

(No Model.)

2 Sheets—Sheet 1.

E. O. ZEUNERT.
CARDING MACHINE.

No. 469,381.

Patented Feb. 23, 1892.

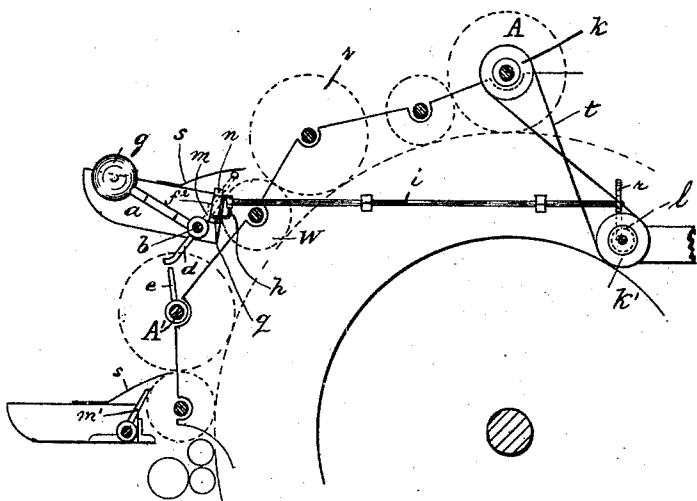


Fig. 1.

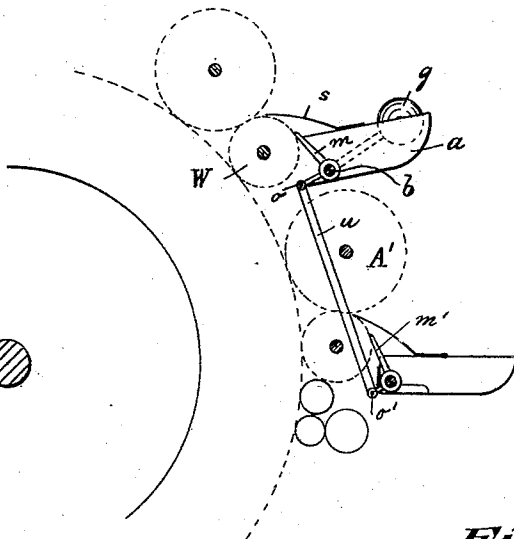


Fig. 2.

WITNESSES:

W. D. Zell
& Burkheiser.

INVENTOR:

Emil Oswald Zeunert

BY

Gartner & Co.

ATTORNEYS

(No Model.)

2 Sheets—Sheet 2.

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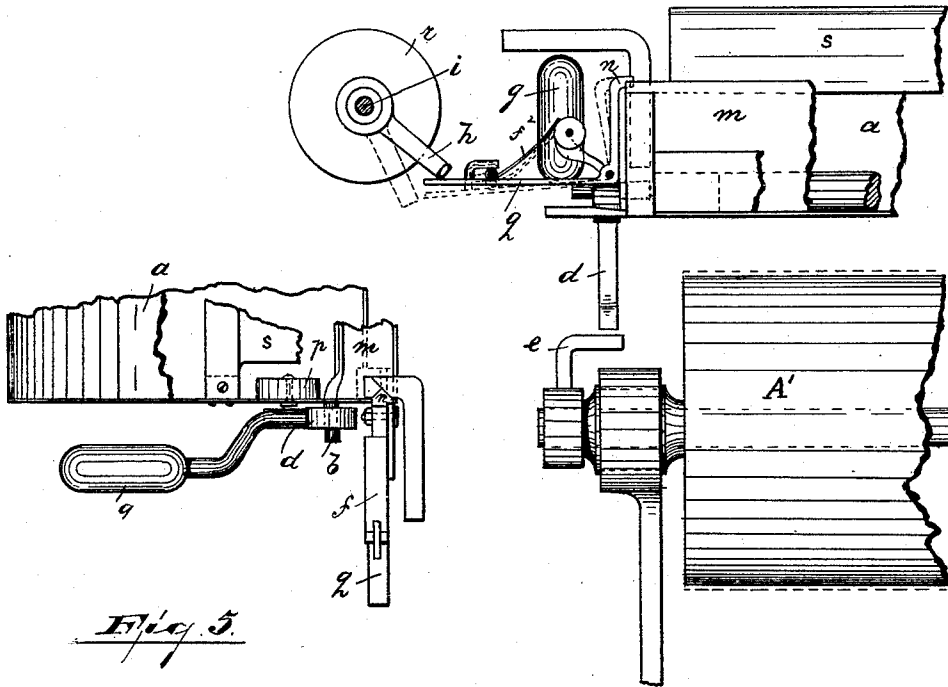


Fig. 5.

Fig. 3.

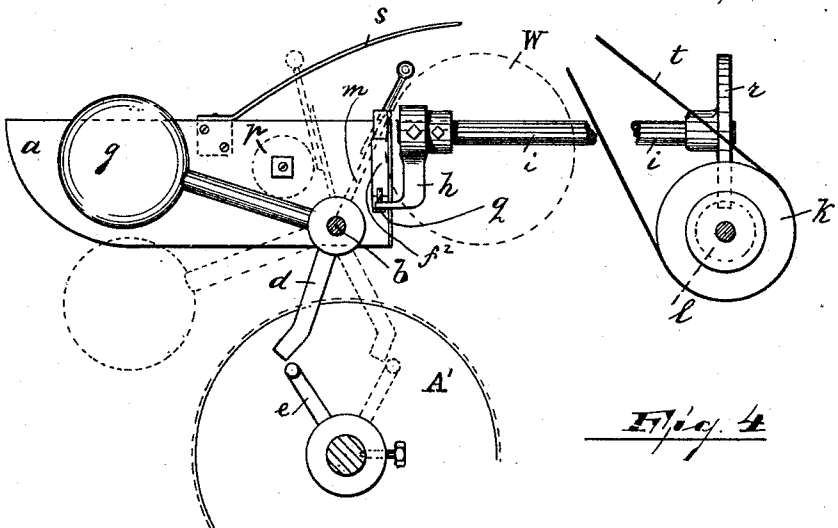


Fig. 4.

