

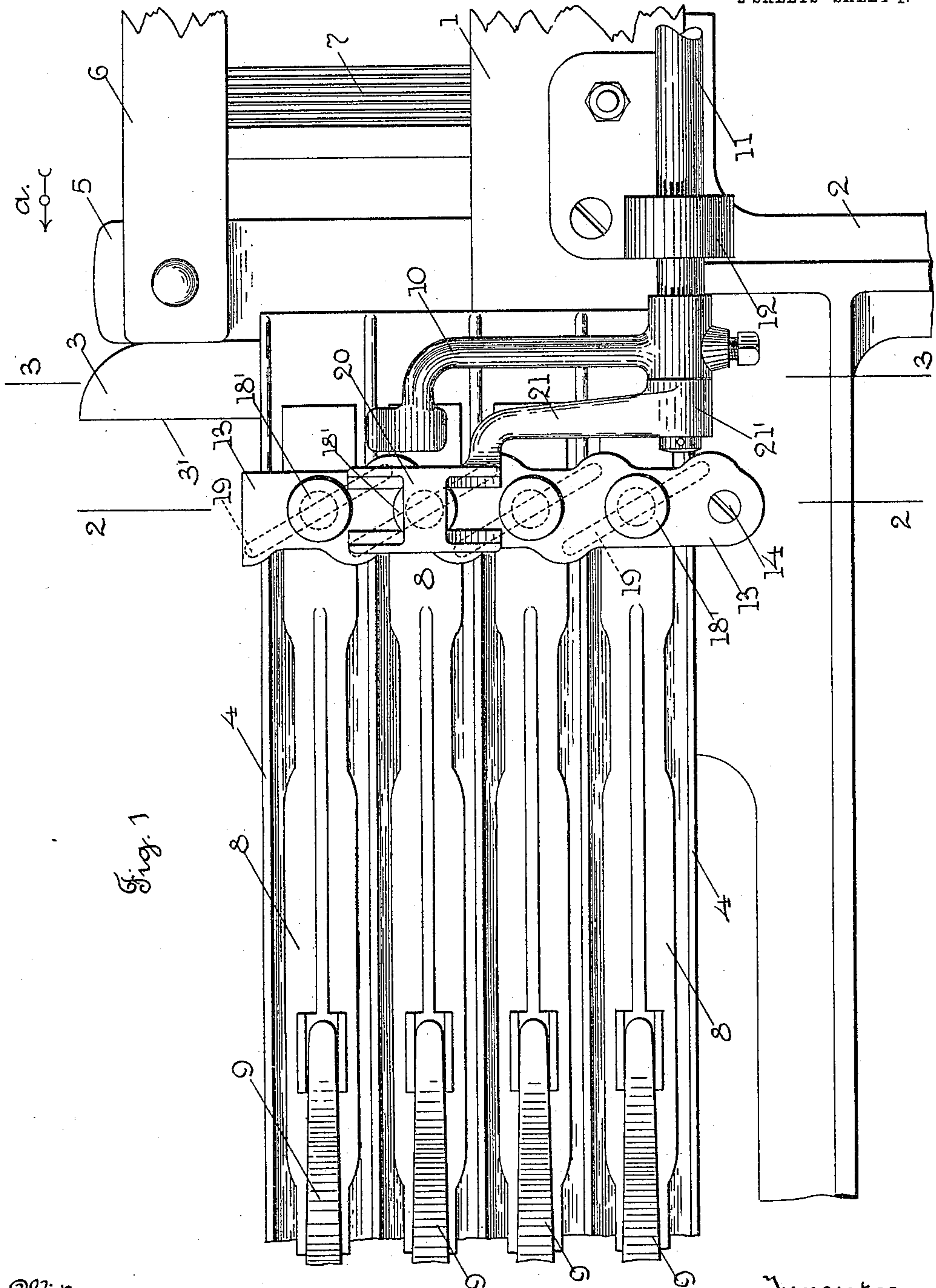
No. 819,912.

PATENTED MAY 8, 1906.

B. F. McGUINNESS.
LOOM SHUTTLE BINDER HOLDING DEVICE.

APPLICATION FILED JULY 1, 1905.

