

No. 662,469.

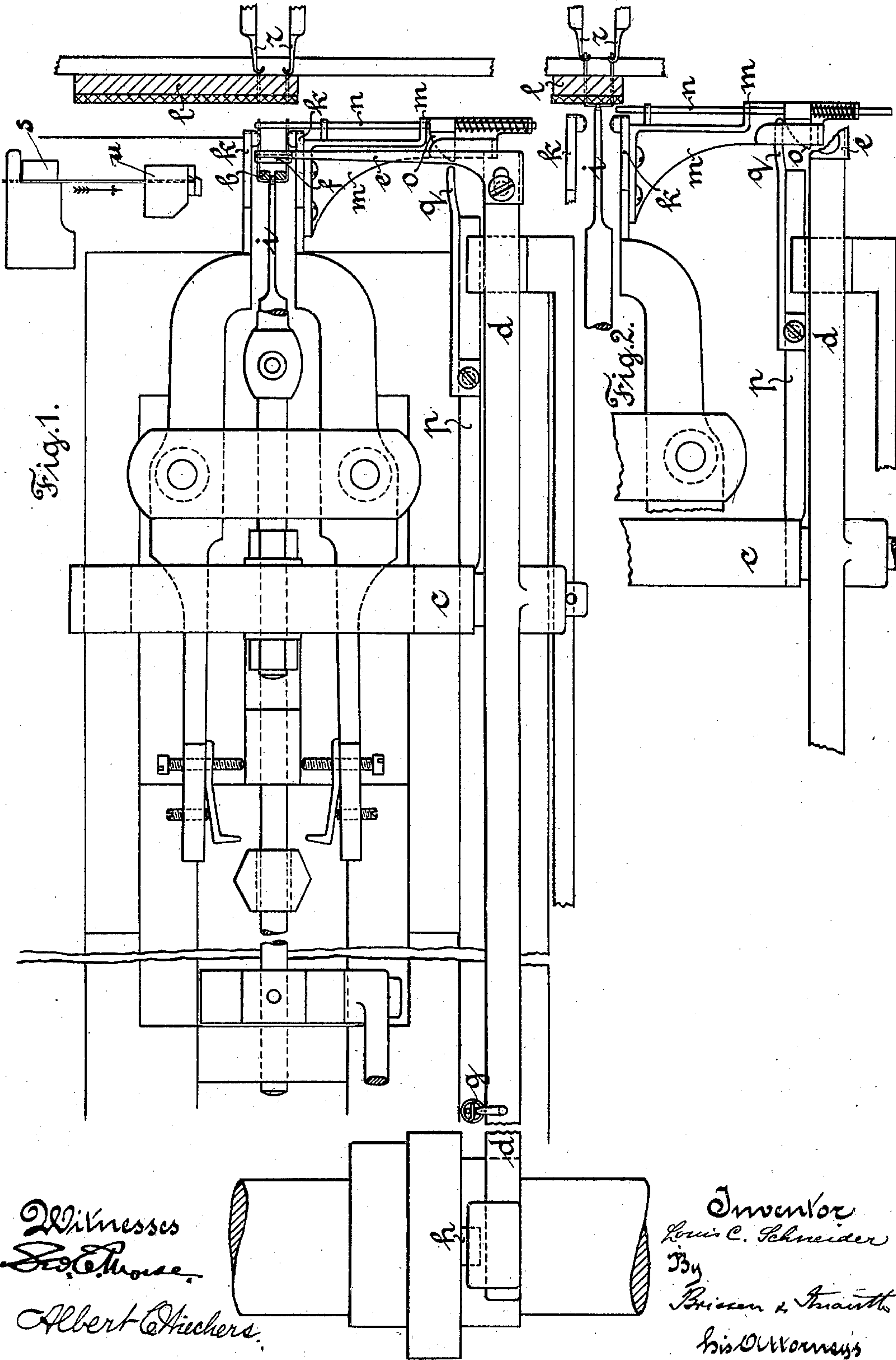
Patented Nov. 27, 1900.