WITNESSES:

W. D. Bell
& Burkholder

INVENTOR:

Emil Oswald Zeunert

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ATTORNEYS

UNITED STATES PATENT OFFICE.

EMIL OSWALD ZEUNERT, OF LEISNIG, GERMANY.

CARDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 469,381, dated February 23, 1892.

Application filed September 4, 1891. Serial No. 404,752. (No model.)

To all whom it may concern:

Be it known that I, EMIL OSWALD ZEUNERT, a subject of the King of Saxony, residing at Leisnig, in the Kingdom of Saxony, Germany, have invented new and useful Improvements in Carding-Machines with Clearers, of which the following is a full, clear, and exact description.

The object of this invention is to provide an automatic contrivance by means of which the refuse or waste material from carding-machines is removed from the working parts of the machines, as required, without risk of injury to the workers. According to my invention such refuse or waste material is collected into boxes or receptacles of suitable form and dimensions, from which it may be ultimately taken during the leisure hours of the operators or at the end of the day, when the machines have ceased to work.

In carrying out my invention I adopt the arrangements hereinafter described, and illustrated by the accompanying drawings, in which—

Figure 1 is a front view of a part of a carding-machine with clearers, having my improvements adapted thereto. Fig. 2 is a back view thereof. Fig. 3 is an enlarged side elevation of one of the clearing boxes or receptacles with my improved automatic contrivance for removing the refuse or waste material from the carding-cylinders. Fig. 4 is an enlarged front elevation, and Fig. 5 an enlarged bottom plan thereof.

Similar letters of reference indicate corresponding parts in all the figures.

The box or receptacle *a*, in which the refuse or waste material is collected, contains the spindle or axis *b*, parallel to the axis of the clearing-roller *W*. To the spindle or axis *b* is affixed the flat blade or knife *m*, the upper edge of which is pressed against the clearing-roller *W* by the action of arm *d*, operated by projecting arm *e*, and is caused to fall away from the said roller by the action of the weight *g* after being released from catch or nose *n* by levers *h* and *q*. The said lever *h* is mounted on end of revolving bar or spindle *i*, to which motion is imparted by a worm-wheel *r*, gearing with a screw-shaft *l*, operated by a traveling band or cord *t* over the rollers *k k'*. The roller *k* is mounted on the axis or spindle of roller *A*, Fig. 1, through which it has mo-

tion imparted to it, and thence through the traveling band or cord *t* to the roller *k'*. Upon the axis of roller *A'* is the radially-projecting arm *e*, which comes in contact during its rotation with the end of arm *d*, fixed upon the spindle *b* of knife or blade *m*, causing the latter to be forced up against the roller *W*. The knife *m* is maintained in that position by the nose *n* on angle-lever *q* pressing against it. The angle-lever *q* is held firmly in position, so that the nose *n* presses against knife *m* by means of spring *f*²; but when the rotation of the apparatus brings the end of lever *h* against the arm of lever *q* the latter is forced down, as shown by dotted lines in Fig. 3, whereby the knife *m* is released and caused by counter-weight *g* to fall back from clearing-cylinder *W* against roller *p* in box *a*. The waste or refuse material collected from roller *W* is thus thrown into the box or receptacle and the cylinders are kept clear of such material, the shield *s*, fixed on top of box *a*, guarding the cylinder *W* and preventing the material flying outside of said box or receptacle.

In the back view, Fig. 2, is shown the mechanism by which the movements of spindle *b* are conveyed to the corresponding spindle or axis of the knife *m'* in the next adjacent clearing box or receptacle. This mechanism comprises connecting rod or switch *u*, supported between crank-arms *o o'*, and causes the knives *m m'* to move simultaneously in the same manner.

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

In a carding-machine with clearing-rollers, a box or receptacle *a*, adapted to collect the refuse or waste material, a spindle *b*, pivotally secured within said box and parallel with the axle of the clearing-roller, said spindle being provided with an arm *d*, a rotating arm *e*, adapted to control the motion of arm *d*, a knife or blade *m*, firmly secured to said spindle and adapted to be alternately carried to and from the said roller, a spindle *i*, arranged at right angles to spindle *b*, an angle-lever *h*, secured to the forward end of spindle *i*, a counter-weight *g*, secured to spindle *b*, the said angle-lever *h*, rotating arm *e*, and counter-weight *g* being adapted to control the to-and-fro motion of the knife *m*, a worm-wheel

r, secured to the outer end of spindle *i*, screw-
shaft *l*, adapted to gear with said worm-wheel,
and a band or cord *t*, adapted to transmit the
motion of the machine to the said screw-shaft,
5 all said parts being arranged and adapted to
operate substantially as described, and for the
purposes set forth.

In witness whereof I have hereunto signed
my name in the presence of two subscribing
witnesses.

EMIL OSWALD ZEUNERT.

Witnesses:

R. E. JAHN,
W. P. BOYD.