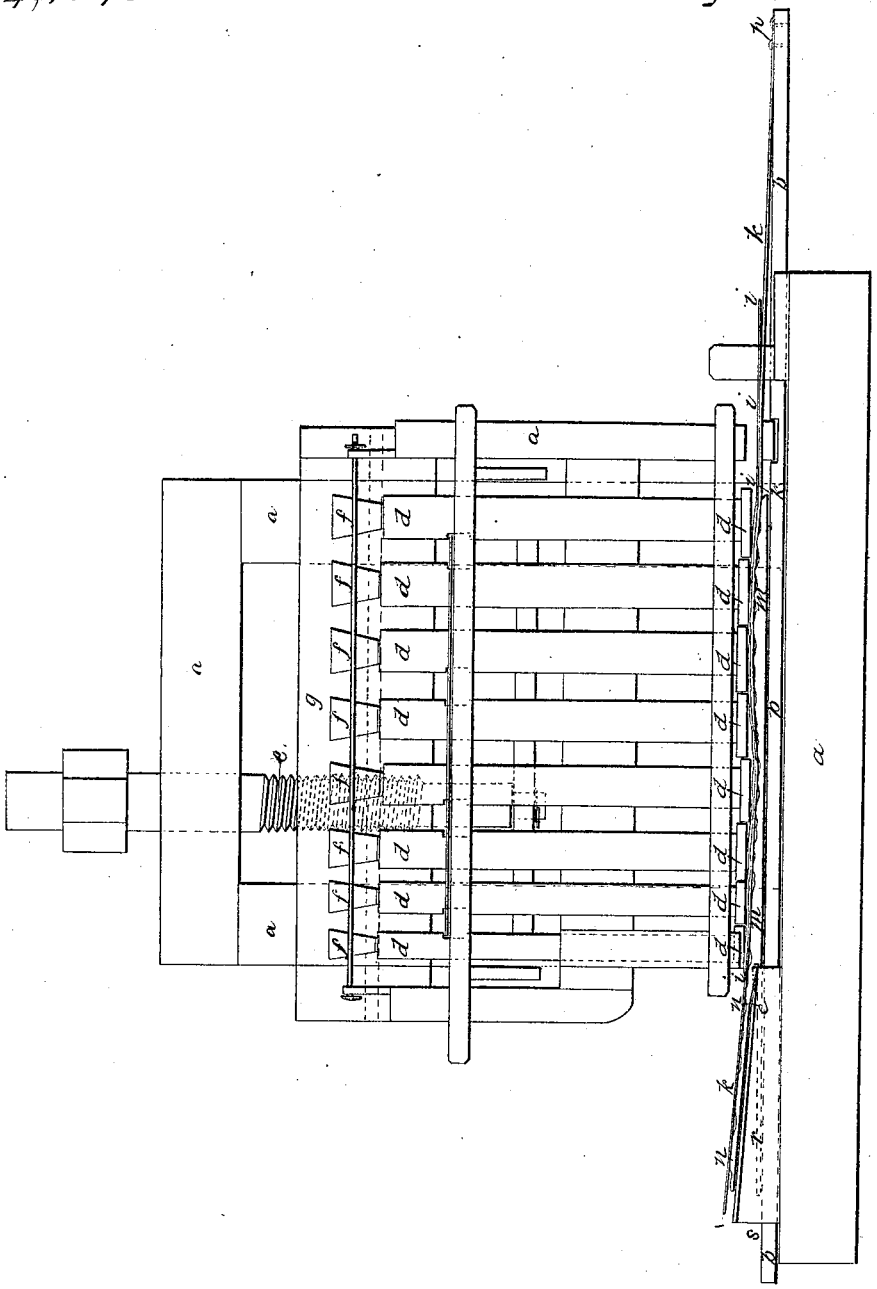
2 Sheets-Sheet 1.

J. R. Morse,

Making Combs.

No. 4,494. Patented May. 2, 1846.



