

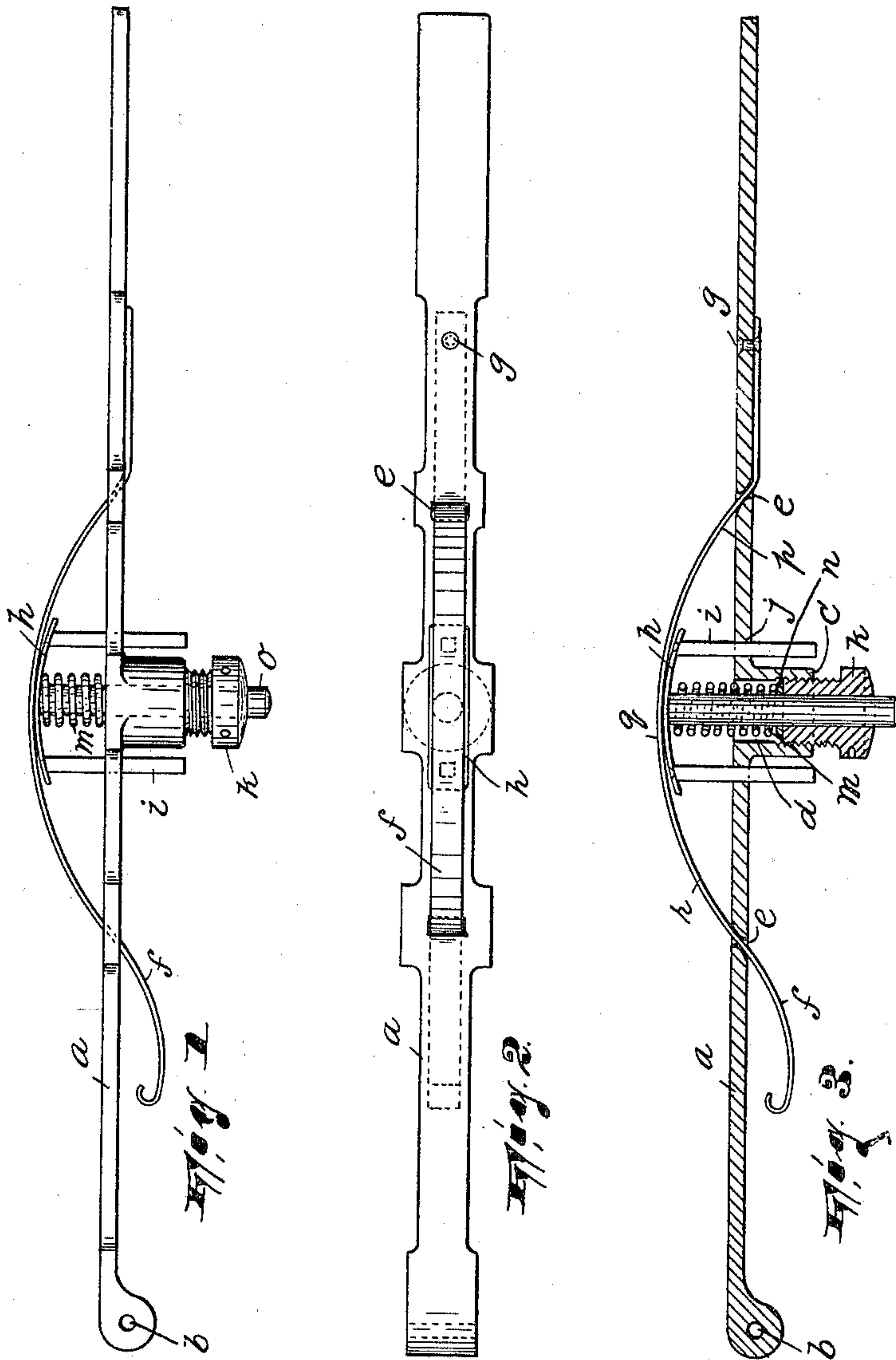
No. 652,582.

Patented June 26, 1900.

F. BABCOCK.
SHUTTLE BINDER.

(Application filed Apr. 12, 1900.)

(No Model.)



WITNESSES:

Wm. S. Bell.
James B. Newton.

INVENTOR,

Frank Babcock,
BY
Garthert Steward,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

FRANK BABCOCK, OF PATERSON, NEW JERSEY, ASSIGNOR OF TWO-THIRDS TO EDWIN TRACHSLER, HERMAN METZ, AND IDA BABCOCK, OF SAME PLACE.

SHUTTLE-BINDER.

SPECIFICATION forming part of Letters Patent No. 652,582, dated June 26, 1900.

Application filed April 12, 1900. Serial No. 12,499. (No model.)

To all whom it may concern:

Be it known that I, FRANK BABCOCK, a citizen of the United States, residing at 120 Barclay street, city of Paterson, county of Passaic, and State of New Jersey, have invented certain new and useful Improvements in Shuttle-Binders; 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 the letters of reference marked thereon, which form a part of this specification.

This invention relates to looms; and it has reference particularly to that portion of a loom which comprises the mechanism for stopping the shuttle after each shot thereof through the shed and which is technically known as a "shuttle-binder."

