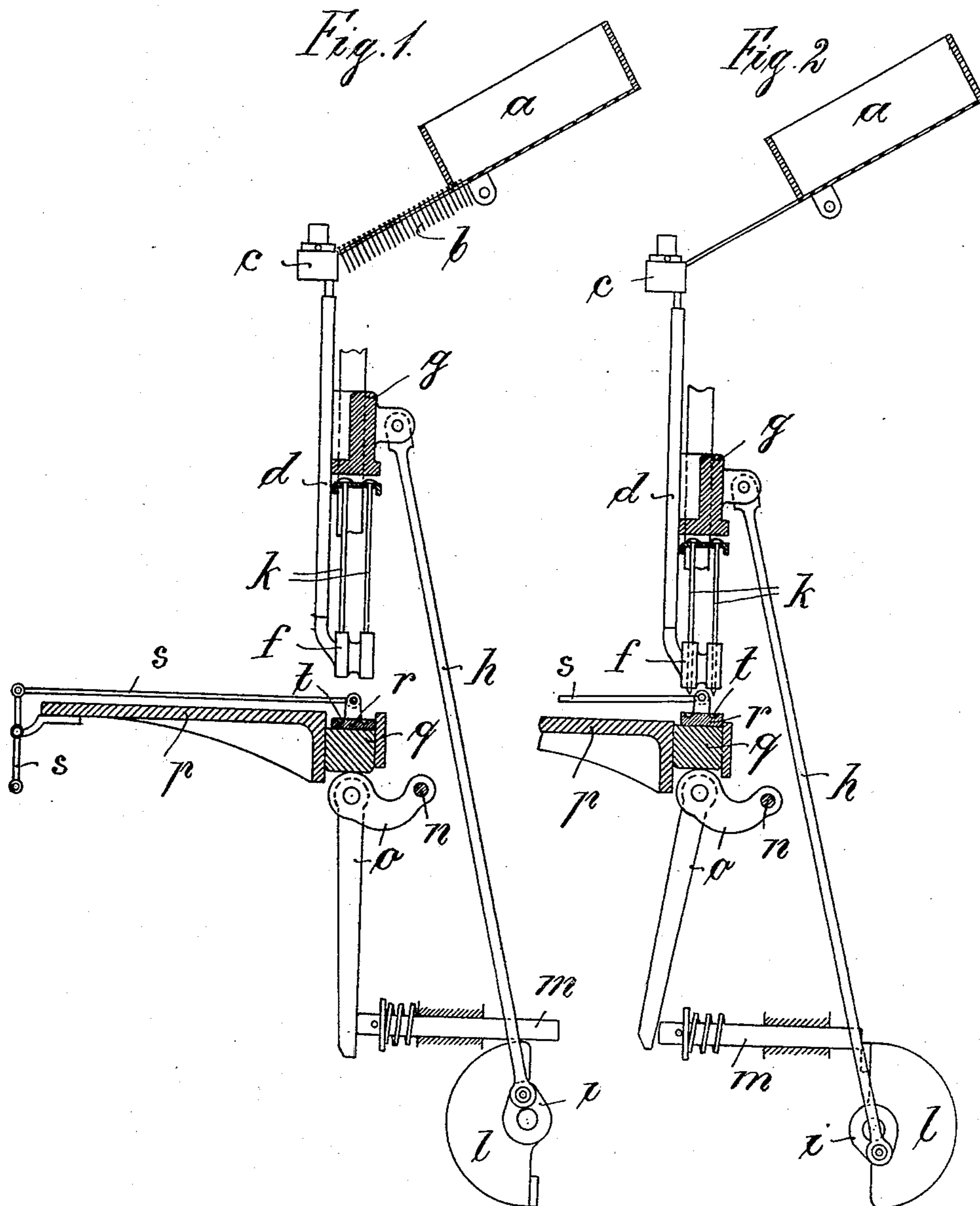


E. GMINDER.
NAIL DRIVING AND CLENCHING MACHINE.
APPLICATION FILED JUNE 3, 1908.

908,243.

Patented Dec. 29, 1908.

