set at an angle to each other, spool-carrying bars pivotally
65 secured to the racks, means for swinging a spool-carrying bar from a position for holding the spools directed outwardly from the rack to a position for holding the spools di-
70 rected inwardly from the rack, guide rods or rollers arranged to swing with the spool-carrying bars and supplemental guide rods or rollers fixed relatively to the spool-carrying bars.

3. A creel comprising racks set at an angle to each other and provided with swinging
75 spool-carrying bars and with guide rods or rollers and supplemental racks spaced from the said spindle-carrying racks and provided with guide bars or rollers.

4. In a creel, the combination with racks set at an angle to each other and provided
80 with swinging spindle-carrying bars and with guide rods or rollers arranged to swing with the spindle-carrying bars, of supplemental racks provided with guide rods or bars and means for adjusting the supplemental racks
85 relatively to the spindle-carrying racks.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 14th day of November, 1906.

ISAAC E. PALMER.

Witnesses:

PAUL S. CARRIER,
E. H. P. TRANTUM.