

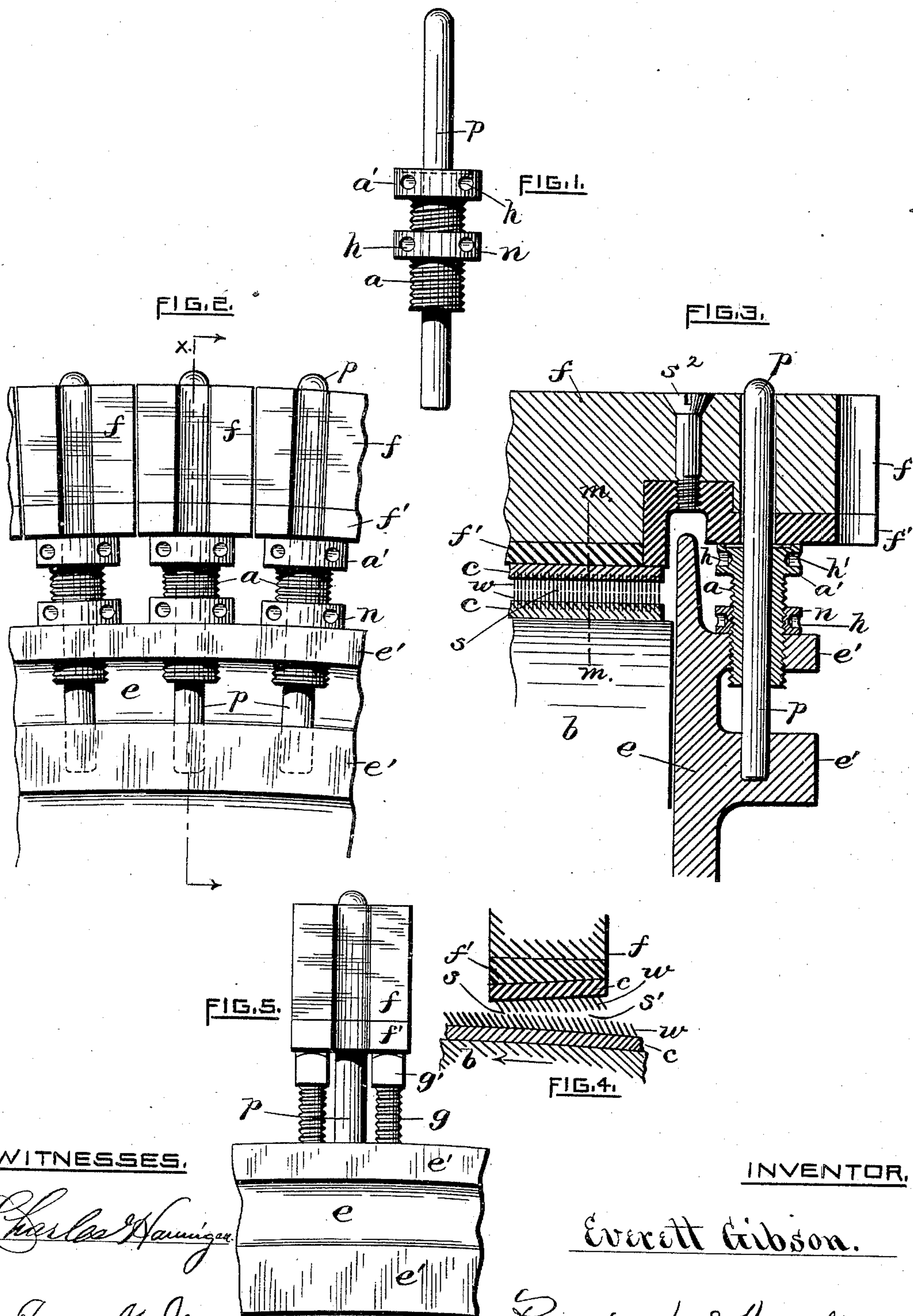
(No Model.)

E. GIBSON.

TOP FLAT ADJUSTING DEVICE FOR CARDING MACHINES.

No. 474,349.

Patented May 3, 1892.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

EVERETT GIBSON, OF PROVIDENCE, RHODE ISLAND.

## TOP-FLAT-ADJUSTING DEVICE FOR CARDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 474,349, dated May 3, 1892.

Application filed December 17, 1891. Serial No. 415,362. (No model.)

*To all whom it may concern:*

Be it known that I, EVERETT GIBSON, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Top-Flat-Adjusting Devices for Carding-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The improvement forming the subject of my present invention relates to devices for adjusting or regulating the position of the top-flats of carding-machines with relation to the card-cylinders.

