

W. H. BURNS.
 ROLLER TEMPLE FOR LOOMS.

No. 109,583.

Patented Nov. 29, 1870.

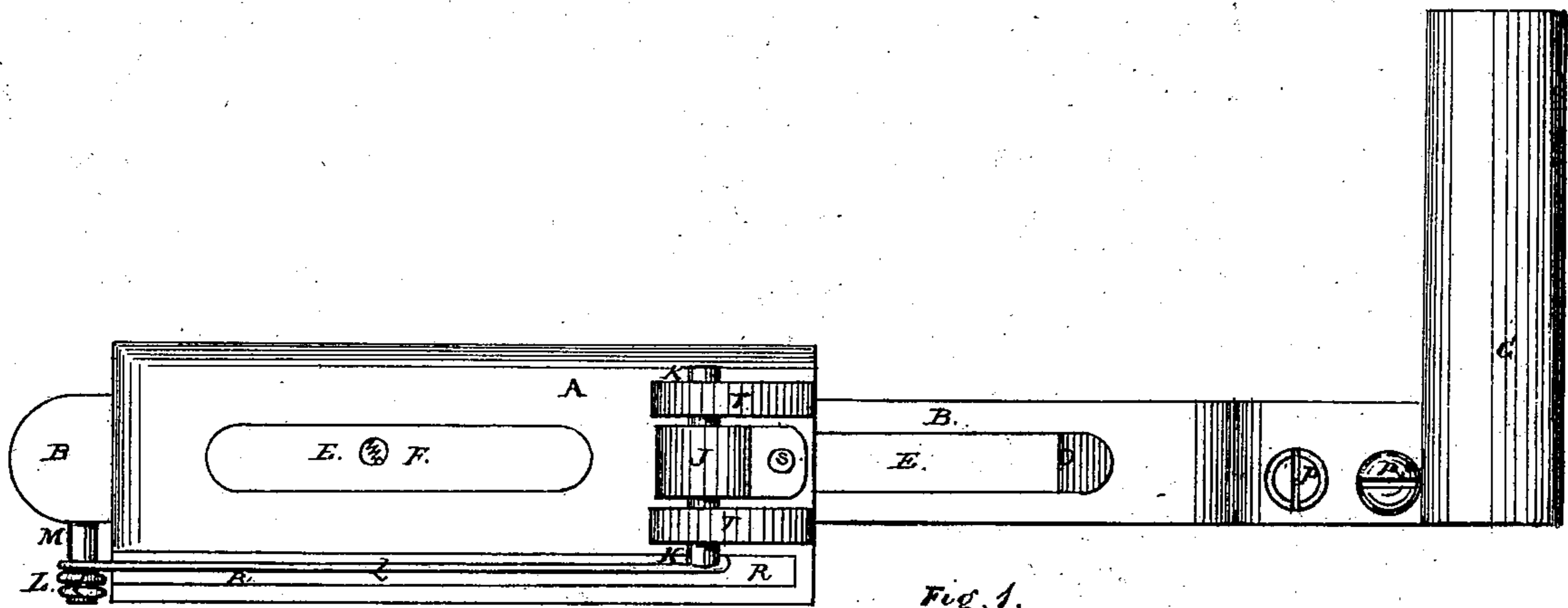


Fig. 1.