L. C. SCHNEIDER.  
MACHINE FOR MAKING CARD CLOTHING.

(Application filed June 25, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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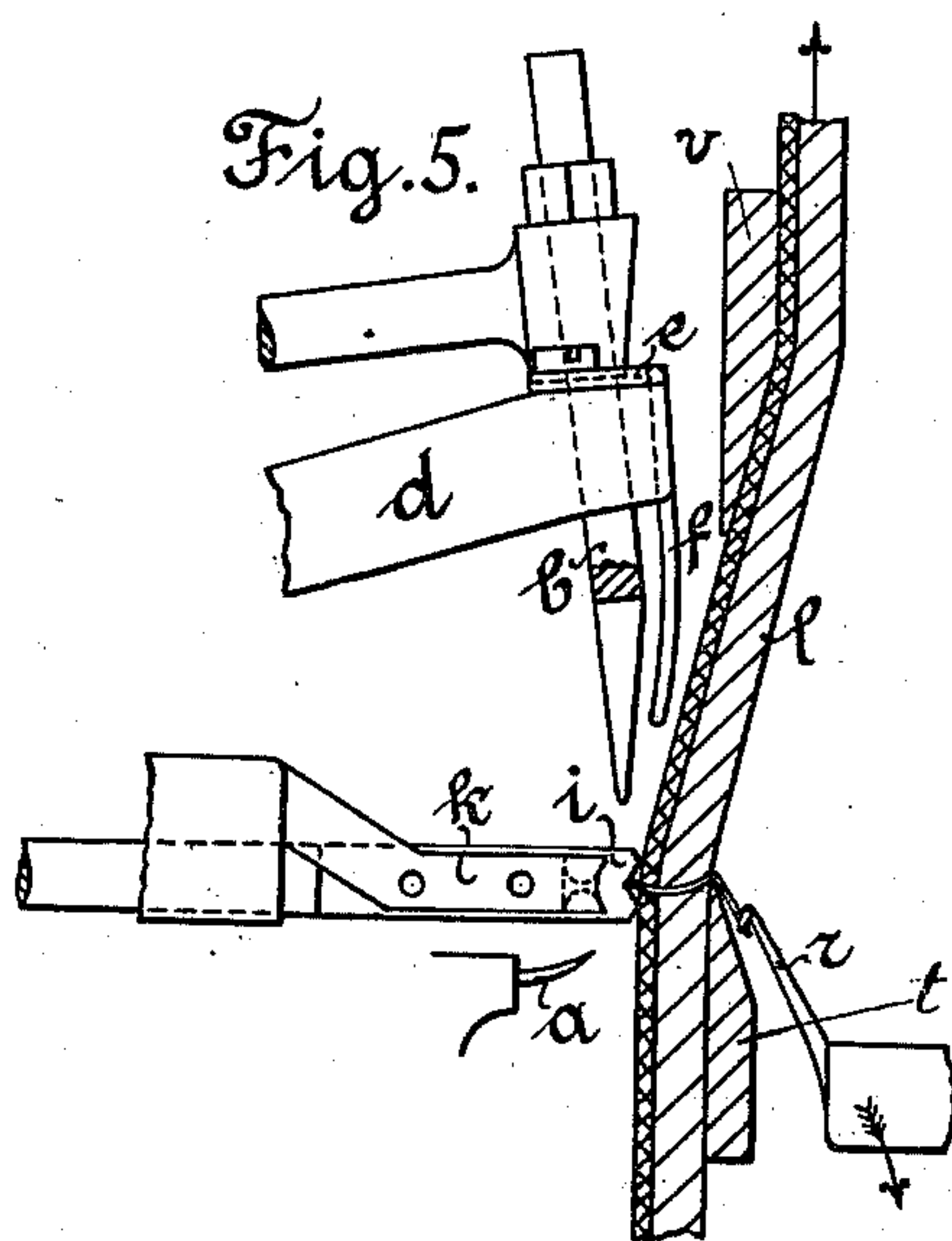
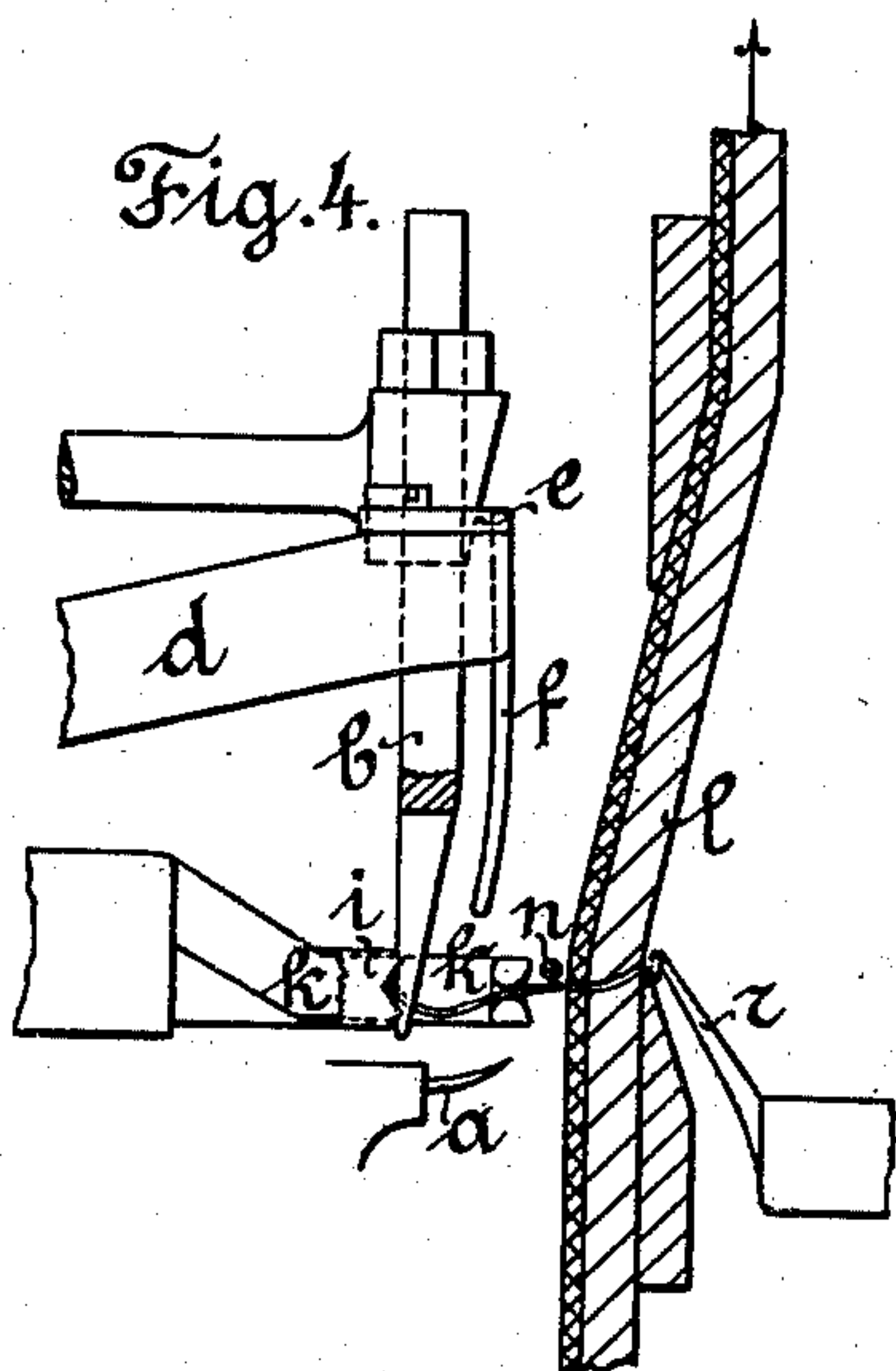
