(No Model.)

E. MAY.

MACHINE FOR THE MANUFACTURE OF PEARL BUTTONS.

No. 314,596. Patented Mar. 31, 1885.

Fig. 1.

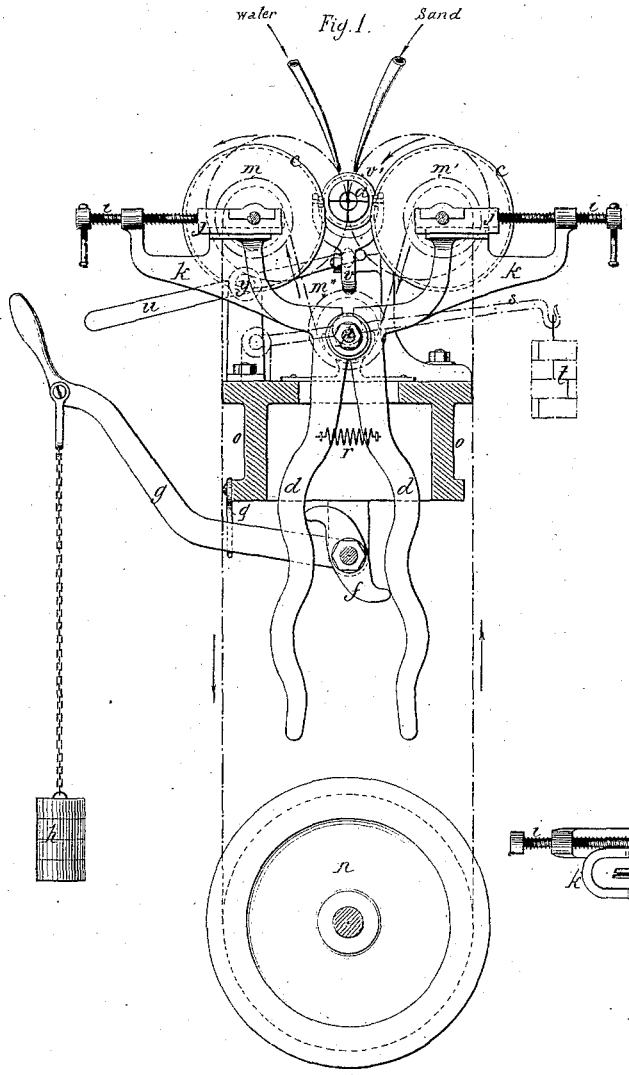


Fig. 2.

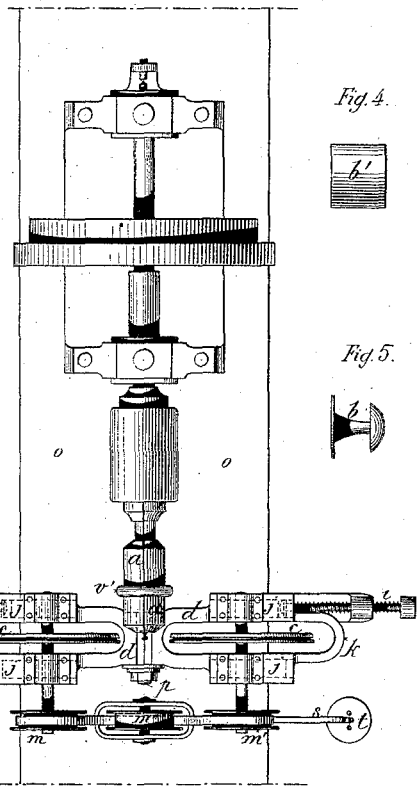
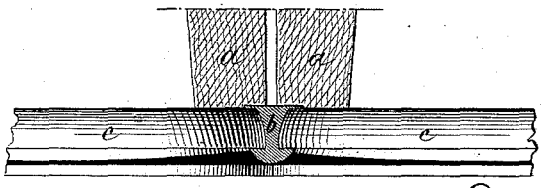


Fig. 4.

Fig. 5.

Fig. 3



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UNITED STATES PATENT OFFICE.

ERNEST MAY, OF PARIS, FRANCE, ASSIGNOR TO MAY FRÈRES & CO., OF SAME PLACE.

MACHINE FOR THE MANUFACTURE OF PEARL BUTTONS.

SPECIFICATION forming part of Letters Patent No. 314,596, dated March 31, 1885.

