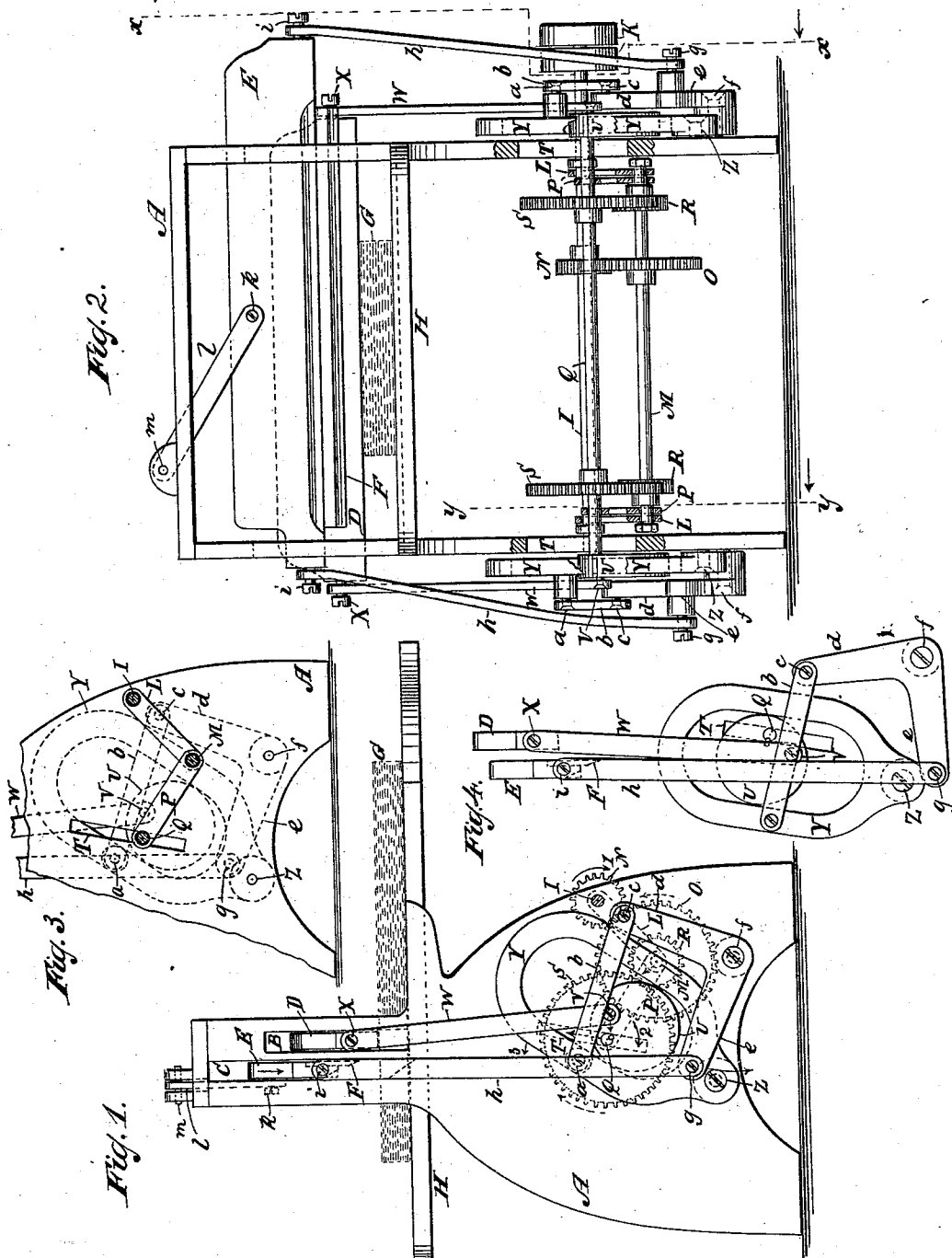


(No Model.)

C. L. SMITH.
SELF CLAMPING PAPER CUTTER.

No. 521,738.

Patented June 19, 1894.



WITNESSES:

E. Wolff
Chas. E. Loewen

INVENTOR:

Charles L. Smith.

BY

Hauff & Hauff
ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES L. SMITH, OF NEW YORK, N. Y., ASSIGNOR TO T. W. AND C. B. SHERIDAN, OF SAME PLACE.

SELF-CLAMPING PAPER-CUTTER.

SPECIFICATION forming part of Letters Patent No. 521,738, dated June 19, 1894.

