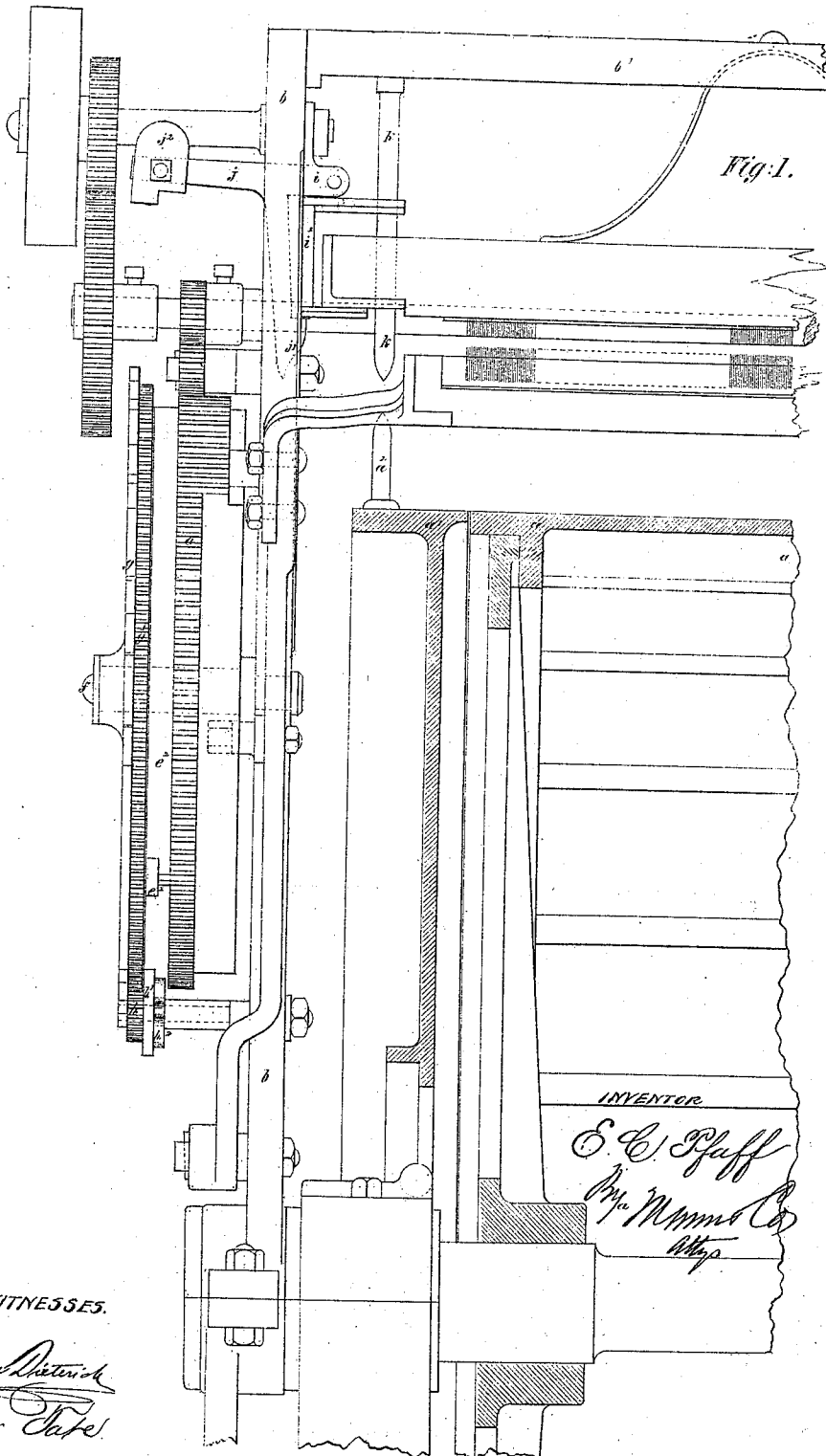


3 Sheets. Sheet. 1.

Card Cleaning.

No. 113,339.

Patented Apr. 4. 1871.



WITNESSES.
Gustave Dietrich
Edgar Tate

INVENTOR

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E.C. Puff,

3, Sheets, Sheet 2,

Card Cleaning.

