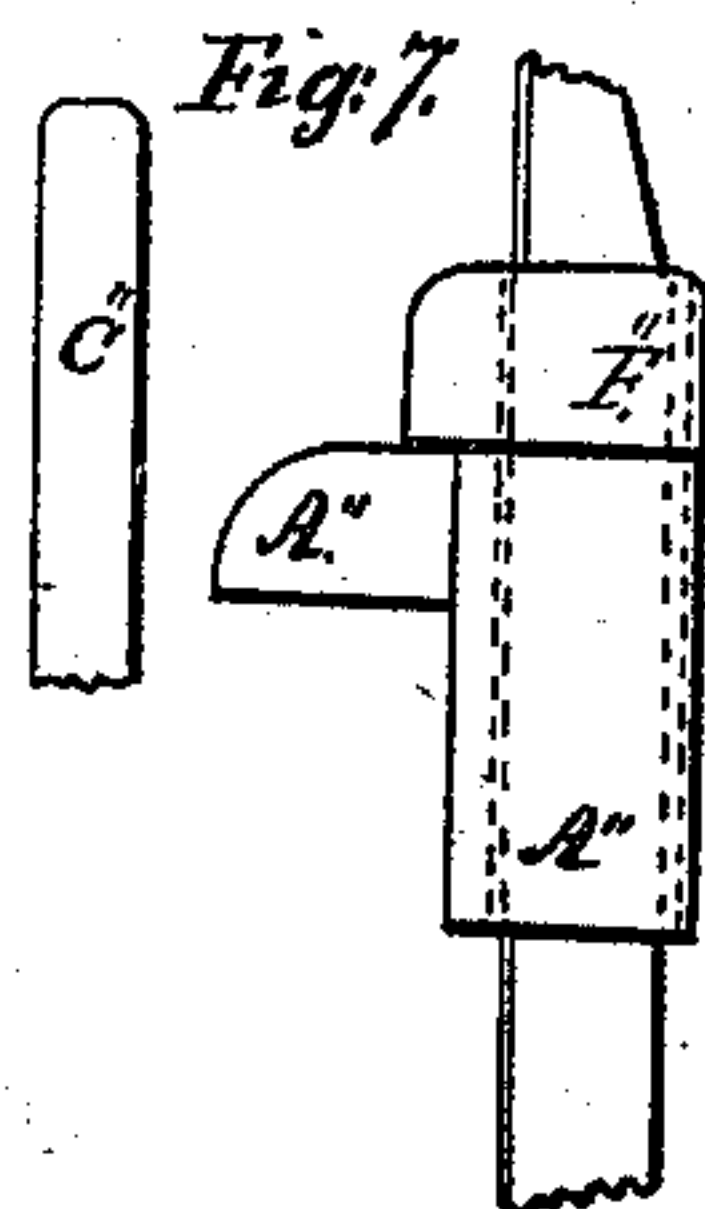
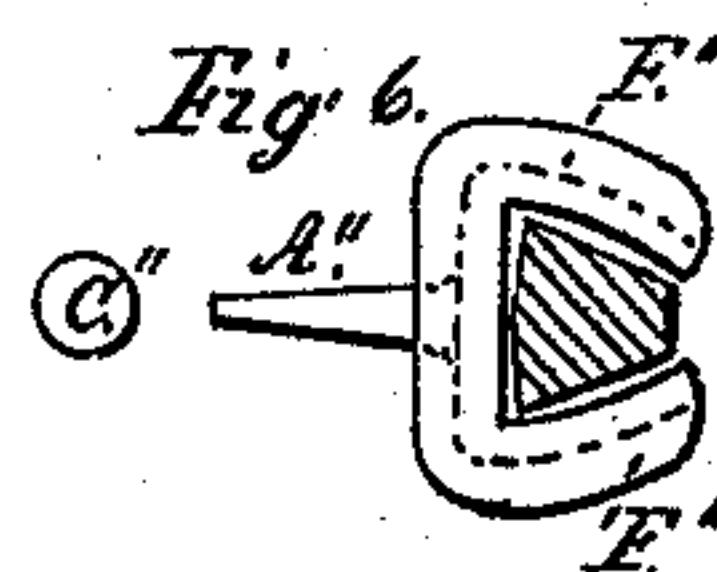
