(No Model.) 2 Sheets—Sheet 1.

J. HUEBNER.

DEVICE FOR GRINDING BUTTON BLANKS.

No. 487,741. Patented Dec. 13, 1892.

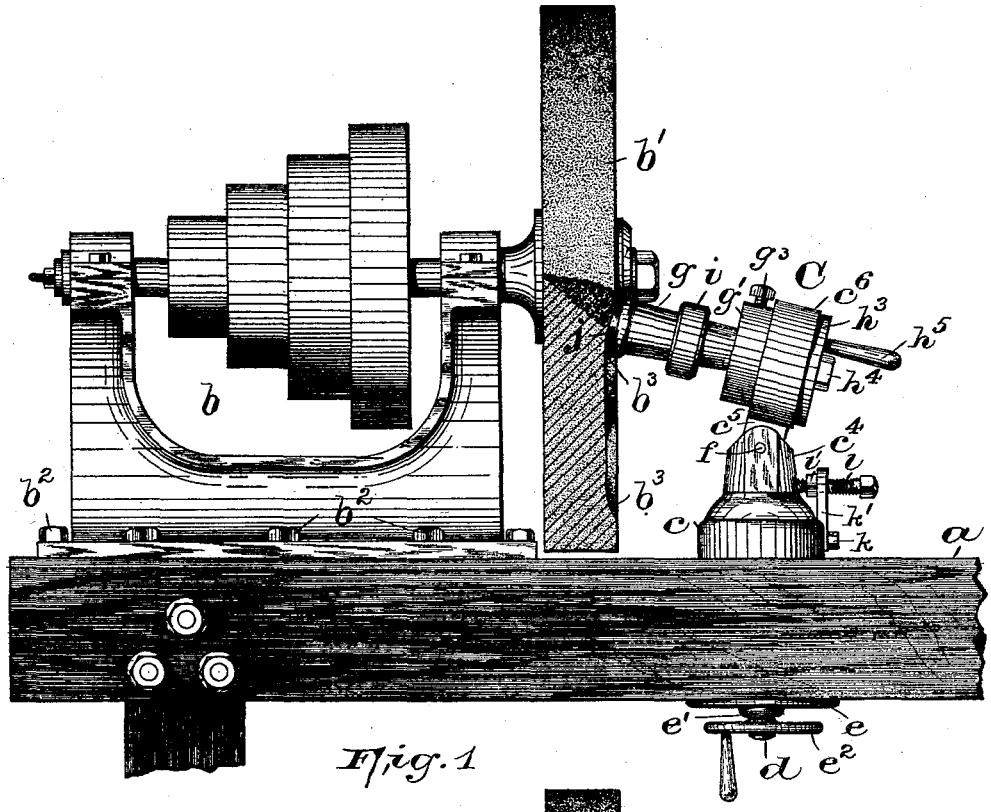

Fig. 1

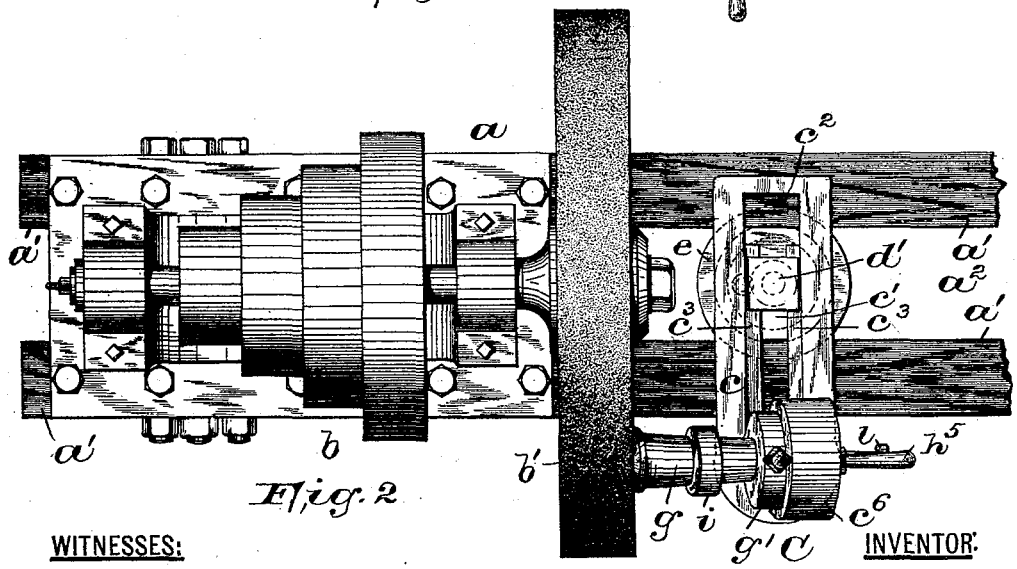

Fig. 2

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INVENTOR:

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(No Model.) 2 Sheets—Sheet 2.

