

No. 754,846.

PATENTED MAR. 15, 1904.

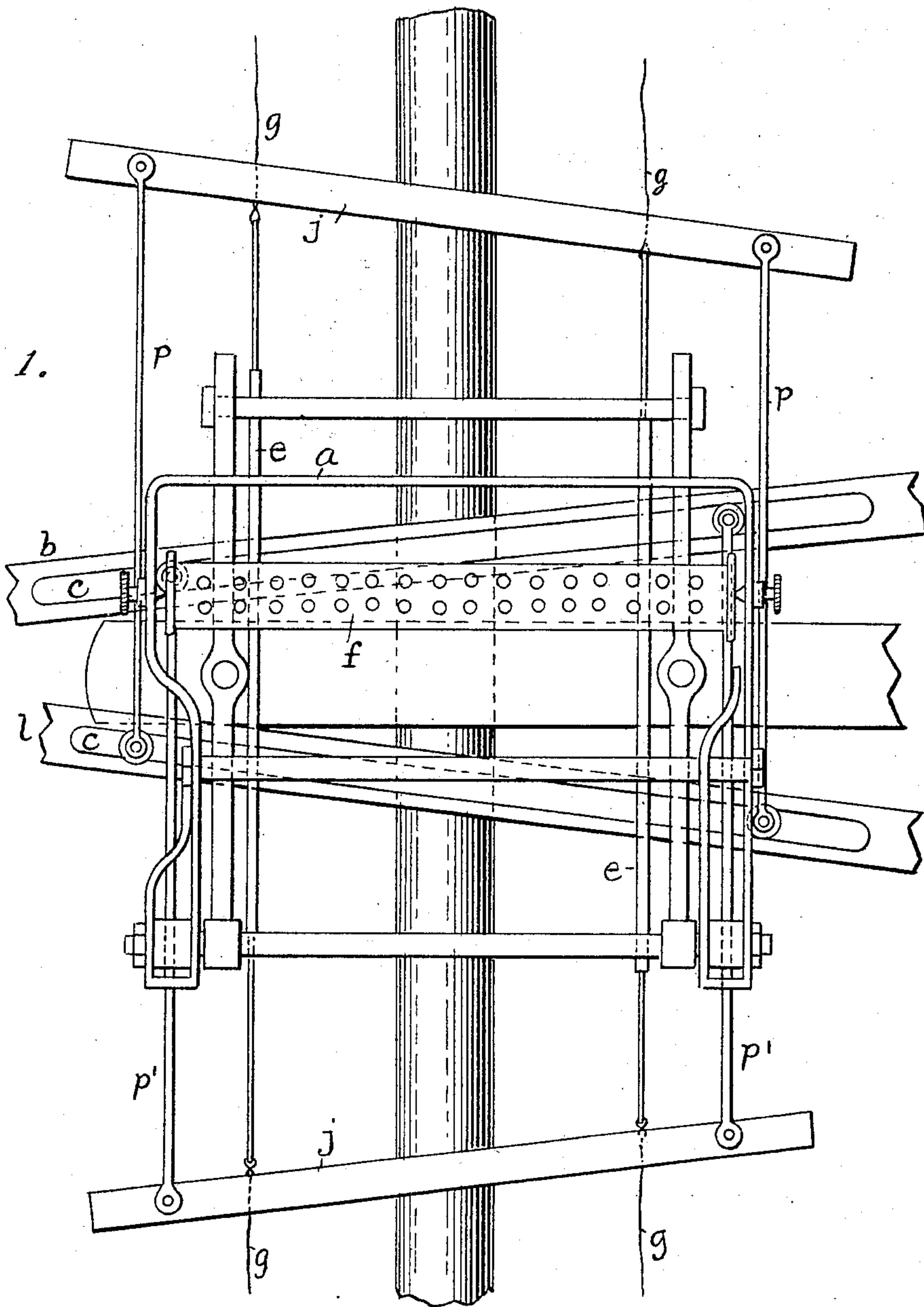
N. & J. CHAIZE.
SHEDDING APPARATUS FOR LOOMS.