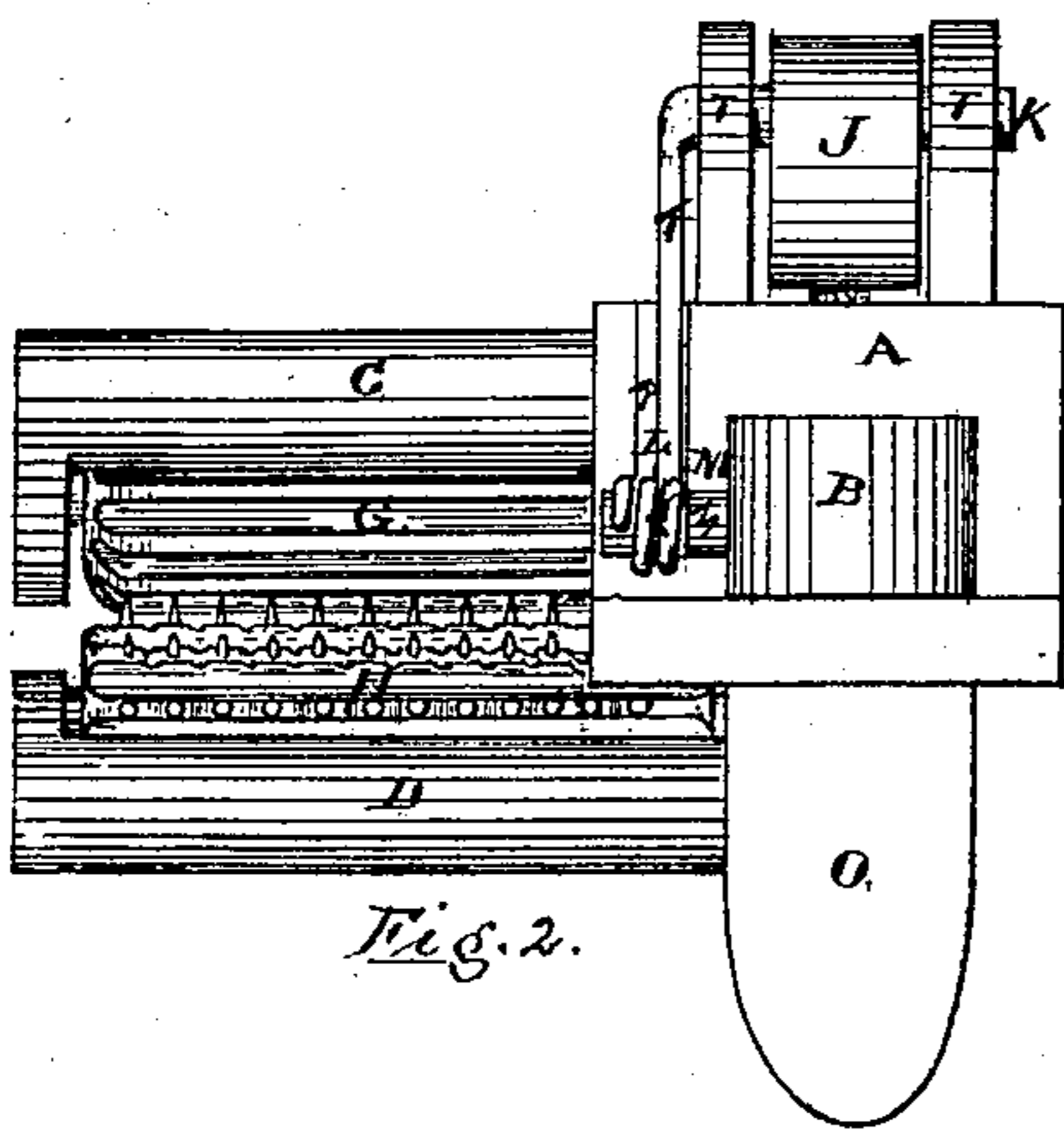


Fig. 2.

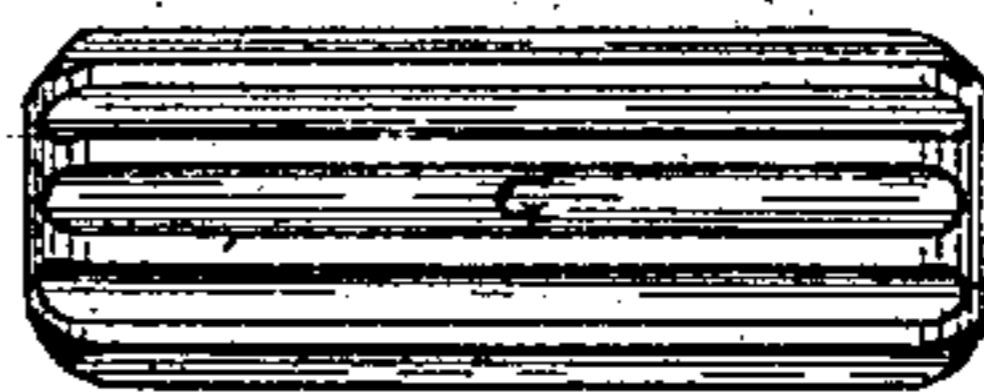


Fig. 3.



Fig. 4.