J. HUEBNER.

DEVICE FOR GRINDING BUTTON BLANKS.

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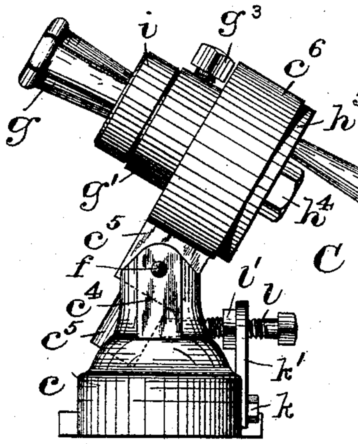

Fig. 3

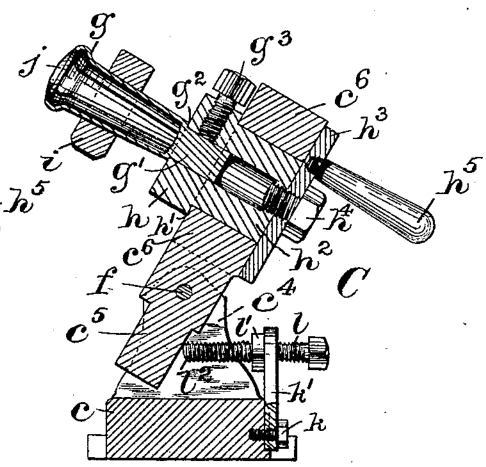

Fig. 4

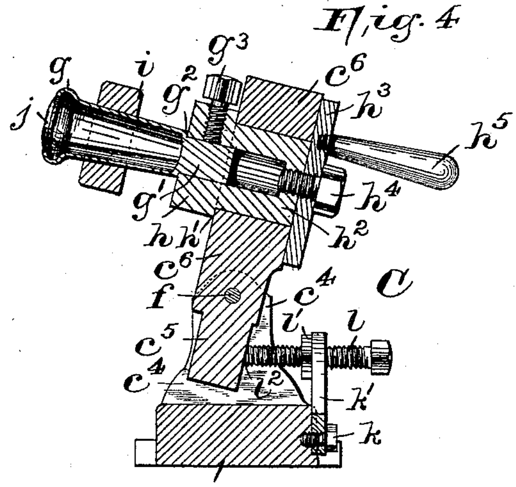

Fig. 6

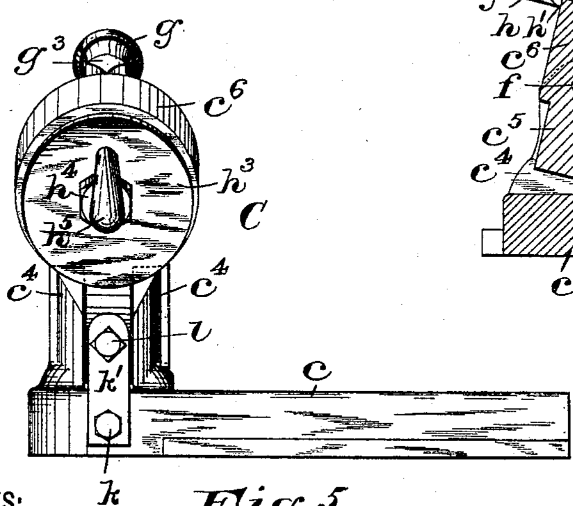

Fig. 5

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UNITED STATES PATENT OFFICE.

JULIUS HUEBNER, OF NEWARK, NEW JERSEY.

DEVICE FOR GRINDING BUTTON-BLANKS.

SPECIFICATION forming part of Letters Patent No. 487,741, dated December 13, 1892.

Application filed May 19, 1892. Serial No. 433,500. (No model.)

To all whom it may concern:

Be it known that I, JULIUS HUEBNER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Devices for Grinding Button-Blanks; 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 object of my invention is to construct and arrange a holding device or pivoted chuck to be used in connection with an emery or other suitable grinding-wheel for grinding down the backs of pearl-button blanks, and in which device the button-blanks can be quickly secured and ground off into proper shape upon their backs; and this is accomplished by the mechanism and construction substantially as hereinafter described, and illustrated in the accompanying sheets of drawings.

The invention therefore consists in the novel arrangements and combinations of parts, such as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

In the accompanying sheets of drawings, in which similar letters of reference are employed to indicate corresponding parts in each of the several views, Figure 1 is a front elevation of the button-blank holding and grinding device illustrated in connection with an emery-wheel, the same being partly represented in section to more clearly show the manner of using the holding and grinding device and the manner of grinding down the back of a pearl-button blank to the proper shape. Fig. 2 is a top view of the several devices illustrated in said Fig. 1. Fig. 3 is an enlarged front view of the button-blank-holding device embodying my invention. Fig. 4 is a vertical cross-section of the same, clearly illustrating an arrangement of an adjusting-screw for setting the holding-chuck of the device at the desired angle to the side of the grinding-wheel; and Fig. 5 is a side view of said device. Fig. 6 is a view similar to that illustrated in Fig. 4, showing the button-blank-holding chuck set at a different angle from that of the chuck in said Fig. 4.

