

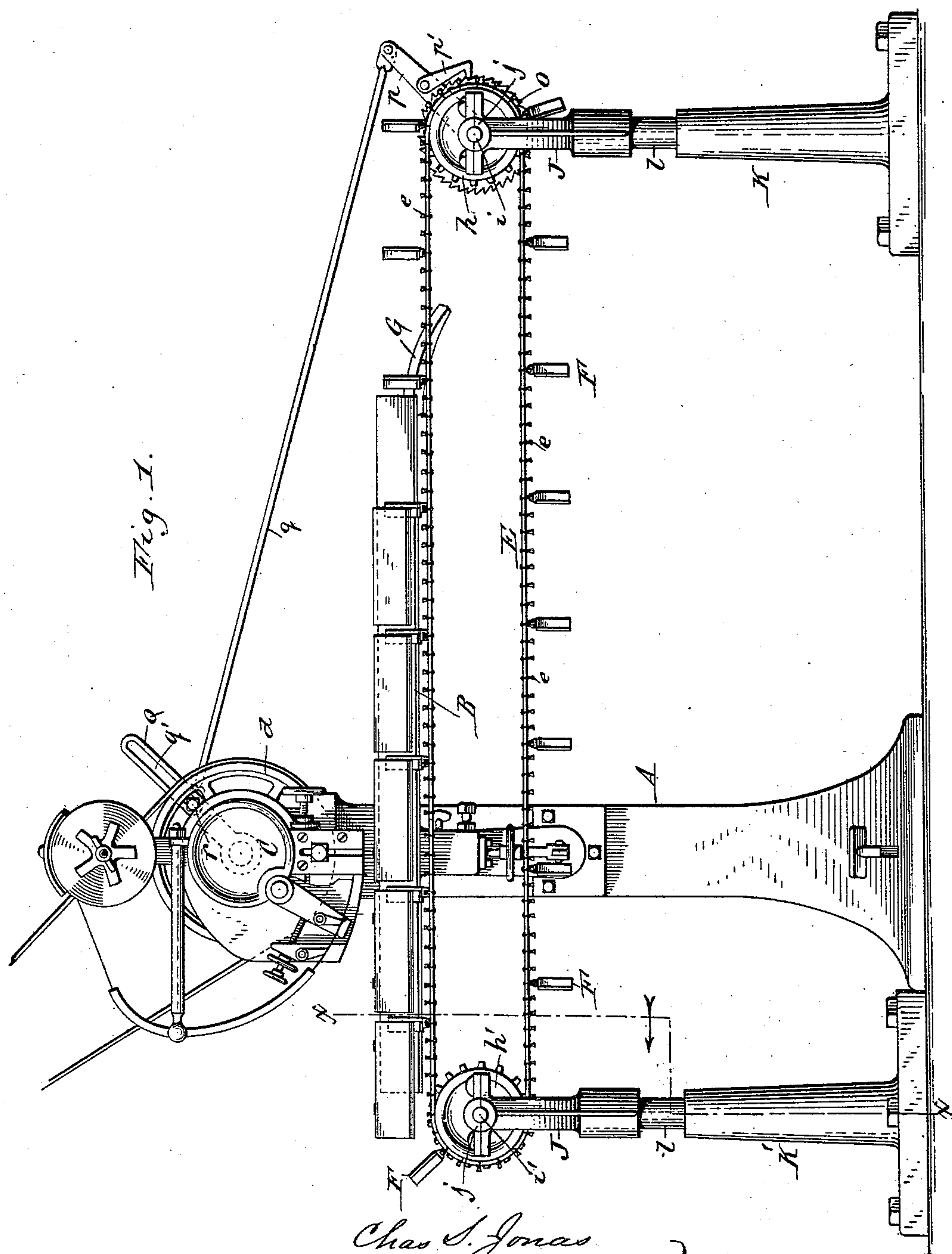
(No Model.)

2 Sheets—Sheet 1.

C. S. & R. A. JONAS.
WIRE STITCHING MACHINE.

No. 538,021.

Patented Apr. 23, 1895.