2 SHEETS—SHEET 1.



Witnesses
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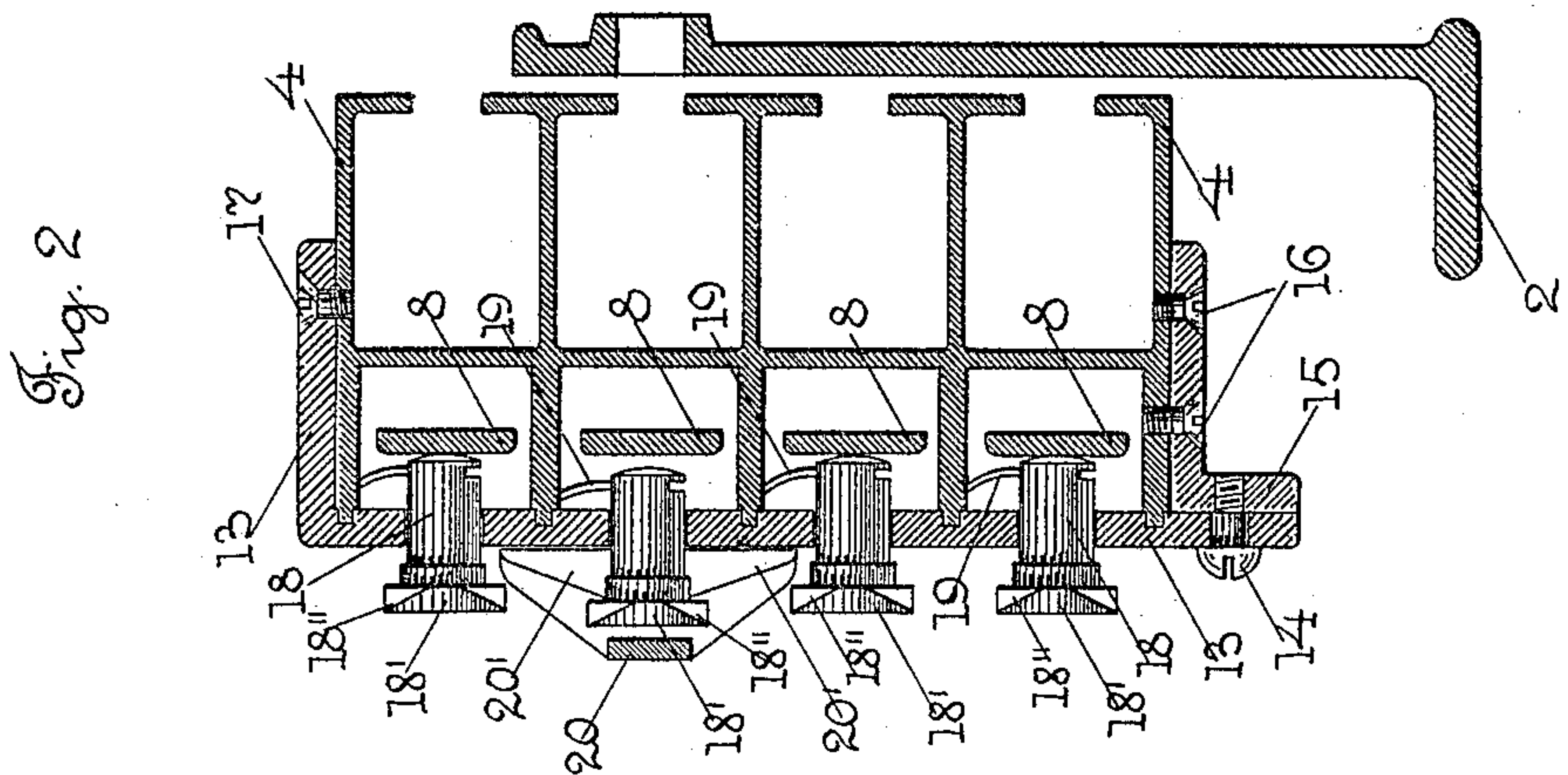
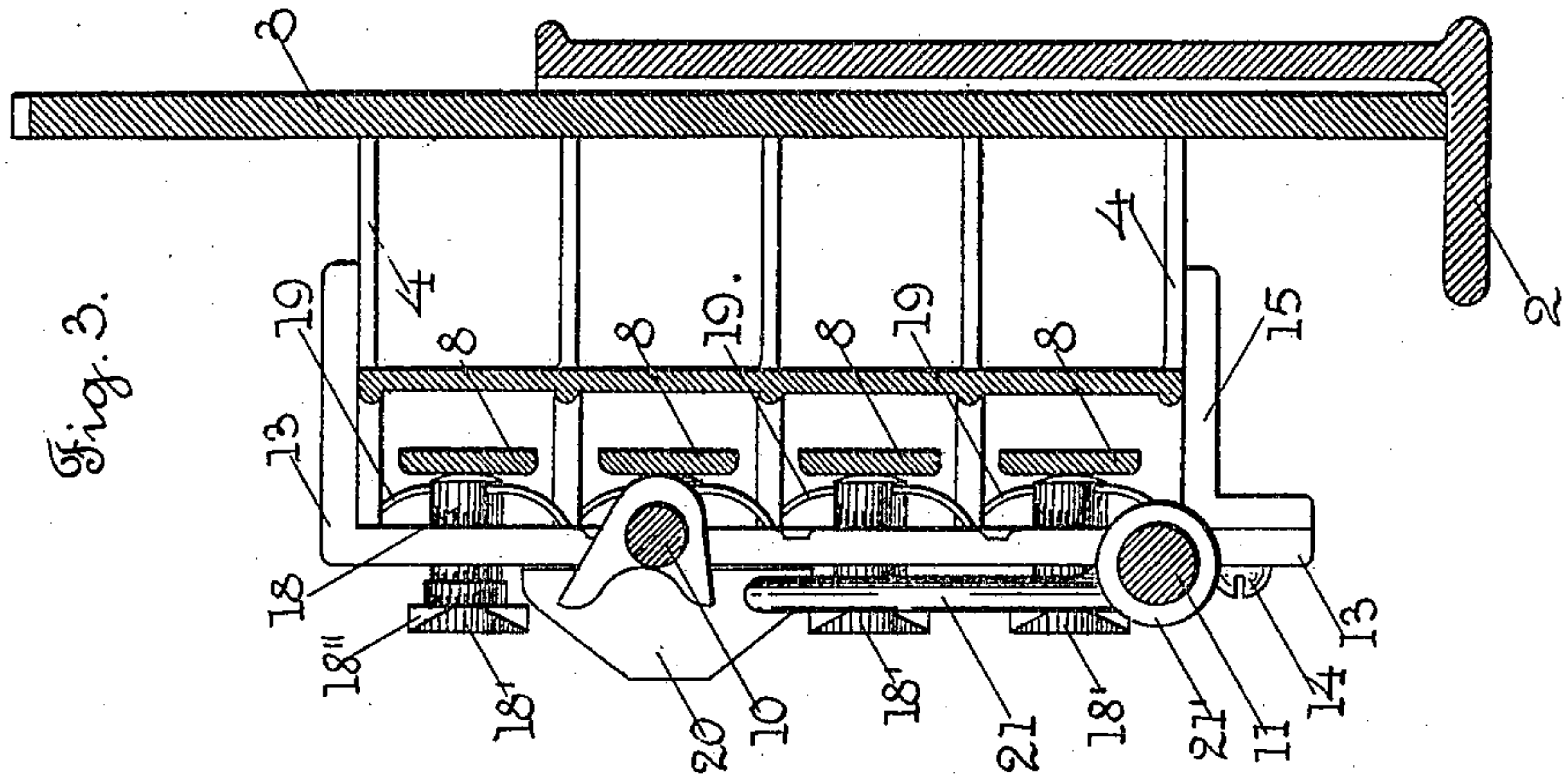
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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TO CROMPTON & KNOWLES LOOM WORKS, A CORPORATION OF MASSACHUSETTS.