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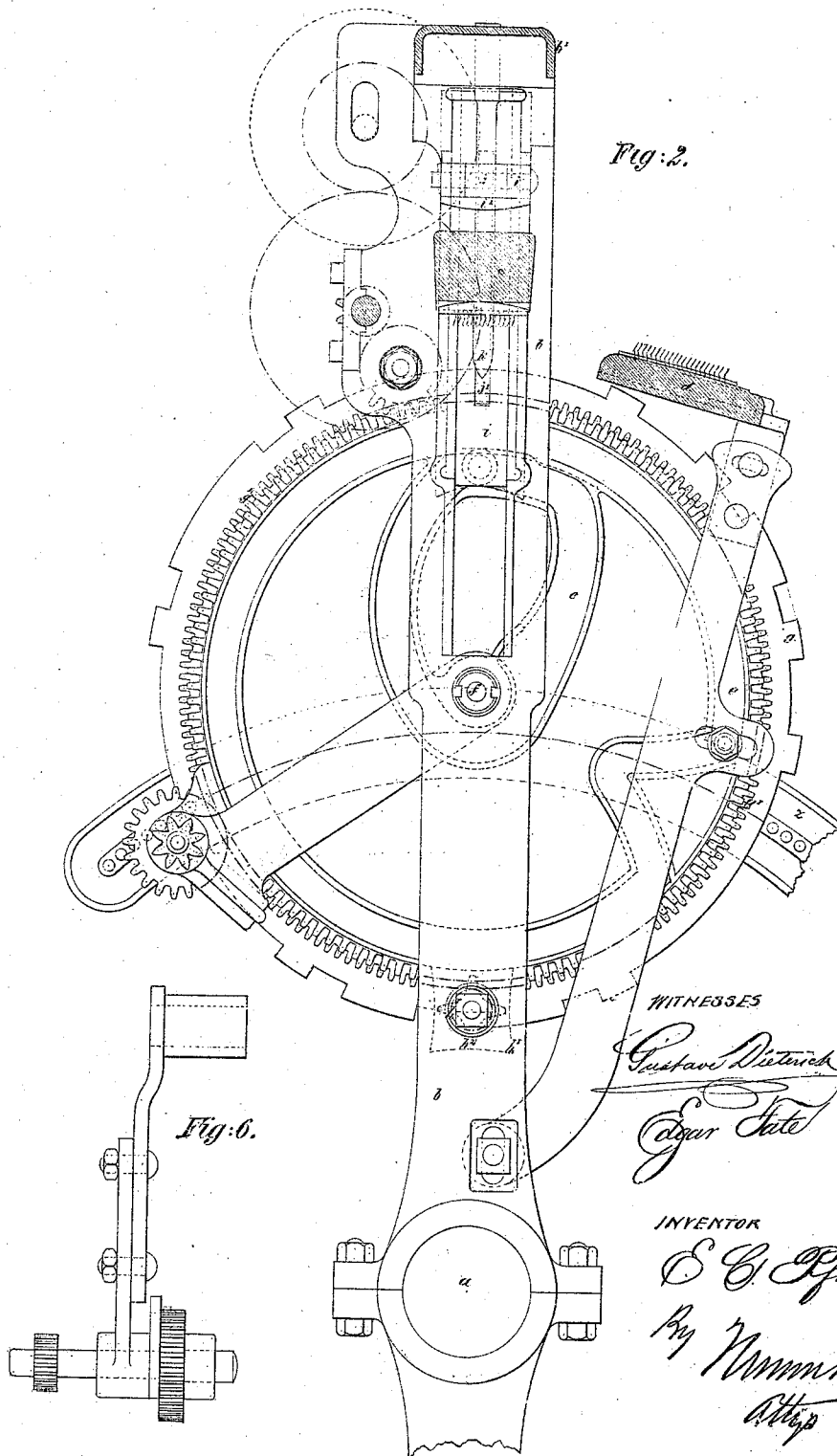


Fig. 2.

Fig. 6.