INVENTOR. *William H Burns*

WITNESSES. *J. Henry Hill*
Henry F. Leland.

United States Patent Office.

WILLIAM H. BURNS, OF GRAFTON, ASSIGNOR TO JONATHAN LUTHER, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 109,583, dated November 29, 1870.

IMPROVEMENT IN ROLLER-TEMPLES FOR LOOMS.

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

To whom it may concern:

Be it known that I, WILLIAM H. BURNS, of Grafton, county of Worcester, Commonwealth of Massachusetts, have invented a new and improved Roller-Gear Temple, for the purpose of holding the cloth extended widthwise in the loom while in the process of weaving; also a new and improved Method of Reciprocating Temples; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing and the letters of reference marked thereon, making a part of this specification.

This invention consists in the employment of a fluted roller revolved in connection with and by a roller having teeth fitting into the fluted roller, so that when one roller revolves the other must revolve with it. By this arrangement the cloth, when drawn in between the rollers, moves along with little or no friction, the teeth penetrating the cloth free and clear in the grooves of the fluted roller, and thus matching in, must all move together, hence I call it a roller-gear temple, as heretofore stated.

This invention also consists in a new and improved method of fastening the stand to the loom and reciprocating the temple, all of which is hereinafter more fully described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the drawing—

Figure 1 represents a top view of the temple and stand together;

Figure 2 represents an end view, looking from the end of arm E to the rollers G and H;

Figure 3 represents the fluted roller; and

Figure 4 represents a toothed-roller, I, which may be employed in the same manner as the needle-roller H.

In fig. 1, C represents a cap which holds the fluted roller G, (see fig. 2.)

This cap is secured to the arm B B by screw P, and is regulated by screw P^a.

Directly under cap C is the holder D, as seen in fig. 2, and is a part of the arm B, dropped sufficiently to make room for and hold the roller H, which I place on an arbor in said holder D.

In the arm B B I make a slot or opening, E E.

This arm passes through a socket in the stand A, which also has a slot or opening, F.

This opening in the stand is for the purpose of fastening the stand to the breast-beam of the loom.

The opening in the arm B allows the temple to slide back and forth in the socket, unobstructed by the fastening of the stand.

This manner of fastening enables me to have room for the temple on the breast-beam of the loom, where

the filling stop-motion would be in the way if the stand was fastened through a slot on its side.

The stand A I cast in two parts, the upper portion with sides and top comprise one part, and the under side the other part.

T T represent two ears cast on the upper portion.

They support the spring J on its crank-pin, K K.

This spring is fastened to the pin and wound up.

The other end is secured to the stand at S.

The crank K, as seen in fig. 2, I connect with the pin M, at the end of arm B, by a wire, L L.

Letters R R represent a recess cast in the upper portion of the stand for the wire-connection L L.

In figs. 1 and 2 O represents a catch cast on the under side of arm B, to receive a slight touch from a screw placed in the lathe of the loom to give the temple its forward movement. The force of the touch is regulated by this screw.

By this arrangement of the spring and its connections, the temple has an easy movement forward and back with each lay of the cloth, and also avoids any breakage of shuttles between the temples and the lathe of the loom.

In fig. 2 G represents my fluted roller on its arbor in the cap C.

This roller may be made of malleable or gray cast-iron, the grooves a little spiral in form.

In fig. 2 H represents my needle-toothed roller, and may be made of malleable iron, then case-hardened, or of steel and hardened.

Grooves are first made in this roller corresponding with the fluted roller, the needle teeth are then formed with tools made for that purpose, the roller is then placed on its arbor in the holder D, gearing into the fluted roller G, so that when the cloth is drawn between it is penetrated by the teeth and held widthwise as it moves along in the process of weaving.

By this arrangement the cloth passes through with little or no friction, it matters not how taut it may be drawn lengthwise it is held just as securely widthwise, and the friction is not increased.

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

1. The fluted roller G in combination with a toothed-roller, when arranged and operating as and for the purpose herein specified.

2. The arm B and stand A, having the corresponding slots E and F, and the spring J, or its equivalent, when combined and arranged as and for the purpose herein specified.

Worcester, Massachusetts, June 4, 1870.

WILLIAM H. BURNS.

Witnesses:

J. HENRY HILL,
HENRY F. LELAND.