APPLICATION FILED DEC. 1, 1900.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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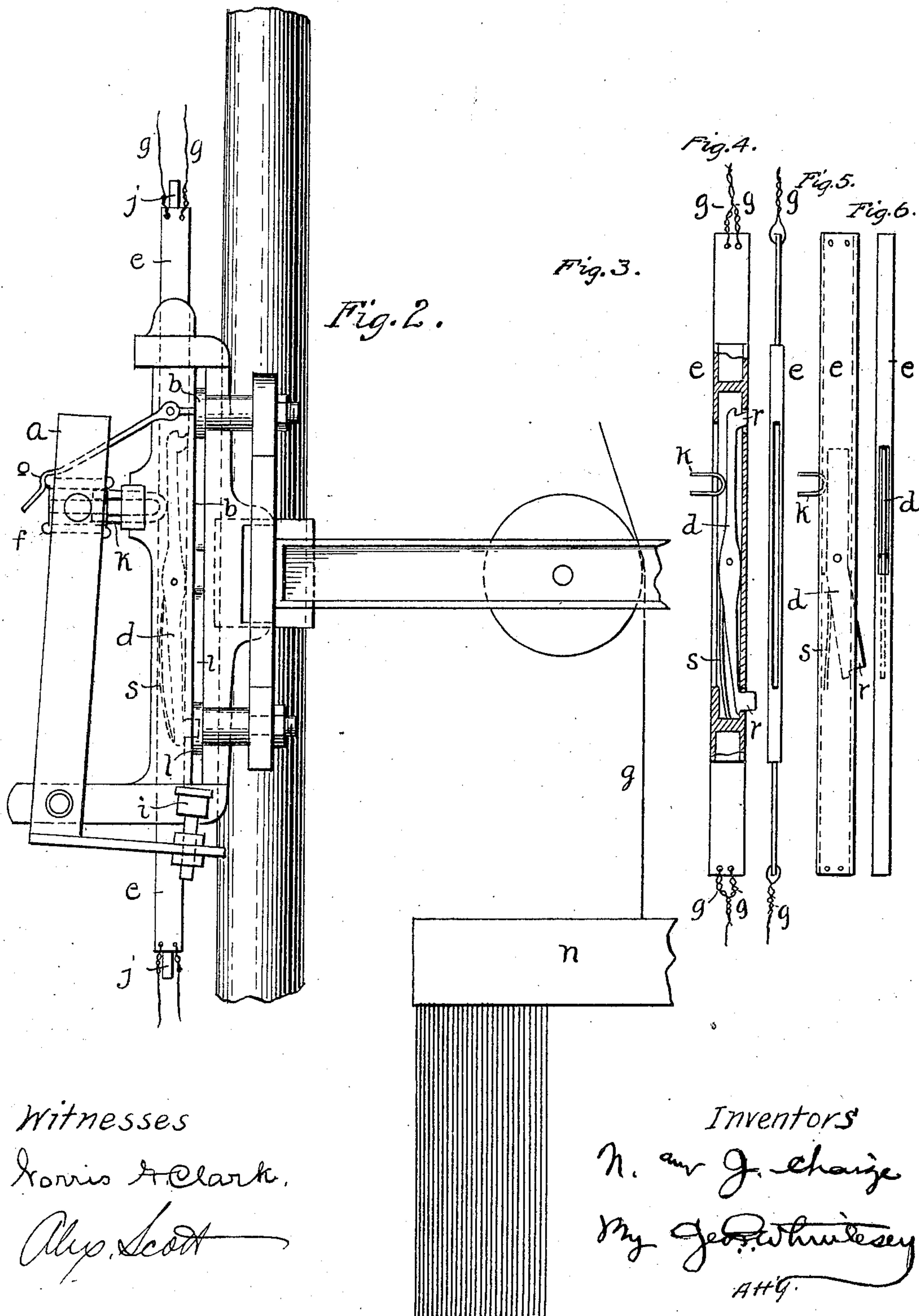
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2 SHEETS—SHEET 2.



Witnesses

Norris & Clark.

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UNITED STATES PATENT OFFICE.

NICOLAS CHAIZE AND JACQUES CHAIZE, OF ST. ETIENNE, FRANCE.

SHEDDING APPARATUS FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 754,846, dated March 15, 1904.

Application filed December 1, 1900. Serial No. 38,347. (No model.)

To all whom it may concern:

Be it known that we, NICOLAS CHAIZE and JACQUES CHAIZE, citizens of the Republic of France, residing at St. Etienne, in the department of Loire, France, have invented certain new and useful Improvements in Shedding Apparatus for Looms, of which the following is a full, clear, and exact description.

This invention relates to dobbies and similar machines used in connection with power-loom.