Witnesses:

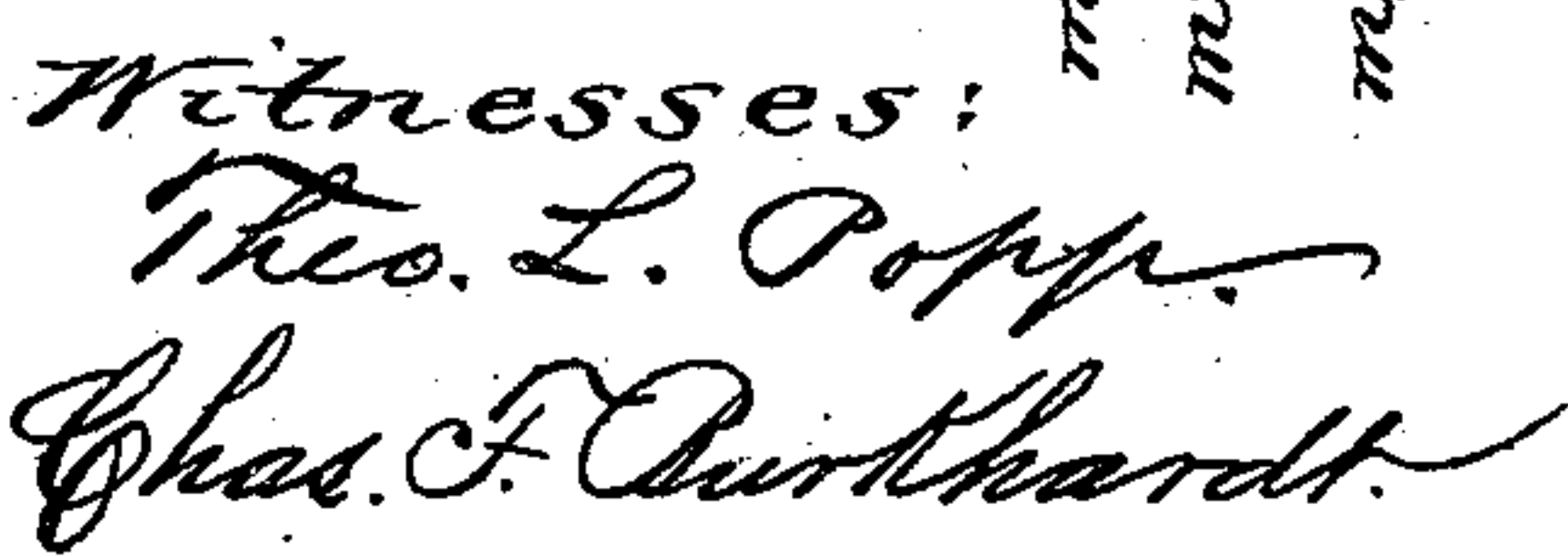
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2 Sheets—Sheet 2.

Patented Apr. 23, 1895.



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UNITED STATES PATENT OFFICE.

CHARLES S. JONAS AND RICHARD A. JONAS, OF BROOKLYN, NEW YORK.

WIRE-STITCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 538,021, dated April 23, 1895.

Application filed October 3, 1892. Serial No. 447,683. (No model.)

To all whom it may concern:

Be it known that we, CHARLES S. JONAS and RICHARD A. JONAS, citizens of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Wire-Stitching Machines, of which the following is a specification.

This invention relates to that class of wire stapling machines which are usually called wire stitching machines and which are employed for fastening the sheets of pamphlets and other blanks together by wire staples or stitches.

Heretofore the paper blanks were fed to the stitching machine by hand but this requires considerable care and attention on the part of the operator in order to produce approximately uniform work.

The object of our invention is to provide the machine with an automatic feed mechanism whereby the blanks are presented to the stitching mechanism and whereby uniformity in the work and greater speed are insured.

In the accompanying drawings, consisting of two sheets, Figure 1 is a front elevation of a wire stitching machine having a saddle table and provided with our feed mechanism. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical transverse section in line $x-x$, Fig. 1. Fig. 4 is a fragmentary sectional elevation similar to Fig. 3 showing our feed mechanism applied to a wire stitching machine having a flat table. Fig. 5 is a fragmentary sectional elevation of the feed chain and one of its wings. Fig. 6 is a top plan view of the same.

Like letters of reference refer to like parts in the several figures.

A represents the main frame of a wire stitching machine; B, the stitching table arranged on the front side of the machine; C, the stitching head arranged over the table; D, the driving shaft journaled in the upper portion of the main frame, and d the driving pulley secured to the rear portion of the driving shaft. The stitching table may be either saddle-shaped, as represented in Figs. 1, 2, and 3, for stitching folded pamphlet blanks, or flat, as represented in Fig. 4, for stitching flat or unfolded pamphlet blanks. All of these parts

may be of any ordinary or suitable construction.

E represents the feed chain or link belt provided with wings or flights F whereby the blanks are carried over the stitching table and presented successively to the stitching mechanism. This chain is arranged with its upper or carrying portion lengthwise in front of the stitching table and consists of chain links, each of which is provided with a dove-tail tenon e on its outer side, as shown in Figs. 5 and 6. The wings project laterally or rearwardly from the feed chain and consist each of a supporting plate f which is adapted to slide over the stitching table and support the blank, a stop or abutment f' formed on the rear end of the supporting plate and adapted to engage against the rear edge of the blank and push the blank forward, and a dove-tail socket f^2 which engages with one of the tenons on the links and supports the wing.