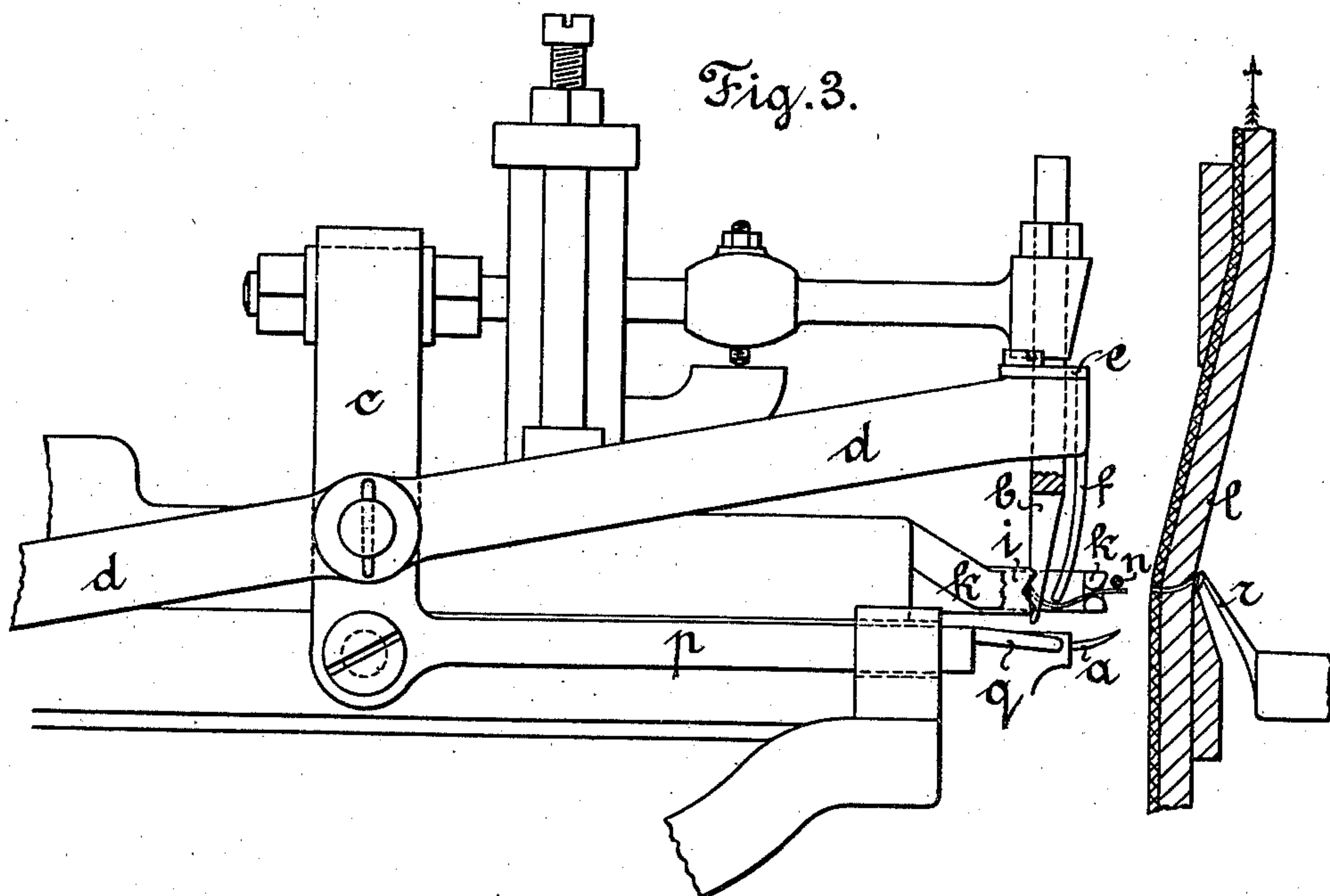
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Witnesses  
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By  
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# UNITED STATES PATENT OFFICE.