The object of my invention is to provide a shuttle-binder of simple, strong, and durable construction, easily adjustable, and capable of effectively stopping the shuttle without material wear upon either itself or the shuttle.

The invention consists in the improved shuttle-binder and in the combination and arrangement of the various parts thereof, substantially as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several views, Figure 1 is a view in side elevation of my improved shuttle-binder; Fig. 2, a top plan view of Fig. 1; and Fig. 3, a longitudinal sectional view through the binder, certain portions being shown in full to better illustrate the nature of my invention.

In said drawings, *a* designates the usual elongated metallic plate or bar, penetrated at one end by a vertically-extending hole or opening *b* for the reception of the pin by means of which said plate or bar is pivotally secured in the shuttle-box, the other end of said plate or bar being flattened for the engagement of the means whereby the binder is locked in its operative position, all of the usual and well-known construction.

The plate or bar *a* has a boss *c* formed in-

tegrally therewith and extending centrally thereof from one of its faces. Said boss and the plate are penetrated by a bore or hole *d*. Between the boss and each end of the plate or bar there is formed in the latter a short transversely-extending slot *e*. Through these slots projects a curved plate-spring *f*, one end of which, preferably that nearest the pivoted end of the plate or bar, is free, while its other end is riveted or otherwise secured to the latter, as at *g*. It should be remarked that the curved portion or "swell" of the plate-spring is situated on that side of the plate or bar opposite to the side thereof from which the boss projects.

h is a curved bridge-plate, against which the central portion of the inner face of the plate-spring bears, and to this bridge-plate is secured a pair of guide-pins *i*, which project through and are adapted to freely slide in apertures *j*, formed in the plate or bar both sides of the boss *c*.

The boss *c* is internally threaded, and into it projects a set-screw *k*, provided with a central bore or opening, which latter is penetrated by a spindle *o*, secured with its inner end to the bridge-plate *h*. Said spindle *o* is loosely arranged in the set-screw *k* and is surrounded by a spiral spring *m*, bearing, respectively, against the bridge-plate *h* and a washer *n*, which latter rests on the inner end of the set-screw *k*, as clearly shown in Fig. 3 of the drawings.

It will be seen that by simply manipulating the set-screw *k* the position of the bridge-plate relatively to the plate or bar *a* can be easily adjusted. It will be also seen that the bridge-plate *h*, its guiding means, and the spiral spring comprise a mechanism which constitutes a buffer for the plate-spring *f*.

In operation as the shuttle comes into the box it impinges first against the portion *p* of the spring-plate *f* and gradually depresses said spring-plate—that is to say, the portion *r* of said spring-plate is moved or forced through its respective slot *e*. The shuttle when it comes to its resting position bears against the central portion *q* of said spring-plate and is firmly held in said position until it is thrown out of the box, as will be manifest.

It is of course understood that the spring

m coacts with the spring-plate *f* in resisting the action of the shuttle. It is moreover to be observed that the action of the plate-spring depends to some extent upon the fact that, as best shown in Fig. 3, it approximately fits the openings *e*, and especially that which is the nearer to its free end, so that the more the plate-spring is flattened the more it tends to resist this.

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

1. In a shuttle-binder, the combination of an elongated plate having appreciably-spaced 15 openings, a curved plate-spring secured at one of its ends to, and extending longitudinally of, said plate, said plate-spring penetrating the openings, and said plate also having an opening intermediate the other openings and 20 a yielding buffer, arranged in said intermediate opening, said buffer engaging the plate-spring in that portion thereof between the openings, substantially as described.

2. In a shuttle-binder, the combination of 25 an elongated plate having appreciably-spaced openings, a curved plate-spring secured at one of its ends to, and extending longitudinally of, said plate, said plate-spring penetrating the openings and having its other end free 30 and said plate also having an opening intermediate said first-named openings, and a yielding buffer arranged in said last-named opening, said plate-spring bearing against said buffer, substantially as described.

35 3. In a shuttle-binder, the combination of

an elongated plate, having an opening, a curved plate-spring secured at one of its ends to, and extending longitudinally of, said plate, the other end of said plate-spring being free and approximately fitting and penetrating said opening, and a yielding buffer, said plate-spring bearing against said buffer with its middle portion in contact therewith, substantially as described. 40

4. In a shuttle-binder, the combination of 45 an elongated plate having an opening, a curved plate-spring secured at one of its ends to, and extending longitudinally of, said plate, the other end of said plate-spring being free and approximately fitting and penetrating said opening, a spring-actuated buffer 50 engaging said plate-spring, and means for adjusting said buffer, substantially as described.

5. In a shuttle-binder, the combination of 55 an elongated plate, a curved plate-spring secured at one of its ends to, and extending longitudinally of, said plate, a set-screw carried by said plate, a bridge-plate, said plate-spring bearing against the latter, guide-pins carried by the bridge-plate and penetrating the plate, 60 and a spring interposed between said bridge-plate and the set-screw, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of 65 April, 1900.

FRANK BABCOCK.

Witnesses:

THERESA TRACHSLER,
IDA BABCOCK.