In the apparatus in which the present improvements are embodied the motions of the loom-healds are produced from two vertically-oscillating arms or levers. The motions are conveyed to the healds through cords which are secured above and below the healds, that cord which is secured to the lower part of the heald passing under a pulley in the lower part of the loom and that which is secured to the upper part of the heald passing over a pulley in the upper part of the loom, both cords being connected, respectively, with the upper and the lower ends of a jack in which there is centrally pivoted a lever having its opposite ends adapted to engage the above-described vertically-oscillating arms. There is one jack for each heald, and all of them are arranged side by side in a frame which supports a pivoted frame carrying the pattern-card cylinder. One or other end of the lever in each jack is or is not projected beyond its edge so as to engage an arm at each pick, as may be determined by the pattern through the agency of the pattern-card, card-cylinder, and needles. When the lever is projected and engaged by the oscillating arm, it and the jack, and consequently also the attached heald, will partake in the motion of the arm.

The appended drawings illustrate in what manner these improvements may be carried into practice and are hereinafter referred to.

Figure 1 represents in side view part of a loom side having these improvements applied thereto, and Fig. 2 shows an elevation at right angles thereto. Figs. 3 and 4 show in side and end elevation, respectively, one of the jacks drawn to a larger scale. Figs. 5 and 6 show views of a modified form of construction

of the jack as seen in side and end elevations, respectively.

As shown by the drawings, a frame *a* is arranged at the side of the loom in such a position as not to interfere with the pattern mechanism. At the same level there are arranged the two arms or levers *b l*, each of which has a longitudinal slot *c c*. The lever *d* is centrally pivoted at about the middle of the carrier, which is a flat rectangular tube open at the front and back to permit the ends of the lever to be projected and so, also, as to permit the lever to be so projected by the agency of the needles *k*, acted on by the pattern card and cylinder *f*. Each jack is about one-third of an inch in thickness, and all are arranged side by side. Housed in the jack is the spring *s*, bearing against the lever *d*. The cord *g*, attached to the upper end of each jack, passes over the upper pulley to the upper part of its heald, to which it is secured. The cord *g'* from the lower end of the jack passes under the lower pulley to the lower part of the same heald, to which it also is secured. Because of this arrangement the healds move synochronously but inversely with their jacks, and no weights or springs are required.

The card-cylinder *f* is oscillated by the lower arm or lever *l*, a projection from which comes into contact with a buffer *i* on a horizontal branch from the frame *a*, which carries the card-cylinder. The rotation of the cylinder is effected by means of a hook *o*, carried by the upper lever *b* and engaging projections on the cylinder. These levers *b l* are oscillated by cranks, eccentrics, or cams moving with the loom-shaft through connecting-rods, the lengths of which can be adjusted by coupling screw-nuts. These devices are so well known that it is not deemed necessary to illustrate them.

If the needle *k*, of which there is one to each of the levers *d*, be pushed by the motion of the card-cylinder, it will push forward the upper end of the lever *d*, so that the latter can be engaged by the arm *b*, whereupon the jack will partake in the motion of arm *b*, and consequently the heald *n* will have an equal motion in the opposite direction.

Whether or not the needle k will be pushed is determined by the pattern-card at the moment on the cylinder, as is well understood.

As shown by Fig. 3, the upper and lower ends r, r' of the levers d are recurved or hooked, so as to better engage with the slots c, c in the arms b, l , or they may have ordinary butt-ends, as shown by Figs. 5 and 6, so as to merely rest upon the said arms. Both the upward and downward motion of the healds can be effected through the levers d in the jacks e , as is determined by the pattern-card. All the jacks e , and consequently all the healds n , can be restored immediately after each pick by the rods j, j' , arranged above and below the jacks and moved by the arms b, l . The rods partake of the movement of the arms, the upper rod being connected by bars p with the lower arm l and the lower rod being similarly connected by bars p' with the upper arm b . The rods lie adjacent to the ends of the jacks and serve to bring them all back to

a normal position at each stroke. Inasmuch as the levers in the jacks are automatically disengaged from the arms by their springs s as soon as the tension on said levers is relieved, it is evident that the rods effect a most important function.

Having now particularly described our said invention, we declare that what we claim is—

In shedding apparatus for looms, a jack composed of a flat, rectangular tube having pivoted within it a hooked lever, and provided with holes in one edge to permit the hooks to protrude and a slot in the opposite edge to admit a needle, and a spring housed within said tube and bearing against said lever.

In witness whereof we subscribe our signatures in presence of two witnesses.

NICOLAS CHAIZE.
JACQUES CHAIZE.

Witnesses:

JACQUES DUPREE,
HASTINGS BURROUGHS.