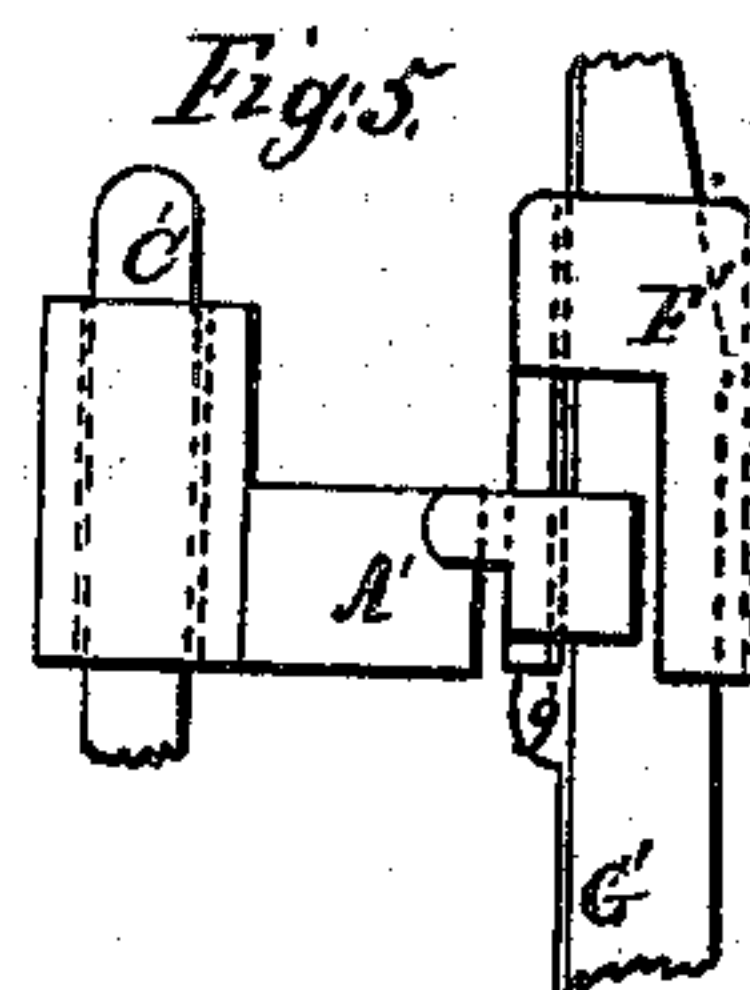
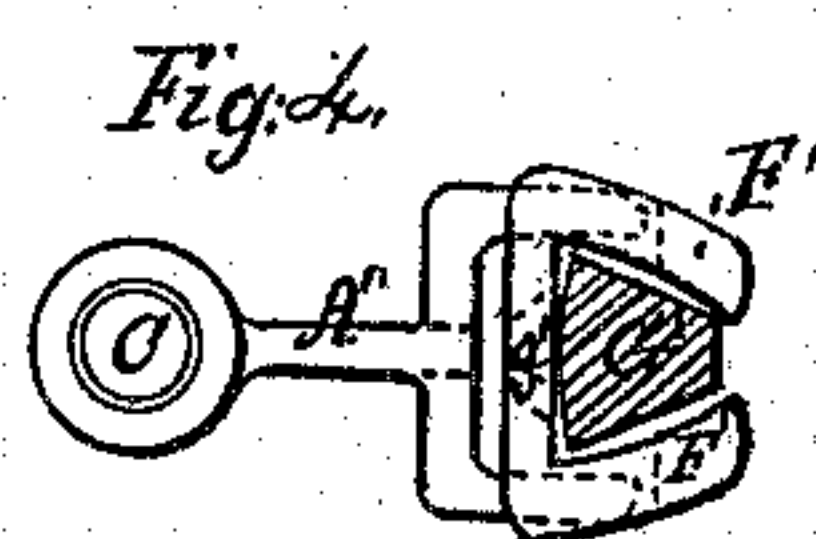