The operator places the blanks upon the saddle or table between the wings, as the latter pass over the receiving portion of the table, so that the rear ends of the blanks rest upon the supporting plates of the wings. During the forward movement of the feed chain or belt the wings move the blanks forward and present the same successively to the stitching head which latter fastens the sheets of the blanks together by wire stitches. After the blanks have been stitched they are discharged over the delivery end of the stitching table. The feed chain travels with an intermittent movement and the stitching of the blanks is effected while the blanks and carrying mechanism are at rest. The wings can be shifted on the feed chain from one tenon to another to suit the length of the blanks. The tenons of the links and the sockets of the wings are preferably tapered lengthwise, as represented in Fig. 6, so as to cause the wings to be tightly wedged upon the links and firmly held in place.

G represents a curved guide secured to the front or receiving end of the stitching table for the purpose of guiding the wings upon the same.

The receiving and delivering portions of the feed chain pass respectively around driving and delivering sprocket wheels h h' se-

cured to transverse shafts $i\ i'$. Each of the latter is journaled in bearings j formed upon the upwardly extending arms of a bifurcated support J.

5 K K' represent hollow standards which receive depending shanks ll formed on the supports. These shanks are capable of vertical movement in the standards for the purpose of adjusting the feed chain with reference to
10 the stitching table. The shanks are prevented from turning and also held in their adjusted position in the standards by set screws l' arranged in the standards and engaging in longitudinal grooves l^2 formed in
15 the shanks. The standard K supporting the receiving end of the feed chain is rigidly secured to the floor. The standard K' supporting the delivery portion of the feed chain is made adjustable lengthwise of the feed chain
20 for tightening the latter by a dove-tail foot m which is capable of moving in longitudinal guideways m' formed in a base plate m^2 . The standard K' is held in its adjusted position by means of bolts n passing through the
25 foot m and longitudinal slots n' formed in the base plate.

O represents a ratchet wheel secured to the rear end of the shaft i supporting the driving sprocket wheel h , and p is a rock arm mounted
30 loosely on said shaft adjacent to the ratchet wheel. This rock arm is provided with a pawl p' which engages with the teeth of the ratchet wheel.

Q represents a rotating arm secured to the
35 main shaft D of the stitching machine and connected with the outer end of the rock arm p by a rod q whereby an intermittent rotary motion is imparted to the driving sprocket wheel of the feed chain. The throw of the
40 ratchet mechanism is so adjusted that each revolution of the main driving shaft causes the rock arm to move the feed chain forward a distance equal to the space between two stitches on the blanks. For the purpose of
45 varying the length of the throw of the ratchet mechanism and the length of the space between two stitches, the rotary arm Q is provided with a longitudinal slot q' which receives a clamping bolt r secured to the con-
50 necting rod. This permits the throw of the rock arm and pawl to be adjusted so that the movement of the feed chain corresponds with

the size of the blanks and the space between two stitches. The detachable wings of the feed chain are also readily adjusted in ac- 55
cordance with the size of the blanks.

We claim as our invention—

1. The combination with a stitching table and a wire stitching or stapling mechanism, of an intermittently moving feed chain or 60
belt arranged along the stitching table and provided with feeding wings which are adjustable lengthwise of the feed chain or belt, whereby the distance between the wings can be increased or reduced to correspond with 65
the size of the blanks or pamphlets, substantially as set forth.

2. The combination with a stitching table and a wire stitching or stapling mechanism, of a feed chain or belt arranged along the 70
stitching table and provided with feeding wings which are adjustable lengthwise of the feed chain or belt, and a variable intermittent actuating mechanism whereby the feed chain or belt is operated and the travel of the same 75
can be increased or reduced to correspond with the distance between the stitches or staples, substantially as set forth.

3. The combination with a stitching table and a wire stitching or stapling mechanism, 80
of a feed chain or belt provided with laterally projecting feeding wings adapted to pass over said table and each provided with a supporting plate resting on the table and supporting the blank or pamphlet and with an upright 85
abutment arranged along the rear edge of the supporting plate and whereby the blank or pamphlet is pushed along, substantially as set forth.

4. The combination with the stitching table, 90
of a feed chain or belt composed of links each of which is provided with a dove-tail tenon, and wings adapted to pass over the stitching table and provided with dove-tail sockets engaging with said tenons, substantially as set 95
forth.

Witness our hands this 24th day of September, 1892.

CHAS. S. JONAS.
RICHARD A. JONAS.

Witnesses:

J. H. W. JONAS,
JOHN SCHENKEL.