In said drawings, Figs. 1 and 2, *a* represents any suitable bench, such as is generally used in the pearl-button manufacture, and *b* is any suitable grinding device provided with an emery-wheel *b'* and secured on said bench by means of bolts b^2.

The button-blank-holding device C consists, essentially, of a suitable base *c*, having a longitudinal opening *c'*, provided with an enlarged open portion c^2, and the inwardly-extending ribs or flanges c^3, substantially as shown in Fig. 2. In order to secure said holding device C to the table or bench *a*, which consists of two longitudinally-arranged beams *a'*, forming a space a^2 between them, a bolt *d*, having a square head *d'*, is inserted from below through the enlarged opening c^2 in the base *c*, and the latter is pushed backward, so as to cause the head of the bolt *d* to rest upon the ribs or flanges c^3. Against the under side of each beam *a'* is placed a suitable plate *e*, having a perforated hub *e'*, through which the lower end of the bolt *d* projects, as shown in Fig. 1, and upon said threaded end of the bolt is screwed a tightening-nut or hand-wheel e^2, which allows of the adjustment of said holding device C backward or forward and also toward or away from the side of the emery-wheel, as will be clearly understood. The forward end of said base *c* has two upwardly-extending arms or standards c^4, which are perforated near the top and in which is arranged a pivotal pin *f*. Between said arms or standards c^4 I have snugly fitted a downwardly-extending supporting-arm c^5 of the pearl-button-blank-retaining chuck. Said arm c^5 is in frictional contact with the inner surfaces of said arms c^4 and moves with difficulty between said arms, but is still capable of a swinging movement therebetween.

The button-holding chuck proper, as will be seen more especially from Figs. 4 and 6, consists of spring-jaws *g*, extending from a solid stud-like end *g'*, having a shoulder g^2. Said end *g'* is arranged in the tubular portion of a revolving ring *h*, in which it is firmly secured by means of a set-screw g^3 or in any other well-known manner. Said ring *h* is provided with a shoulder *h'* and its smaller end

h^2 fits loosely in and is capable of revolving within a sleeve-like portion c^6 on the upper end of the pivoted supporting-arm c^5. At the back of said sleeve-like portion c^6 is a washer h^3, secured to said smaller end h^2 of the revolving ring h by means of an ordinary screw or bolt h^4. In order to secure the button-blank j in the front ends of the grasping-jaws g, as shown in said Figs. 4 and 6, a ring i, encircling said spring-jaws, is pushed entirely back to the position illustrated in Fig. 3, and the button-blank j is then placed between the separated spring-jaws g, when said ring i is again forced outward toward said jaws, and owing to the outwardly-inclined surfaces of said jaws g they will thus become firmly pressed upon the circumferential edge of the button-blank, and the entire device can now be brought forward against the side of the emery-wheel. At one side of the base c and projecting up directly in front of the opening formed between the arms c^4 I have secured by means of a bolt or screw k a support or post k', provided with a threaded hole in its upper end. Within said hole in the support k' can be made to move an adjusting-screw l, provided with a lock-nut l'. Said screw l is arranged in such a manner that its forward end l^2 extends into the space formed between the arms c^4 and contacts with the pivoted supporting-arm c^5, whereby the holding device C can be set at any desirable angle, as will be evident from the several figures of the drawings.

The emery-wheel b' may be suitably curved, as at b^3, if desirable, in order to grind the backs of the pearl-button blanks convex, but the side of the emery-wheel can be left perfectly plain, if necessary.

Heretofore the backs of the pearl-button blanks were turned off by hand in a lathe with a suitable turning-tool, and unless the operator was very careful the backs would be turned off unevenly and often show in places the rough surfaces of the "bark" on the back of the button-blank. This method of turning the button-blanks is also a very slow and tedious one, and while by means of my novel device the button-blanks are ground off in a quick and cheap manner all blanks thus ground are of a uniform curvature on their backs.

In order to remove the finished button-blank, the thumb of the operator is placed against the pin or handle h^5 and the four fingers grasp the ring h, whereby the workman can more firmly hold these parts and prevent their turning, while with the other hand the operator can push back the ring or collar i, and thus remove the finished blank and insert a second and unfinished blank between the grasping-jaws g.

Owing to the pivotal arrangement of the jaws and the connecting mechanism button-blanks can be ground off with any desirable curvature of back, according to the requirements of the pearl-button manufacturer.