Hitherto it has been usual to effect the adjustment of the top-flats by means of two screw-threaded pins or screws tapped into the card-frames contiguous to the arch-pins and adjacent to each end of the flats, the latter resting upon the heads of the screws. Such an arrangement requires a much longer time to accomplish the necessary adjustment of the several flats and is more liable to wear and accidental disarrangement by reason of the jarring action of the machine in operation, thereby necessitating frequent readjustment of the flats.

The object I have in view is to provide cards with means whereby the adjustment of the flats may be effected quickly and accurately.

To that end my invention consists, essentially, of an annular screw arranged to loosely receive the arch-pin and adapted to be screwed into the card-frame and a check-nut for holding the screw in position after the adjustment has been made, all as will be more fully hereinafter set forth and claimed.

In the accompanying sheet of drawings, Figure 1 is a side elevation of my improved adjusting device having the arch-pin therein. Figure 2 is an end view of a portion of the card-frame, showing three top-flats in position, the latter being supported by my improved device. Figure 3 is a longitudinal sectional view taken on line *xx* of Fig. 2. Figure 4 is a transverse sectional view taken through the lower portion of one of the flats and the adjacent

portion of the cylinder or through *mm*, Fig. 3. This figure is introduced to show the "pitch" or varying amount of clearance between the faces of the "clothing." As drawn, however, the clearance is greatly exaggerated; and Fig. 5 is an end view similar to Fig. 2, showing a well-known device for supporting the flats.

Again referring to the drawings, *e* indicates the upper portion of the curved card-frame adjacent to the card-cylinder *b*, provided with one or more laterally-projecting flanges *e'*, as usual. Cards of this type are more particularly adapted to the carding of vegetable staples or fibers—as, for example, cotton. Such cards, as is well known, are provided with a series of removable top-flats *f*, each being loosely mounted on arch-pins *p*, fixed into the card-frame. These pins are usually equally spaced and radially arranged around the curved portion of the frame and extend beyond the same, the outer ends being substantially flush with the top of the flats. Card-flats are generally made of wood and have their under sides faced with metal *f'*, screws *s* serving to fasten the parts together. To the bottom face of the flats is secured the card-clothing *c*, having fine wire teeth *w*. The periphery of the cylinder *b* is covered with wire teeth, also as usual. Practically the teeth of the cylinder are separated from those of the flats by a narrow space *s*—say nine one-thousandths of an inch. Therefore it becomes a somewhat difficult matter to quickly and at the same time accurately effect the adjustment or relation of these parts. A common way of accomplishing it is represented in Fig. 5, wherein the end of the flat is shown as resting upon the heads *g'* of the two screws *g*. Obviously such an arrangement necessitates the manipulation of both screws in order to make the adjustment, the bearing-surface is very limited and is apt to wear more or less, and, further, the screws sometimes become accidentally loosened.

By means of my improved device about to be described I am enabled to quickly effect the adjustment of the parts *b* and *f* with great accuracy. The arch-pins *p* are arranged and mounted in the card-frame *e* substantially as common. The upper flange or rim *e'* of the frame is tapped out to receive the annular



screw *a*, the latter being arranged to receive an arch-pin *p*, the two centers being in line or coinciding. The upper end of the screw *a* is provided with a head *a'*, having its top face recessed, as at *h'*, Fig. 3, if desired. A check-nut *n* is fitted to the screw for the purpose of preventing the latter from accidental movement when in use. Small holes *h*, formed in the head and nut, are for the introduction of a piece of wire in lieu of a wrench when adjusting the height of the flats.

In cotton-cards it is usual to make the space *s* a very little wider at the front or entering side to produce what is termed the "pitch." To make this pitch I prefer to first grind off the face of the metal *f'* at a slight angle, as indicated in an exaggerated form in Fig. 4, before fastening the card-clothing to it, thus making the opening wider at the front. (Sees'.)

I claim as my invention—

1. The combination of an arch-pin *p*, arranged to be rigidly fixed to a card-frame and adapted to freely engage a top-flat of a card-

ing-machine, an adjusting-screw bored out longitudinally to receive said arch-pin and having its upper portion arranged to support an end of the top-flat, and a check-nut fitted to the screw, substantially as hereinbefore described.

2. In a carding-machine, the combination, with the card-frames, cylinder, top-flats, &c., of a series of arch-pins rigidly secured to said frames and extending radially therefrom and engaging the end portions of the top-flats, adjusting-screws supporting the top-flats tapped into the frames, having said arch-pins passing longitudinally therethrough to guide the same, and check-nuts fitted to the screws, substantially as hereinbefore described, and for the purpose specified.

In testimony whereof I have affixed my signature in presence of two witnesses.

EVERETT GIBSON.

Witnesses:

CHARLES HANNIGAN,  
GEO. H. REMINGTON.