(No Model.)

## H. SWAIN.

DELIVERY OR FLY FINGER FOR PRINTING MACHINES.

No. 428,025.

Patented May 13, 1890.



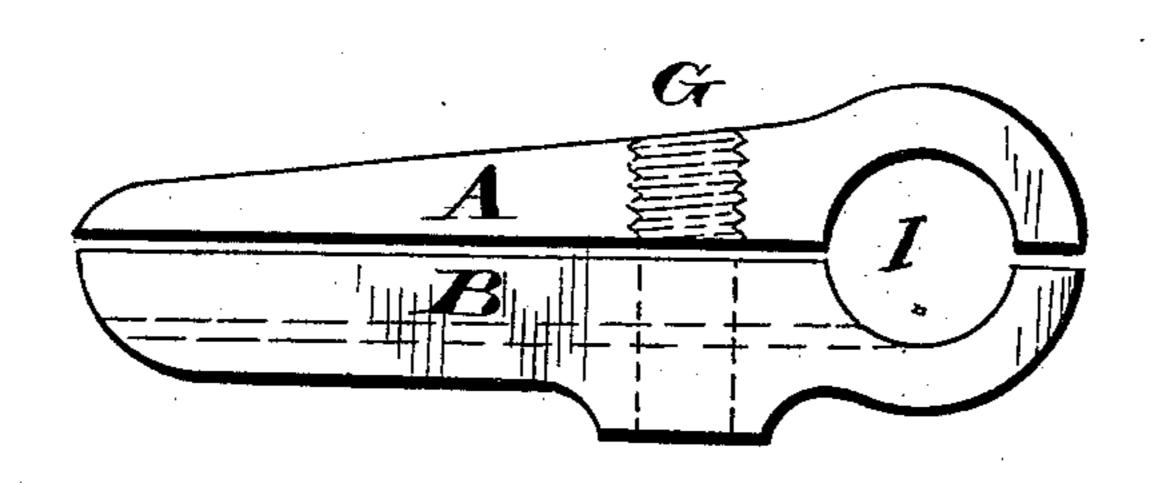
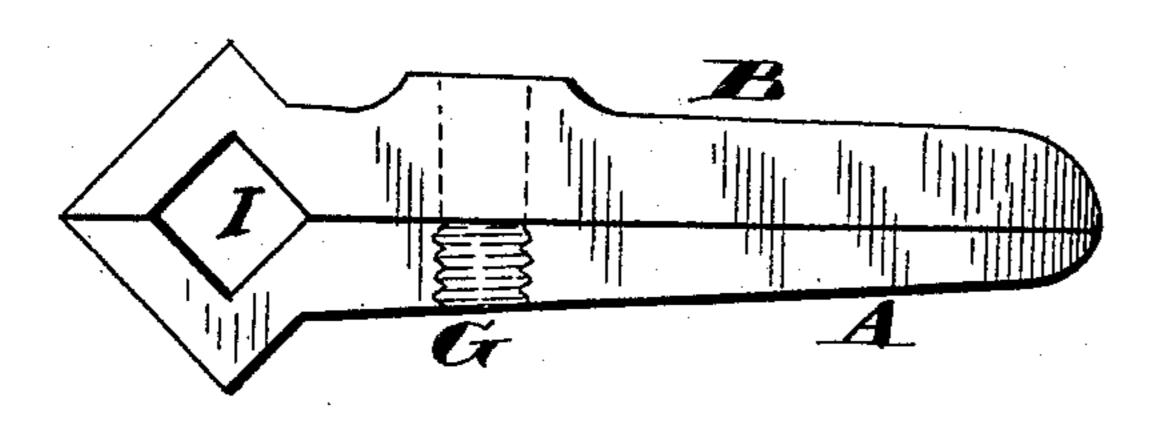
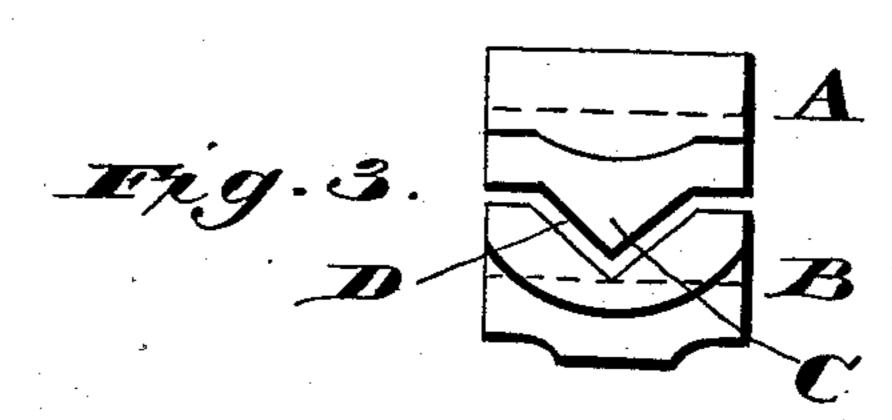
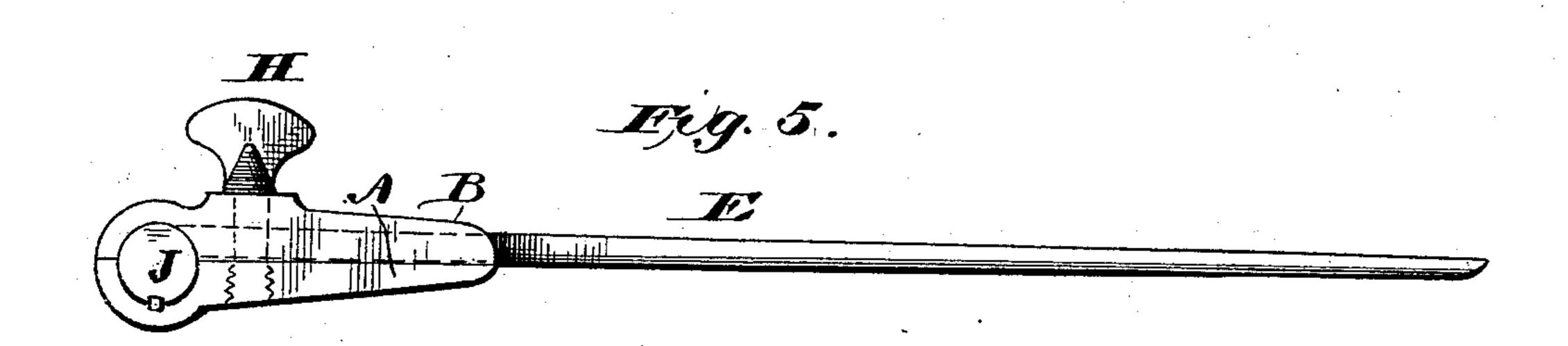