LOUIS C. SCHNEIDER, OF MITTWEIDA, GERMANY.

## MACHINE FOR MAKING CARD-CLOTHING.

SPECIFICATION forming part of Letters Patent No. 662,469, dated November 27, 1900.

Application filed June 25, 1900. Serial No. 21,417. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS C. SCHNEIDER, a subject of the King of Saxony, and a resident of Mittweida, Kingdom of Saxony, German Empire, have invented new and useful Improvements in Machines for Making Card-Clothing, of which the following is a specification.

My invention relates to a machine for the manufacture of card-clothing, and has for its object to produce an organism which will bend the rear portion of a staple card-tooth structure so as to produce a bend or curve in that portion of the staple which is embedded in the base or body portion of the card-clothing and to likewise produce a forward bending of the card-teeth, which constitute the working surface of the card-clothing.

My invention therefore consists in the organisms of mechanism whereby the above-mentioned results are produced; and to a limited extent my invention consists in combining with the said mechanism any desired construction of mechanism for severing and feeding staple-blanks and forming up the same into staples.

My invention will be understood by referring to the accompanying drawings, in which I have shown a sufficient number of parts of a card-clothing machine to illustrate my invention.

In the drawings, Figure 1 is a plan view of the organisms for forming, bending, and inserting the staple and for bending the card-teeth. Fig. 2 is a similar plan view showing the parts in their advanced positions during the operations of inserting the staple and bending over the card-teeth. Fig. 3 is a side elevation of the structure with the parts in the position shown in Fig. 1. Fig. 4 is a side view similar to Fig. 3, showing the parts in an intermediate position with the staple ready for insertion; and Fig. 5 is a side view of the parts in the position shown in Fig. 2.

In the drawings, *c* is a yoke or swinging frame carrying a bifurcated head *b*. The swinging yoke *c* carries pivoted thereto a lever *d*, whose rear end is operated upon by a cam *h*, which rear end is held against the cam by the spring *g*. The front end of the arm *d* has affixed thereto an adjustable arm *e*, which carries a bending device or finger *f*,

which is adapted to bend the rear end of the staple. The horizontally-pivoted jaws *k* serve to form up the staple over the head or anvil *b* and also to guide the same when it is inserted into the body portion *l* of the card-clothing.