2 SHEETS—SHEET 1.



Witnesses:
Arthur Scholz
Paul Wollenberg.

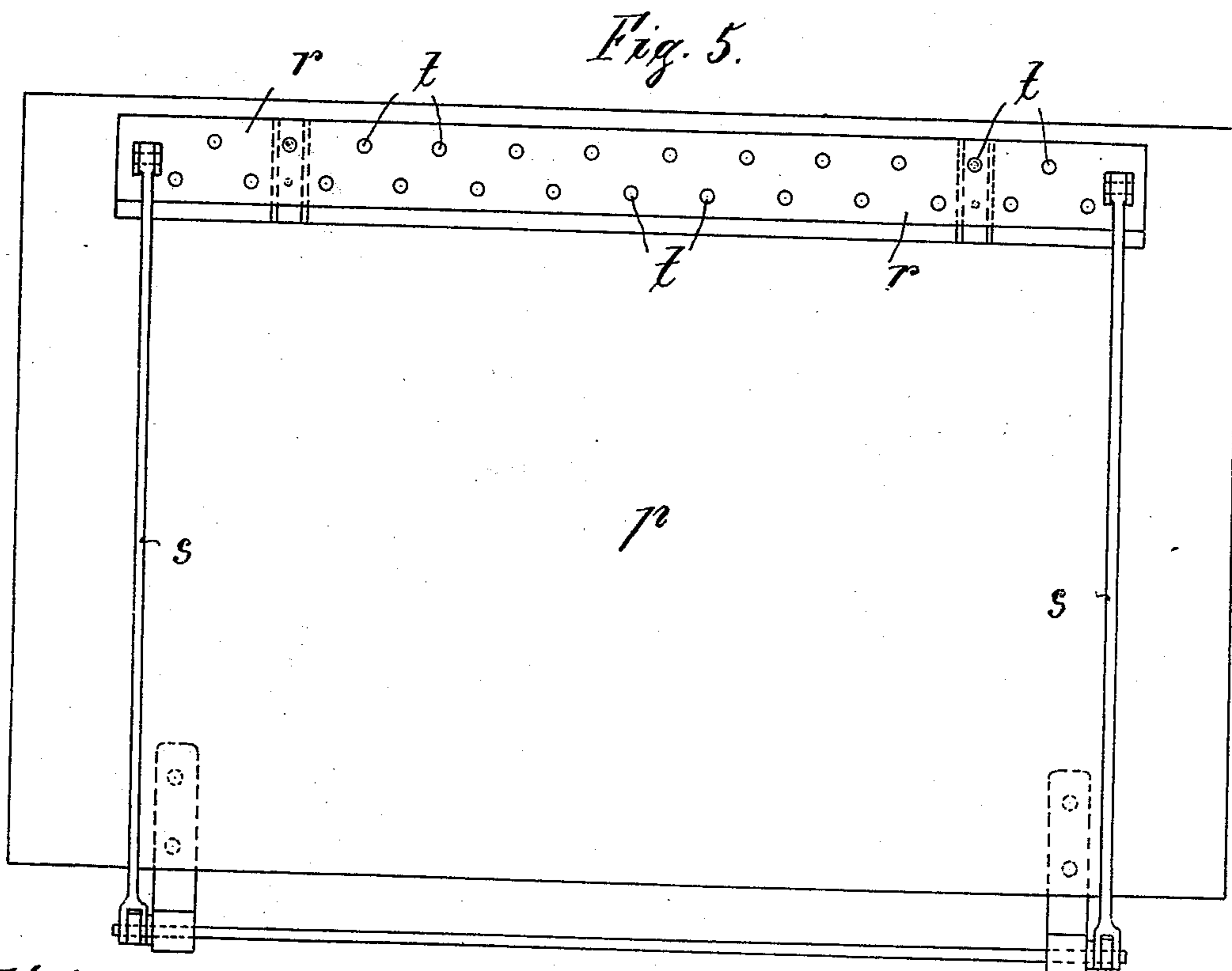