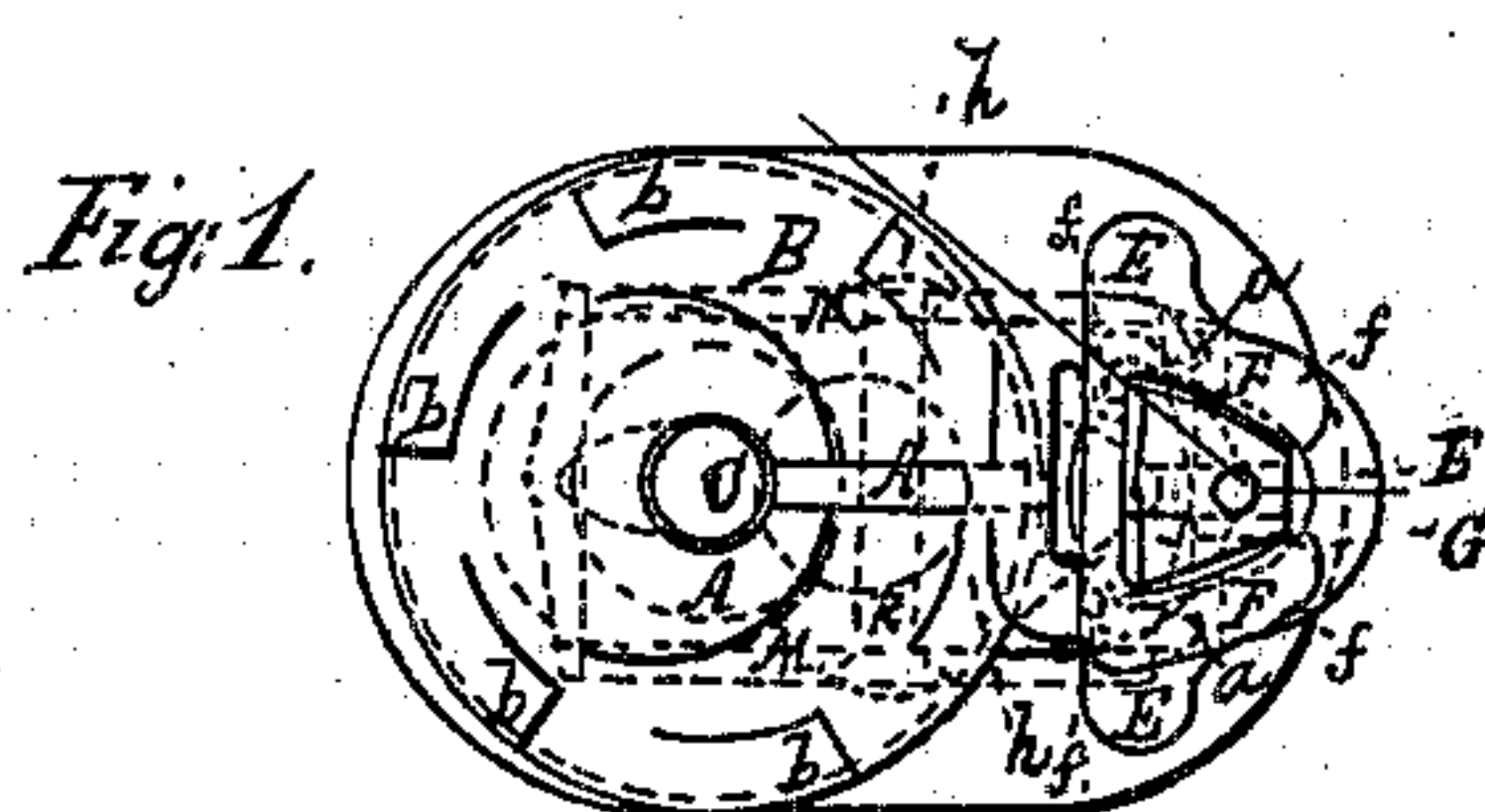