Application filed November 17, 1884. (No model.) Patented in France October 18, 1884, No. 152,279, and in England October 24, 1884, No. 14,089.

To all whom it may concern:

Be it known that I, ERNEST MAY, manufacturer, of Paris, France, have invented an Improved Machine for the Manufacture of Pearl-Shell Buttons in the form of Mushrooms, of which the following is a specification.

My invention relates to a machine for the manufacture of that class of buttons which consist of a shank with a head upon each end, commonly called "studs;" and the invention consists in a machine composed of the combination of elements more fully hereinafter described, and particularly recited in the claim.

The manufacture of the class of buttons above referred to has required up to present time the attendance of a very skillful operative and a good deal of expensive labor, while my improved machine allows of an easy, rapid, and cheap manufacture. The "blank" or piece of mother-of-pearl of which a button is to be made, on being cut to the required size, is rubbed or ground between the two cast-iron plates, which, by being gradually drawn closer together, tightly compress the button to be formed, being themselves pressed upon with an equal force on either side. The plates or disks now receive a very rapid rotary motion, and thus with an unusual velocity wear or rub off the desired part of the blank and give the latter exactly the shape of the button required.

In order that the advantages of my improved machine and the manner in which it is best operated may be well understood, I will now fully describe the same with reference to the accompanying drawings, in which—

Figure 1 is a front view of my improved button-making machine. Fig. 2 is a plan thereof. Fig. 3 is an enlarged view of the circular cutters for cutting out the buttons. Fig. 4 shows the block or blank of which a button is to be made, and Fig. 5 is a finished button.

The machine consists of a mandrel, *a*, carrying the block in which the button receives its shape, and mounted on the puppet *b* of an ordinary lathe. Mandrel *a*, having its block *b* attached to it, is placed in the middle of the machine-frame and on a level with the two plain disks *c c*, which are so formed in section as to fit exactly the desired shape of the button to be made. Said disks are then forced nearer together, so as to compress the block and commence their action, or are drawn away from the mandrel when the button is finished, by means of two levers, *d d*, and a cam, *f*, which receives motion from another lever, *g*, and counter-weight *h*. The two arms or branches are movably set on pivot *p*, provided on frame *o*. Screws *i i* serve to regulate the position of slides *j j*, carrying the disks *c*, according to the size of the latter, such slides running upon frame *k*, supported by levers *d*. Pulleys *m m' m''* are provided for imparting to disks *c c* the rotary motion they receive from the driving-pulley *n*.

To bring disks *c c* close together and commence the formation of the button, lever *g* is first released from its retaining-hook *q*. On being thereupon lowered through the action of its counter-weight *h* it causes thereby cam *f* to turn, and this, while forcing apart the two levers *d d*, brings their upper ends nearer together, and thus causes disks *c c* to become almost tangential to each other. When the button is ready, lever *g* is raised again into engagement with hook *q*, and, as cam *f* no longer acts upon levers *d*, these are moved back to their original position by spring *r*. A lever, *s*, is hung at one side of the machine, and, extending across, carries a pulley, *m''*, which rests upon one run of the band that passes around the pulleys *m m'*, and so as to hold the band at a uniform tension as the disks move toward or from each other.

Lever *u*, one end of which is attached to ring *v*, and which is pivoted at *y*, is provided for bringing ring *v'* near mandrel *a*, toward the tapering end of the same, and thus compress it with more or less force, as required.

By the use of my machine the manufacture of the particular class of buttons hereinbefore referred to will be found more advantageous, as the machine will yield a greater proportion of buttons in a comparatively short space of time, the shape of all the buttons being, moreover, exactly similar, and the breakage, which is considerable when the buttons are made by

the ordinary tools, is totally avoided in the manufacture according to my invention; besides, one operative will serve to work a series of lathes. Thus a considerable amount of material, time, and labor is saved.

Having now fully described all parts of my invention and the manner in which it is to be carried out, what I claim is—

The combination of the two levers *d d*, a slide, *j*, on the upper arm of each of said levers, a revolving grinding-disk arranged in each of said slides, the two disks in the same plane, their faces corresponding to the shape of the button to be produced, a cam, *f*, between the lower arms of said levers, lever *g*, arranged to operate said cam, and a revolving mandrel adapted to hold and revolve the material between said disks, substantially as described.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

ERNEST MAY.

Witnesses:

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