*i* is an oscillating tongue or jaw, which is adapted to grip the rear bar of the staple against the anvil *b* while the bending of the rear portion of the staple is being effected. In order to prevent the points of the staple from being bent upward, a spring-actuated reciprocating pin *n*, carried in a bracket *m*, comes into such position as to prevent the upward tilting of the points of the staple. This pin *n* is provided with a cam *o*, which is acted upon by an arm *q*, carried on an arm *p* of the yoke *c*, when the parts are given a forward motion to insert the staple in the body portion of the card-clothing, so that at this time the pin *n* will be drawn back out of the way, as shown in Fig. 2. A curved needle or needles *a* is or are provided for the purpose of piercing the curved holes through which the staple is inserted. The points of the staple which constitute the teeth of the card-clothing are given a forward bend by means of the bending hooks or devices *r*, the anvil *t* being provided to assist in the bending and a guide *v* to guide the body portion *l* of the card-clothing. The wire may be fed and severed by the usual feeding and severing devices *s* *u* and may be bent up into a staple in any desired manner. The operation of the structure will be obvious from studying the positions of the various parts in the different views of the drawings, it being understood that the staple is first formed, is then gripped between the jaw *i* and the head or anvil *b*, and is thereupon bent by the descent of the finger *f*, whereupon *f* and *b* rise successively and the forward motion of the parts serves to insert the staple into the body portion of the card-clothing, the staple being guided by the jaws *k* and thrust home by the jaw *i*, whereupon the hooks *r* descend and bend the card-tooth over the anvil *t*. Thus the effect of the first operation upon the completed staple is to bend the rear portions of the body portion or legs thereof out of the normal plane of the staple, and the effect of the second operation is to bend the legs to form the knees.



Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine for forming and inserting  
5 staples into the body of card-clothing, the combination of means for bending the rear portion of a completed staple out of the normal plane of the body portion thereof, staple-inserting means, and tooth-bending means, as set forth.
- 10 2. The combination with a curved piercing device *a* for piercing a curved hole in the body portion of a card-clothing, with means for bending the rear portion of a staple and for inserting the same in the body portion of the  
15 card-clothing.
3. The combination with wire severing and feeding devices, of staple-forming devices, means for bending the rear portion of the staple out of the normal plane of the staple,  
20 a staple-inserting device adapted to insert the said bent staple into the body portion of the card-clothing and means for bending the staple leg or legs to form a knee or knees.
4. In a machine for making card-clothing,  
25 the combination of means for laterally bending the rear portion of a staple out of the plane of the staple, means for maintaining the staple-points in position for entry into the card-clothing body portion, and means for insert-  
30 ing the staple into the said body portion.
5. In a machine for making card-clothing, the combination of means for forming the staple, means for laterally bending the rear portion of said staple out of the normal plane of  
35 the staple, means for inserting the said staple into the body portion of a card-clothing, and means for bending over the staple-points.
6. In a machine for making card-clothing,  
40 the combination of independently-moving staple grasping and bending means adapted to impart a lateral bend to the staple, means for effecting the insertion of the said staple into the body of card-clothing, and means for

guiding the body portion into position to receive the staple.

7. In a machine of the character described, 45 the combination of staple forming and guiding jaws *k* combined with staple forming and grasping means *i, b*, a device *f* for laterally bending the rear portion of the staple, and means for producing a forward movement of the staple forming, grasping and bending de- 50 vices to effect the insertion of the staple into the body portion of card-clothing.

8. In a machine for making card-clothing, 55 the combination of means for imparting a lateral bend to a staple, means for maintaining the staple-points in position for entry into the body portion of the card-clothing, and auto- 60 matic means for effecting the insertion of the staple into the said body portion and for removing the staple-point-maintaining means out of the way during the movement of the insertion of the staple.

9. In a machine of the character described, 65 the combination of means for piercing curved holes, combined with staple-forming means and means for producing a lateral bend in the staple and staple-inserting means.

10. In a machine for making card-clothing 70 the combination of staple-forming means, means for bending the rear portion of the staple laterally out of the normal plane of the staple, means for effecting the successive op- 75 eration of the staple forming and bending means, and means for effecting the insertion of the staple by producing a forward movement of the staple-forming means.

In testimony that I claim the foregoing as my invention I have signed my name, in pres- 80 ence of two witnesses, this 13th day of June, 1900.

LOUIS C. SCHNEIDER.

Witnesses:

H. THIELE,

F. J. DIETZMAN.