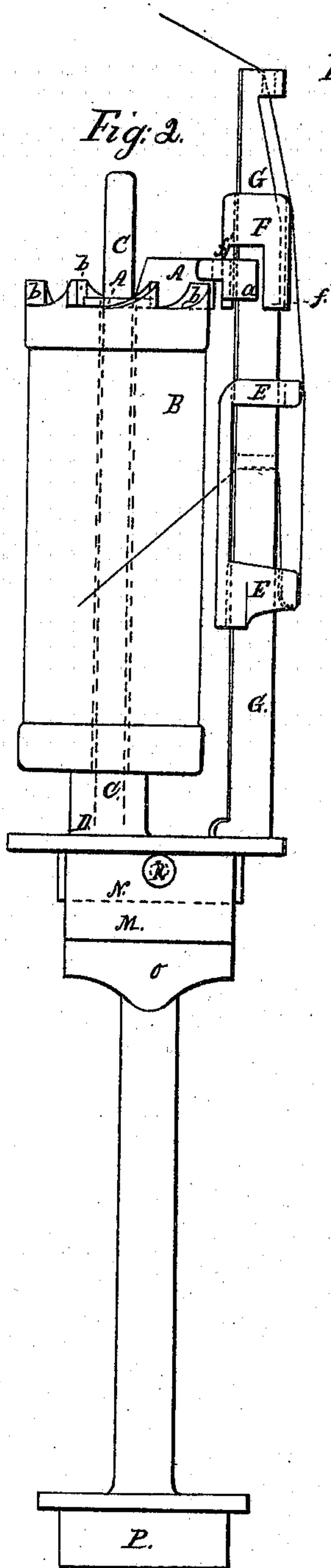
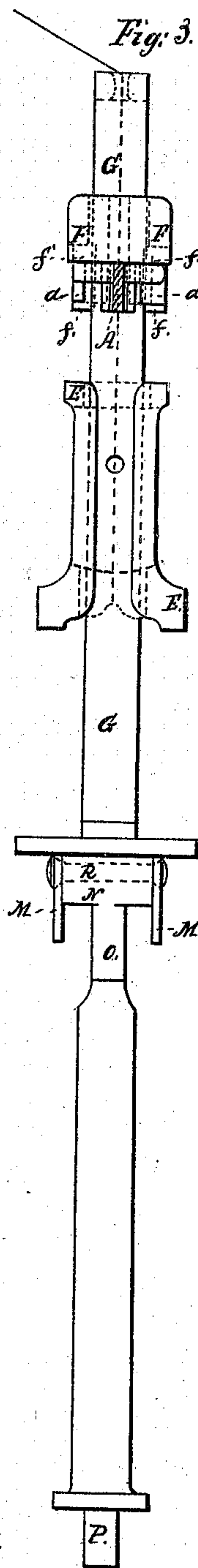