Fig. 2





Erg. A. J-E



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## United States Patent Office.

HADWEN SWAIN, OF SAN FRANCISCO, CALIFORNIA.

## DELIVERY OR FLY FINGER FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 428,025, dated May 13, 1890.

Application filed July 31, 1888. Serial No. 281, 598. (No model.)

To all whom it may concern:

Be it known that I, HADWEN SWAIN, a citizen of the United States, residing at San Francisco, in the county of San Francisco, State of 5 California, have invented certain new and useful Improvements in Delivery or Fly Fingers for Printing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain improvements in printing-presses; and it has for its objects to provide the same with a series of adjustable fly or delivery fingers and means for clamping the same to the rock-shaft by 15 which they are operated, as more fully hereinafter set forth.

The above-mentioned objects I attain by the means illustrated in the accompanying

drawings, in which—

Figure 1 represents a side elevation of a clamp whereby the fly or delivery finger is secured to the rock-shaft. Fig. 2 represents a similar view of a modification of said clamp. Fig. 3 represents a transverse sectional view 25 of the clamp, showing the seat for the fingers to be secured between the parts thereof. Fig. 4 represents a cross-section of one of the fingers, and Fig. 5 represents a view of one of the clamps and fingers complete in side ele-30 vation.

Referring to the drawings, the letters A B indicate the jaws of the clamp, one of which is provided with a longitudinal angular rib C, and the other with a corresponding angular 35 longitudinal groove D.

E indicates the fly or delivery finger, which is constructed of sheet metal struck up into

a V shape in cross-section, so as to fit between the angular rib and corresponding groove in

the clamping-jaws.

The letter G indicates a clamping-screw extending through one jaw into the other, which may be provided with a thumb-button H or other means whereby it may be operated to clamp the jaws upon the finger and secure 45 the same. The jaws at their rear ends are provided with half-sockets I, which may be either angular, polygonal, or semicircular, so as to fit the rock-shaft J, which operates the fingers, and secure said fingers adjustably 50 thereto.

Having thus described my invention, what I claim, and desire to secure by Letters Pat-

ent, is—

1. The combination, with a detachable fly- 55 finger constructed of sheet metal and angular in cross-section, of the clamping-jaws, one having an angular rib and another a corresponding groove, between which the finger is clamped, and a clamping-screw, whereby the 60 jaws are clamped together, substantially as specified.

2. The combination, with the rock-shaft carrying the fly-fingers of a printing-press, of the half-socketed clamps and clamping-screws, 65 whereby the clamps and their fingers are secured to the shaft, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HADWEN SWAIN.

Witnesses:

HENDRIE MARSHALL, ARTHUR W. OXLEY.