WITNESSES

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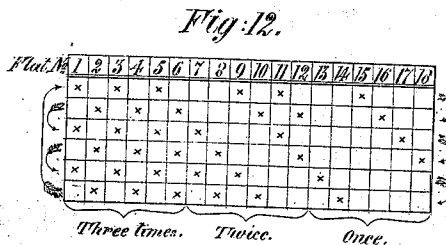
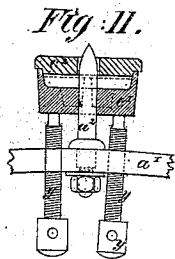
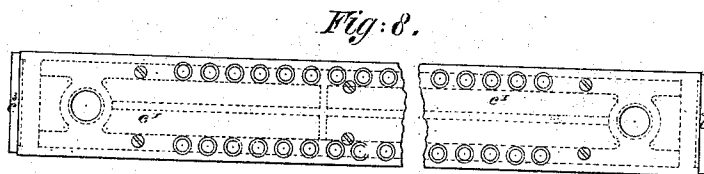
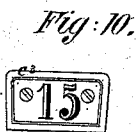
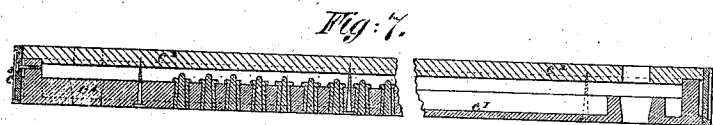
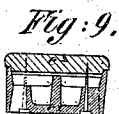
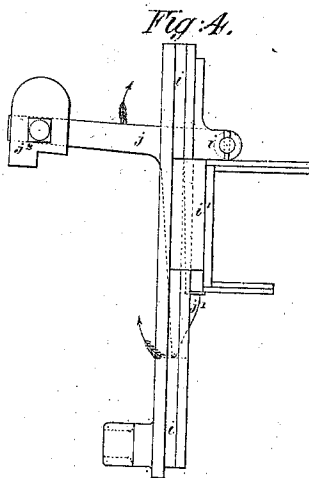
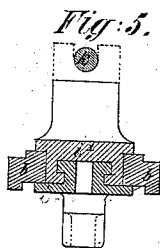
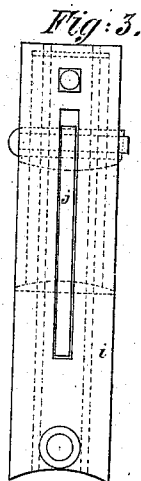
E. C. Paff,

3. Sheets, Sheet 3.

Card Cleaning.

No. 113,339.

Patented Apr. 4. 1871.



WITNESSES.

Gustav Dietrich
Carver Seal.

Three times. Twice. Once.

INVENTOR

E. C. Paff
By Munn & Aty

UNITED STATES PATENT OFFICE.

ERNEST CONSTANTIN PFAFF, OF CHEMNITZ, SAXONY, ASSIGNOR TO
DOBSON & BARLOW.

IMPROVEMENT IN APPARATUS FOR STRIPPING THE TOP-FLATS OF CARDING-MACHINES.

Specification forming part of Letters Patent No. **113,339**, dated April 4, 1871.

To all whom it may concern:

Be it known that I, ERNEST CONSTANTIN PFAFF, of Chemnitz, in Saxony, have invented certain new and useful Improvements in Carding-Engines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to those carding-engines for which Letters Patent were granted in England to George Wellman on the 11th of September, 1860, numbered 2,190, and known as "Wellman's Patent Carding-Engines." In those carding-engines the flats are stripped by self-acting apparatus; and this invention consists in certain improved combinations of machinery for stripping the flats near the lick-in oftener than those near the doffer, and in being able to vary the order of succession in which they are stripped.

In performing this invention the radial arms and cam-wheels are made as usual, and disks with projections and recesses on their circumferences are employed to govern the order of succession in which the top-flats are lifted.

The lifting-slides are made in two parts, and to the upper part of one of each of them is jointed a weighted elbow-lever, the lower end of which forms a catch.

Figure 1 is a side view and partial vertical section, and Fig. 2 an end view, of the principal parts of a Wellman carding-engine, to which my improvements are applied.

a is part of the main cylinder. *b b* are the radial arms, one being mounted at each end of the axle of the main cylinder. *c* is one of the top-flats; *d*, the stripper, and *e* the cam-wheels, mounted on the studs *f*, fixed in the radial arms *b*.

The parts above enumerated, and the mechanism consisting of the segmental rack *z z*, and other parts shown in Figs. 1, 2, and 6, for moving the radial arms, are made, as in Wellman's carding-engine, of the usual construction.

On the outer ends of the studs *f* are mounted the disks or division-plates *g*, the circumferences of which are made with projections and recessed, as shown best in Fig. 2.