LOOM-SHUTTLE BINDER HOLDING DEVICE.

No. 819,912.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed July 1, 1905. Serial No. 267,888.

To all whom it may concern:

Be it known that I, BENJAMIN F. McGUINNESS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Loom-Shuttle Binder Holding Devices, of which the following is a specification.

My invention relates to a loom-shuttle-box binder holding device, and more particularly to a supplemental attachment or mechanism adapted to be combined with the ordinary shuttle-boxes and shuttle-binders of a loom to hold the shuttles not in use in their cells or boxes and prevent any movement thereof.

In looms having shifting or drop shuttle-boxes, and particularly in the class of looms in which a considerable length of the fabric is woven with the same shuttle, as in the case of looms for weaving blankets, it is important to hold the shuttles not in use in their shuttle cells or boxes and to prevent any longitudinal movement thereof or any working loose of the shuttles through the action of the lay or other parts of the loom.

The object of my invention is to provide a supplemental or auxiliary mechanism or attachment to be applied to a loom of any ordinary construction having shifting shuttle-boxes at one or both ends thereof, by means of which the box-shuttle binders will be pressed against all the shuttles in the shuttle-boxes except the active or running shuttle.

My invention consists in certain novel features of construction of my improvements, as will be hereinafter fully described.

I have only shown in the drawings a detached portion of one end of the lay of a loom and shifting shuttle-boxes carried thereon with my improvements combined therewith.

Referring to the drawings, Figure 1 is a detached front view of one end of a lay and of four shifting or drop shuttle-boxes carried thereon. Fig. 2 is a section on line 2 2, Fig. 1, looking in the direction of arrow *a*, same figure. Fig. 3 is a section on line 3 3, Fig. 1, looking in the direction of arrow *a*, same figure.

In the accompanying drawings, 1 is the lay-beam, supported on the upper end of the lay-sword 2, which carries a stand 3, having a guide 3' at its inner end for the vertically-

moving shuttle-boxes 4, in this instance four in number.