Having thus described my invention, what I claim is—

1. In a device for grinding button-blanks, the combination of a base having upwardly-extending arms, a sleeve-like support pivotally secured between said arms, and a revolving chuck in said sleeve-like support provided with spring-jaws for holding a button-blank, said jaws inclining outward, and a tightening-ring i on said jaws, substantially as and for the purposes set forth.

2. In a device for grinding button-blanks, the combination of a base having upwardly-extending arms, a sleeve-like support pivotally secured between said arms, a revolving chuck in said sleeve-like support, provided with spring-jaws for holding a button-blank, said jaws inclining outwardly, a tightening-ring i on said jaws, and an adjusting-screw arranged in a support on said base, whereby the chuck may be set at an angle, substantially as and for the purposes set forth.

3. In a device for grinding button-blanks, the combination of a base having upwardly-extending arms, a sleeve-like support pivotally secured between said arms, and a revolving chuck in said sleeve-like support, consisting, essentially, of spring-jaws inclining outwardly and having a tightening-ring thereon, said jaws terminating in a stud g', a ring h, in which said stud is secured by means of a set-screw g^3, said ring being provided with a shoulder h' and a smaller portion h^2, adapted to revolve in said sleeve-like support, a washer h^3, a bolt or screw h^4, and a pin or handle on said washer, said parts being arranged substantially as and for the purposes set forth.

4. In a device for grinding button-blanks, the combination of a base having upwardly-extending arms, a sleeve-like support pivotally secured between said arms, and a revolving chuck in said sleeve-like support, consisting, essentially, of spring-jaws inclining outwardly and having a tightening-ring thereon, said jaws terminating in a stud g', a ring h, in which said stud is secured by means of a set-screw g^3, said ring being provided with a shoulder h' and a smaller portion h^2, adapted to revolve in said sleeve-like support, a washer h^3, a bolt or screw h^4, a pin or handle on said washer, and means for tilting said sleeve-like support at an angle between the upwardly-extending arms on the base, consisting of a support or post k', an adjusting-screw l, and a lock-nut l', all of said parts being arranged substantially as and for the purposes set forth.

5. In a machine for grinding button-blanks, in combination, a table or bench a, a grinding device secured on said bench, and a button-blank-holding device adjustably arranged on said bench, whereby the button-blank can be ground at an angle and can be brought against the grinding-wheel, the side of the wheel being curved, as at b^3, to grind the button or blank convex, substantially as and for the purposes set forth.

6. In a machine for grinding button-blanks, in combination, a table or bench a, a grinding device secured on said bench, and a button-blank-holding device adjustably arranged on said bench, whereby the button-blank can be ground at an angle and can be brought against the grinding-wheel, the side of the wheel being curved, as at b^3, to grind the button or blank convex, and means for securing said blank-holding device to said bench, consisting, essentially, of a bolt d, a plate e, and a nut or hand-wheel e^2, all arranged substantially as and for the purposes set forth.

7. In a machine for grinding button-blanks, in combination, a table or bench a, a grinding device secured on said bench, and a button-blank-holding device adjustably arranged on said bench, said blank-holding device consisting, essentially, of a base c, having a longitudinal opening c', a larger opening c^2, and ribs c^3, a bolt d, a plate e, and a nut or hand wheel e^2 for securing said blank-holding device to said bench, a sleeve-like support pivotally secured between upwardly-extending arms c^4 on said base c, and a revolving chuck in said sleeve-like support, consisting, essentially, of spring-jaws terminating in a stud g', a ring h, in which said stud is secured by means of a set-screw g^3, said ring being provided with a shoulder h' and a smaller portion h^2, adapted to revolve in said sleeve-like support, a washer h^3, a bolt or screw h^4, and a pin or handle on said washer, all arranged substantially as and for the purposes set forth.

8. In a machine for grinding button-blanks, in combination, a table or bench a, a grinding device secured on said bench, and a button-blank-holding device consisting, essentially, of a base c, having a longitudinal opening c', a larger opening c^2, and ribs c^3, a bolt d, a plate e, and a nut or hand wheel e^2 for securing said blank-holding device to said bench, a sleeve-like support pivotally secured between upwardly-extending arms c^4 on said base c, and a revolving chuck in said sleeve-like support, consisting, essentially, of spring-jaws terminating in a stud g', a ring h, in which said stud is secured by means of a set-screw g^3, said ring being provided with a shoulder h' and a smaller portion h^2, adapted to revolve in said sleeve-like support, a washer h^3, a bolt or screw h^4, a pin or handle on said washer, and an adjusting-screw l for tilting said sleeve-like support at the desired angle, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 17th day of May, 1892.

JULIUS HUEBNER.

Witnesses:

FREDK. C. FRAENTZEL,

WM. H. CAMFIELD, Jr.