To the back of the disks *f* are cast or fixed the fine-toothed wheels *g'*, into which the pinions *h* gear. These pinions are cast with the curved plates *h'* and the four-toothed pinions *h''*.

There is a stud or tooth, *e'*, in each cam-wheel *e*, which studs or teeth, as the cam-wheels rotate in the ordinary manner, gear into the pinions *h''*, and turn the pinions *h* and curved plates *h'* one-fourth round, thereby moving the disks *g* the distance required for one top-flat. While the curved plates are performing this fourth of a revolution their corners pass through openings in the flanges *e''* of the cam-wheels *e*, after which the curve of the plate fits on the flange *e''* to hold the division-plate *g* steady.

The radial arms *b* are made with slots, as usual, to guide the slides by which the top-flats are lifted; but these slides are now made in two parts, as shown best in the detached views, Figs. 3, 4, and 5.

The main slide, *i*, moves up and down in the radial arm, and the second slide, *i'*, fits in the slot of the radial arm and on a ribbed projection on the main slide. The slide *i'* has projections, between which the end of the top-flat enters.

To each slide *i* is jointed a weighted elbow-lever, *j*, the lower end of which forms a catch, *j'*, which is held under the lower end of the slide *i'* by the weight *j''*. When the slides descend, the lower sides of the weights *j''* either come in contact with projections on the disks *g*, or they enter the recesses between the said projections. If the weights come on projections, the catches *j'* are moved from under the slides *i'*, and the slides *i* then rise without lifting a top-flat. If, on the contrary, the weights *j''*, in descending, come into recesses in the disks *g*, the catches *j'* are not moved from under the slides *i'*, and then all the slides, together with a top-flat, are raised by the cam-wheels *e*, and the top-flat is stripped by the stripper *d*, in the usual manner.

The top-flats *c*, when down, are supported, as usual, on the ends of the setting-screws *y*, passing through the rims *a'*, as shown in Fig. 11, and they are steadied by the studs *a''*, as usual. When the top-flats are raised they are guided by the round or other-shaped studs *k*,

projecting from the cross-rail b' , connecting the radial arms b . These studs k are taper-pointed, and pass through holes in the top-flats, which take the place of the slots in the ends of the top-flats heretofore required.

In the carding-engine represented there are eighteen top-flats, and the disks or division-plates g are constructed so that these top-flats shall be stripped in the order of succession indicated in the diagram, Fig. 12. The top-flats are numbered consecutively from 1 to 18, the number 1 being near the licker-in. In the first traverse of the radial arms the first, third, fifth, ninth, eleventh, and fifteenth top-flats are stripped, as indicated by the crosses in the diagram; and in the return traverse the sixteenth, twelfth, tenth, sixth, fourth, and second top-flats are stripped; and at the second and third to-and-fro traverses of the radial arms the top-flats indicated by crosses are stripped. By this diagram it will be seen that during these to-and-fro traverses of the radial arms the six top-flats near the licker-in are stripped three times each, the six top-flats near the doffer are each stripped once, and the six intermediate top-flats are each stripped twice; but by varying the number and size of the projections on the division-plates g , the order of succession can be varied according to the number of top-flats employed, and the number of times it may be desirable to strip some of the top-flats oftener than the others.

The top-flat is shown in Figs. 7, 8, 9, 10,

and 11. The top-flat consists of a cast-iron ribbed plate, c^1 , in which are two series of holes containing wood pegs. The card-sheets are secured to the top-flat by nails driven in the said wood pegs.

The upper part of the top-flat consists of a piece of wood, c^2 , which is secured to the plate c^1 by wood-screws, as shown in Figs. 7 and 9. The ends of the top-flats consist of the plates c^3 , on which the consecutive numbers are cast, as shown in Fig. 10. These plates are screwed to the plate c^1 , and serve as a protection to the ends of the wood c^2 .

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

1. The combination, with the cam-wheels and the radial arms of top-flat-stripping apparatus, of the disk g , with notches and projections in the periphery, and the slides i i' and weighted catch-lever j , the same being arranged for varying the order of succession of the rising of the top-flats, substantially as specified.

2. The combination, with the cam and disk e and notched disk g , of the toothed wheel or rim g' , pinions h h^1 , and curved-edge plate h^2 , substantially as specified.

E. CONSTANTIN PFAFF.

Witnesses:

OTTO SCHURICHT,

OTTO HOFERT.