5 is the lay-horn, 6 is the hand-rail, and 7 the reed.

Each shuttle box or cell 4 has a shuttle-binder 8 on its front side and a spring 9, which is adapted to press inwardly the shuttle-binder 8.

10 is a protector-finger for engaging the inner free end of the shuttle-binder 8 on the shuttle-box, which is in line with the race-way of the lay. The protector-finger 10 is fast on a rock-shaft 11 of the protector mechanism, mounted in a suitable bearing 12 on the lay-beam in the usual way.

All of the above-mentioned parts are of the usual and well-known construction.

I will now describe my improvements.

At the inner end of the shuttle-boxes 4 and on the front side of said boxes and just outside of the upper end of the protector-finger 10 is secured a plate or stand 13. In this instance the lower end of the stand 13 is secured by a screw 14 to an angle-plate 15, secured by screws 16 on the under side of shuttle-boxes 4, and the upper end of the stand 13 extends over the top of the shuttle-boxes and is secured thereto by a screw 17. (See Fig. 2.) The stand 13 has openings therein, an opening for each shuttle-box and in line with each shuttle-box to receive plungers 18, one for each shuttle-box. The plungers 18 are independent of the shuttles and do not engage with the shuttles, but only with the shuttle-binders. Each plunger 18 has connected with its inner end a spring-blade 19, which acts to move inwardly the plunger and hold it in engagement with the free end of the shuttle-binder and press inwardly the shuttle-binder against the shuttle to hold the shuttle in the shuttle-box. Each spring-blade 19 has its ends secured in recesses on the inner side of the stand 13, which prevents the turning of said spring-blade and also the turning of the plunger 18. Each plunger 18 has an enlarged outer end or head 18', which has vertically-extending beveled edges 18''. In connection with the plungers 18 is used a stationary plate 20, forming a releasing device for the plungers and having two vertically-extending engaging portions 20', which have beveled undercut portions adapted to extend under and engage the bevel-surfaces

18'' on the heads 18' of the plungers 18. The releasing-plate 20 is in this instance supported on the upper offset end of an arm 21, the hub of which, 21', is loosely mounted on the outer end of the rock-shaft 11. The position of the releasing-plate 20 is stationary relatively to the vertically-moving boxes 4 and the plungers 18, carried on the stand 13, secured to said boxes, and is always in line with and engages the plunger of the shuttle-box in line with the raceway.

From the above description in connection with the drawings the operation of my improvements will be readily understood by those skilled in the art.

As the shuttle-boxes move up and down the heads 18'' on the plungers 18 are engaged by the vertically-extending portions 20' on the releasing-plate 20 and are moved outwardly and away from the binders 8 against the action of the springs 19 to release the action of the plungers on the binders. The plunger 18 of the shuttle-box in line with the raceway of the lay carrying the active shuttle is always held out by the releasing-plate 20, so as not to press on the binder 8 of said shuttle-box, but leave it in its normal condition to bear on the shuttle entering the box. The other three plungers 18 not being moved out by the releasing-plate 20 are acted on by the springs 19 to press against the ends of the binders 8 and press in said binders against the shuttles to hold the shuttles in their boxes. As the shuttle-boxes 4 are raised or lowered the plunger 18 above or below the releasing-plate 20 is brought into engagement therewith and the plunger moved outwardly to release the pressure thereof on the binder when the box is in line with raceway of the lay.

It will be understood that the details of construction of my improvements may be varied, if desired.

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

1. In a loom, the combination with shifting or drop shuttle-boxes, and shuttle-binders thereon, of spring-actuated plungers, independent of the shuttles, and not engaging therewith, but adapted to engage and move inwardly said binders, and means for moving outwardly the plunger which engages the shuttle-binder on the box in line with the raceway.

2. The combination with shifting or drop shuttle-boxes, having shuttle-binders thereon, and a protector-finger on a rock-shaft, adapted to engage the free ends of the binders, of spring-actuated plungers mounted in a stand attached to the shuttle-boxes, and movable therewith, said plungers adapted to engage and press inwardly the free ends of the binders, and a releasing-plate adapted to engage the plunger for the shuttle-binder on the shuttle in line with the raceway of the lay, to move outwardly said plunger and release the binder.

3. The combination with shifting or drop shuttle-boxes, having shuttle-binders thereon, and a protector-finger on a rock-shaft, adapted to engage the free ends of the binders, of spring-actuated plungers mounted in a stand attached to the shuttle-boxes and movable therewith, said plungers adapted to engage and press inwardly the free ends of the binders, and a releasing-plate adapted to engage with the plunger for the shuttle-binder of the box in line with the raceway of the lay, to release said binder, said releasing-plate mounted on an arm carried on the rock-shaft which carries the protector-finger.

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