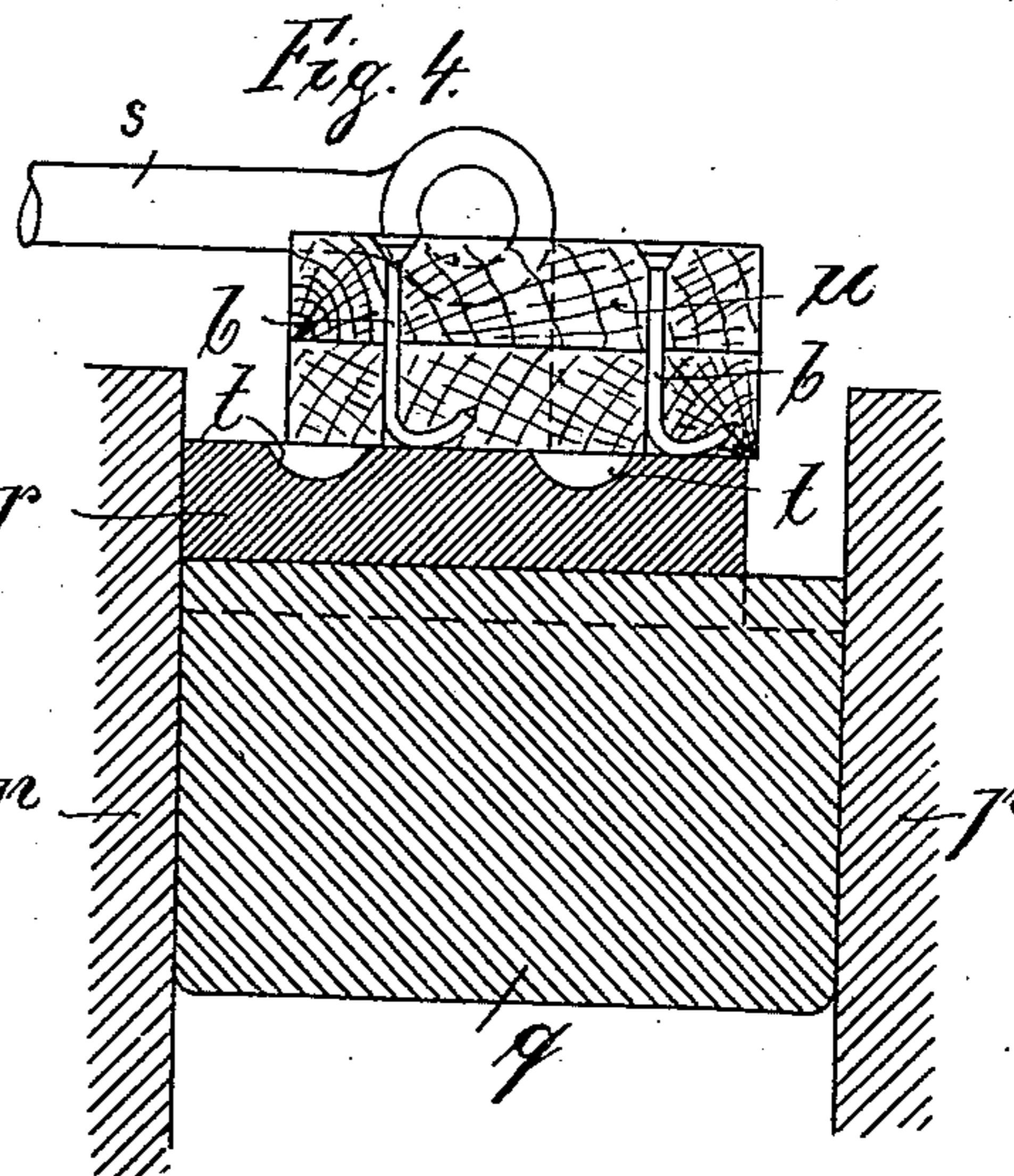
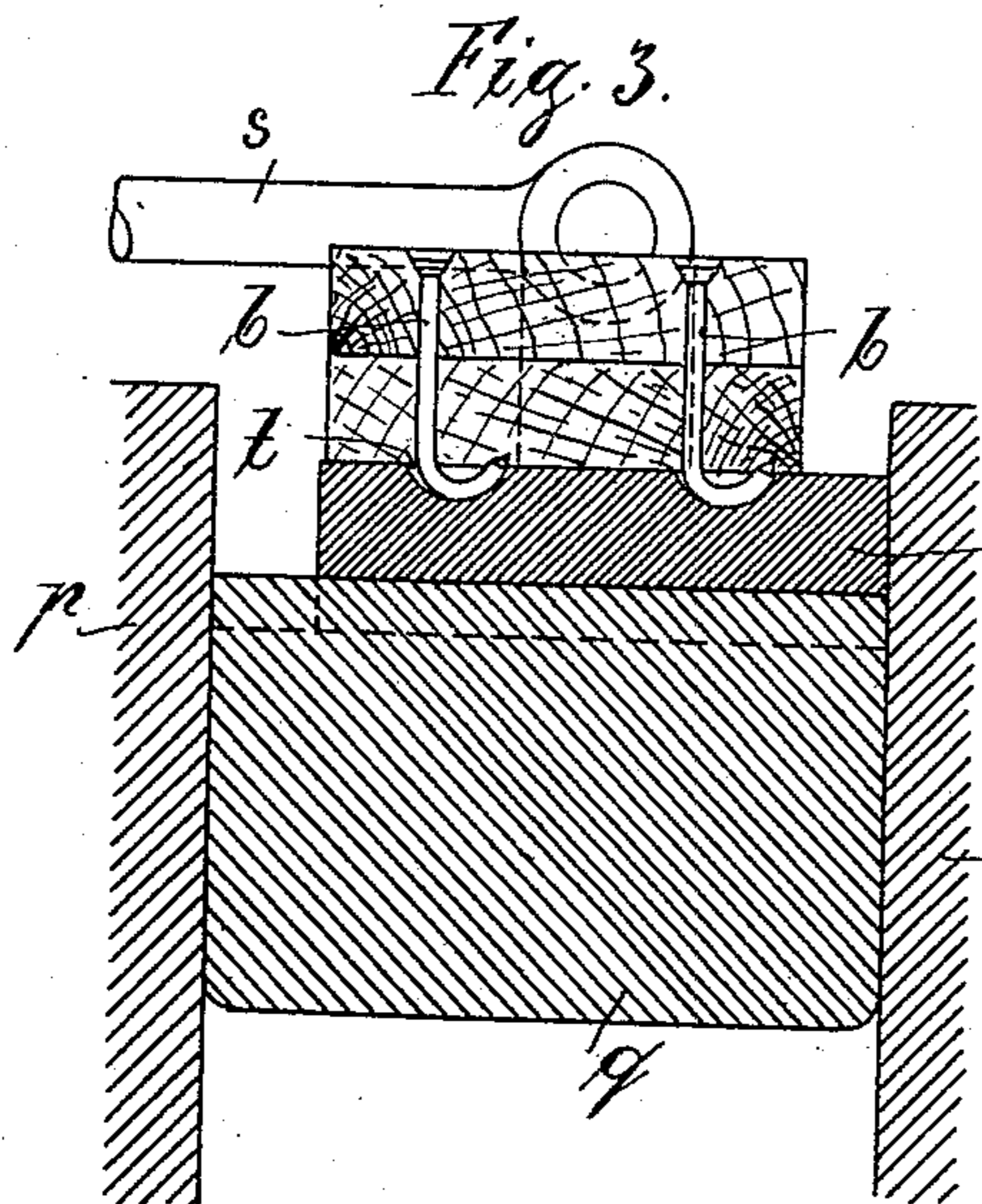
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Emil G. Minder
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Attorney