J. D. Butler Braiding Mach.

N^o 100,596.

Patented Mar. 8, 1870.



Witnesses.
Geo. F. Wright
C. F. M. Parkhurst.

Inventor.
James D. Butler.

United States Patent Office.

JAMES D. BUTLER, OF LANCASTER, MASSACHUSETTS.

Letters Patent No. 100,596, dated March 8, 1870; antedated February 26, 1870.

IMPROVEMENT IN LET-OFF AND TENSION DEVICES FOR SPOOLS OF BRAIDING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, JAMES D. BUTLER, of Lancaster, county of Worcester, and State of Massachusetts, have invented a new and improved Braiding-Machine Traveler or Carrier; and I do hereby declare the following to be a full description thereof, reference being had to the accompanying drawings making part of this specification.

My invention consists in an arrangement for the yarn "take-up" and "let-off" in a braiding-machine traveler, in which simplicity of construction and effectiveness of operation are combined, in a manner, for certain kinds of work, superior to any heretofore known; and

Also, in an improved form of the traveler, as adapted to the braiding-machine proper.

In the accompanying drawings—

Figures 1, 2, and 3 represent the plan and two elevations of the traveler;

Figures 4 and 5, the plan and elevation of a modified form of the invention; and

Figures 6 and 7, the plan and elevation of another modified form of the invention.

In fig. 3 the spool and spool-spindle are omitted, as they would interfere with the clear representation of the parts which need particularly to be seen.

A section of the spool-catch A is also given, in preference to a complete view.

In figs. 1 and 2, B represents the spool with the yarn wound upon it, and

C, the spindle, which is fast in the hub D, and upon which the spool turns.

In figs. 1, 2, and 3, E represents the tension-weight; F, the check-weight;

A, the spool-catch; and

G, the upright upon which E and F slide.

E and G are of the form commonly used.

When the tension-weight E is moved up by the drawing of the yarn, it strikes against the legs *f* of the check-weight F and against the horns *a* of the catch A, and raises the check-weight and spool-catch.

The raising of the spool-catch A above the corners of the teeth *b* on the spool allows the spool to turn and let off yarn, and therefore should occur only when more yarn is wanted from the spool.

Now, where, as in the ordinary plan, the tension-weight E strikes only against the spool-catch corresponding to A, and this catch has no weight supported upon it, the momentum of the tension-weight will cause it to strike against and raise the catch after the thread has ceased to draw, provided the machine be run at a high rate of speed.

In this invention the spool-catch will not be raised by the tension-weight when the latter is moving by

its own momentum simply, as it evidently should not be, but will be when the yarn continues to draw the weight high enough, thus indicating that more yarn is really wanted from the spool, as it plainly ought to be.

The check-weight F may be about as heavy as the tension-weight E. When, therefore, E is thrown by its own momentum against F, it will itself stop, and its motion will be imparted to the latter.

This motion of F does not disturb the catch A, as the former rests simply at *f* upon the latter. Thus F takes entirely the impulse from E which, were it not for it, would be given to the catch A, raising the latter and letting off yarn from the spool.

When, however, the thread continues to draw upon E after it has come against F, the former still rises, carrying the latter above it, and comes in contact with A at the end *a* of the horns, and lifts the catch, letting off the required thread from the spool.

It will be seen that the check-weight F is supported upon the spool-catch A. This is a matter of convenience rather than a feature of consequence.

It would answer to have the check-weight supported, as in figs. 4 and 5, upon a spur, *g*, on the upright G' upon which the weights slide.

The catch A, it is plain, can be raised without lifting the check-weight, and yet the check-weight acts just as well to protect the catch from the tension-weight as in the arrangement shown in figs. 1, 2, and 3.

It will also be seen that the catch represented in figs. 4 and 5 slides upon the spool-spindle C', instead of swinging upon the top of the spool, as in figs. 1, 2, and 3.

In figs. 6 and 7 the check-weight F" rests upon the spool-catch A", and is never touched by the tension-weight. Here the impulse which the catch receives from the tension-weight is entirely transmitted to the check-weight, so that the catch does not rise, but the check-weight instead.

It is very easy to modify considerably the details of the parts entering into the above-described arrangement, and changes might be readily made in the exact disposition of these parts in reference to each other.

I do not confine myself to the details shown, inasmuch as I have set forth the advantages arising from the use of my form of check-weight, as guarding the spool-catch from disturbance due to the irregular action of the tension-weight, arising from the momentum of the latter when the machine is run rapidly.

The traveler, it will be seen, is adapted to a ma-

chine in which upper and lower guide-plates are used, the part O of the traveler bearing against the upper, and the part P against the lower guide-plates.

Instead of having the hooked part M N M cast, it is thought that it may be best to have M separate plates, riveted to the main part of the traveler by one or more rivets R.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the check-weight with the tension-weight and spool-catch, substantially as and for the purposes described.

Witnesses:

JAMES D. BUTLER.

GEORGE F. WRIGHT,
C. F. W. PARKHURST.