Application filed February 9, 1894. Serial No. 499,664. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. SMITH, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Self-Clamping Paper-Cutters, of which the following is a specification.

The object of this invention is to provide simple means for effecting the proper action of the clamp and cutter and the invention consists in the novel features of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a side elevation of the cutter sectioned along *xx* Fig. 2. Fig. 2 is a rear elevation of Fig. 1. Fig. 3 is a section along *yy* Fig. 2. Fig. 4 shows parts of Fig. 1 in a different position.

In the drawings the letter A indicates a frame or support having guides or ways B C for the clamp D and knife stock E carrying the cutter F, said clamp and cutter being made to act on the material or paper G on table H.

The mechanism for actuating the clamp and cutter is arranged as follows: The driving shaft I is actuated in any suitable way the drawings showing the well known fast and loose pulleys K. The driving shaft I supports links L forming journals or bearings for a second shaft M driven by the driving shaft through the gears or transmitting devices N O. The second shaft M supports links P forming journals or bearings for a third shaft Q driven by the second shaft through the transmitting devices or gears R S. The shaft M as seen in Fig. 2 hangs between or within the sides of the frame A and the shaft Q extends through or is guided in slots or ways T (Fig. 1) in said frame A. The shaft Q in addition to rotating can travel along the guide or way T and the links L P hold the shaft M in engagement with shafts I Q while allowing shaft M to respond to or follow the travel of shaft Q along the way T. The shaft Q carries a cam or eccentric U. Each end of the shaft Q is shown with a cam U but the description of the operation of one cam applies to both of said cams. The cams U connect by the pins or joints V, links W

and pins or joints X with the clamp D. The cams engage and serve to vibrate yokes and frames Y pivoted or fulcrumed at Z and connecting by pins or joints *a*, links *b* and pins or joints *c* with bell crank levers *d e* fulcrumed at *f*. The levers *d e* connect by pins or joints *g*, links *h* and pins or joints *i* with knife stock E. The knife stock is made to swing on frame A by means of the link joint or connections *k l m*.

The device operates as follows:—The driving shaft I in Fig. 1 being rotated in the direction of arrow 1 the shaft Q with cam or eccentric U will rotate in the direction of arrow 2, and the eccentric or crank motion of cam U and pin V will draw link W to move the clamp D toward the material G. Said material G being so tightly clamped that the clamp D can move no farther toward table H and the shaft Q and cam U continuing to revolve in the direction of arrow 2 and said shaft Q traveling or sliding along way T toward table H, the yoke Y will be moved in the direction of arrow 3 so as to actuate link *b*, levers *d e* and link *h* to move knife F toward and across the material G to cut the latter. The cam U constitutes a rotatable actuator, and when this actuator, revolving in the direction of arrow 2 has moved the parts so that the pin or joint V occupies the position shown in Fig. 4, said pin having passed to the side opposite to that side of the shaft Q facing the pin V in Fig. 1, the rotation of cam U continuing in the direction of arrow 2, will move link W so as to carry clamp D away from the material G and the yoke Y will be moved in the direction opposed to arrow 3 so as to move knife F away from the material G.

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

1. The combination with a clamp, and a knife-stock, of a rotatable cam connected with the clamp, mechanism for rotating the cam, a yoke or frame engaged with and vibrated by the cam, and connections between the said yoke or frame and the knife-stock, substantially as described.

2. The combination with a clamp, and a knife-stock, of a main driving-shaft, a shaft having an attached cam and rotated by the main driving-shaft, a link pivotally connected

with the cam and with the clamp, a yoke or frame engaged with and vibrated by the cam, and lever and link connections between the yoke or frame and the knife-stock, substantially as described.

3. The combination with a clamp, and a knife-stock, of a main driving-shaft, a rising and falling shaft provided with an attached cam and geared to the driving-shaft, a yoke or frame engaged with and vibrated by the cam, a link pivotally connected with the cam and with the clamp, a lever connected with the knife-stock, and a link connection between the yoke or frame and the said lever, substantially as described.

4. The combination with a clamp, and a knife-stock, of a main driving-shaft, a rising

and falling shaft geared to the main driving-shaft and having an attached cam, a link pivotally connected with the cam and with the clamp, a pivoted yoke or frame engaged with and vibrated by the cam, a bell crank-lever having a link connection with the knife-stock, and a link pivotally connecting the said lever with the yoke or frame, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES L. SMITH.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.