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Witnesses:

Arthur Scholz
Paul Wollenberg

Inventor
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UNITED STATES PATENT OFFICE.

EMIL GMINDER, OF REUTLINGEN, GERMANY.

NAIL DRIVING AND CLENCHING MACHINE.

No. 908,243.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed June 3, 1908. Serial No. 436,471.

To all whom it may concern:

Be it known that I, EMIL GMINDER, a subject of the King of Württemberg, and resident of 26 Wernerstrasse, Reutlingen, Kingdom of Württemberg, German Empire, have invented a new and useful Nail Driving and Clenching Machine, of which the following is an exact specification.

This invention relates to nail driving machines used for instance in box making and especially to the clenching mechanism used in such machines for causing the nail point to be bent round and again to enter the wood.

The object of the present invention is to provide an improved and simplified form of clenching mechanism.

The invention is illustrated in the accompanying drawing, which shows only those parts of the machine necessary for illustrating the present improvements.

In the drawings Figure 1 is an end view partially in section showing the machine in one position, Fig. 2 is a view similar to Fig. 1 illustrating another position of the parts. Fig. 3 is an enlarged sectional view of the anvils showing the position of the parts before the nail end is driven into the wood. Fig. 4 is a view similar to Fig. 3 showing the position of the parts during and after clenching of the nail. Fig. 5 is a plan view of the table.

In carrying the invention into effect according to the form shown nails stored in a holder *a* pass down an inclined rail, as shown at *b* to a rotating nail distributor *c* which delivers the single nails *b* to a vertical delivery tube *d*. This delivery tube conducts the nail to throat pieces *f* through which pass the rods *k* which are operated by the hammer *g*, so as to drive the nails into the wood.

It will be understood that any desired number of rods *k* may be provided but it will only be necessary here to describe the operation of the machine with reference to one of these rods. The machine is provided with a table *p* in which there is guided a vertically moving anvil block *q*. This anvil block *q* is adapted to be raised by means of a lever *o* which is pivoted about the point *n* and is adapted to be operated by a sliding rod *m* which coacts with a cam *l* in the manner seen in Figs. 1 and 2. The cam *l* is mounted on the driving shaft of the machine which is also provided with a crank *i* connected by a rod *h* to the hammer *g*.

Fig. 1 shows the anvil block *q* in its lowest position and Fig. 2 shows the block in its highest position. On the block *q* there rests an anvil plate *r* adapted to reciprocate horizontally between the guides of the anvil block *q*. This reciprocation may be effected in any way by the rods *s*, which as seen in Fig. 5, are arranged at both sides of the table *p*.

The coöperation of the parts described and the novel features of the present invention will now be described with reference to Figs. 3 and 4.

Fig. 3 shows the horizontally reciprocating plate *r* in the position which is occupied during driving of the nails. In this position semicircular grooves *t* provided in the plate *r* come in line with the hammer pins *k*, so that when the nails are driven by means of these rods or pins *k* through the wood, the end of the nail is bent round as shown in Fig. 3. This bending movement is facilitated by the raising of the anvil block *q*. The next stroke of the pins *k* forms a clenching stroke and before this next stroke takes place the anvil *r* is reciprocated to the left in Fig. 3 into the position shown in Fig. 4, so that the curved ends of the nails are removed out of the circular recesses *t* and rest on the flat part of the plate *r*. The next stroke of the hammers causes the nail points to sink into the wood *u* in the manner shown in Fig. 4.

It will be understood that in the position shown in Fig. 3 the recesses *t* are opposite each hammer pin. The view shown in Fig. 3 is not a correct cross section as the depressions or notches *t* are arranged diagonally, as can be seen in Fig. 5.

It will be understood also that the construction of the nail feeding and driving device forms no essential part of the present invention and such devices have only been indicated in the drawings so as to aid in giving complete clearness to the novelty of this invention.

I claim:—

1. A nailing machine having in combination, reciprocating, driving and clenching hammers and nail feeding means to said hammers, a table and a movable anvil with depressions therein, said depressions being opposite the hammer pins during the driving stroke and out of line with said pins during the next stroke which forms a clenching stroke.

2. A nailing machine having in combina-

tion, a reciprocating, driving and clenching hammer and vertically arranged pins coacting therewith, a nail feeding device, a table and vertically reciprocating anvil block sliding in said table, a horizontally reciprocating anvil plate on said anvil block, said horizontally reciprocating anvil plate having depressions therein opposite the hammer pins during the driving strokes of said hammer pin

and out of line with the hammer pin at the 10 clenching strokes, substantially as described.

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

EMIL GMINDER.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.