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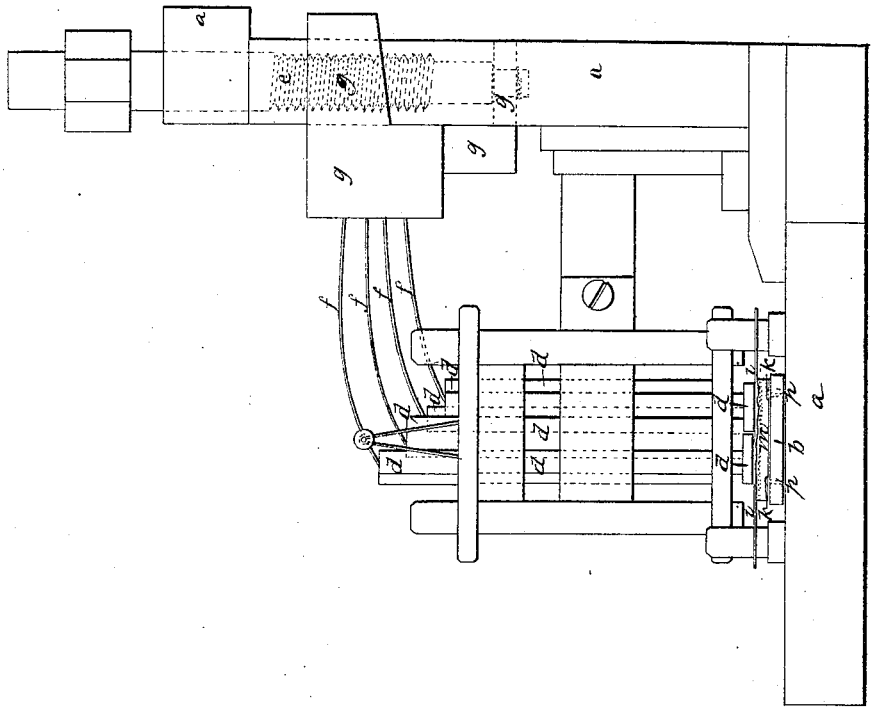

UNITED STATES PATENT OFFICE.

JOEL R. MORSE, OF BOSTON, MASSACHUSETTS.

MACHINERY FOR DRESSING TORTOISE-SHELL, &c.

Specification of Letters Patent No. 4,494, dated May 2, 1846.

To all whom it may concern:

Be it known that I, JOEL R. MORSE, of Boston, in the county of Suffolk and the State of Massachusetts, have invented a new and useful Machine for Cutting Shell or Horn; and I hereby declare the following to be a full and exact description.

Let *a*, *a*, *a*, *a*, represent the frame of the machine, *b* the carriage which holds the shell *m*, *c*, the knife, *d*, *d*, *d*, *d*, a set of uprights, the bases of which rest upon the shell *m*, and hold it firmly in place, by this means instead of a firm and rigid bearing composed of one unyielding piece, we divide the bearing into segments moving up or down, independently of each other so as to adapt themselves to the inequalities of surface of the shell, being each pressed downward, on to the shell by a spring, as *f*, *f*, *f*, thus preventing any rolling motion or unsteadiness of the shell upon the carriage *b*, which motion would have a tendency to render the shell of unequal thickness after passing the knife *c*.

The shell *m*, having been sufficiently softened, is placed upon the carriage *b*, Figures 1 and 2. We then turn the screw *e*, Figs. 1 and 2, causing the frame *g* to descend; to this frame are attached the springs *f*, *f*, *f*, *f*, which press upon the tops of the upright bearings *d*, *d*, *d*, *d*, the descent therefore of the frame *g*, will cause the springs and by their pressure, the upright bearings to descend and press upon the shell beneath, and if the shell is uneven on its upper surface, the bearings will adapt themselves to such inequalities and cause a uniform pressure upon all parts of the shell, thus holding it steady upon the carriage, and as the carriage with the shell moves onward toward the knife, the inequalities of surface of the shell will cause a constant motion of the upright bearings up or down as the thick or thin parts of the shell present themselves. The shell being advanced upon the carriage is divided by the knife, the parings *n*, passing over the top of the knife while the finished portion of the shell *r*, with the carriage *b*, on which it rests pass under the knife and are delivered at *s*.

In this machine the knife *c*, is stationary, that is it does not move up or down to regulate the thickness of the shell cut but this is regulated by introducing one or more plates of metal under the carriage *b* thus bringing the upper surface of the carriage on which the shell rests nearer the knife under which it passes.

When the shell has been overheated it is not thought expedient to allow its upper surface to rub against the plate *i*, Figs. 1 and 2, which is introduced between the bases of the uprights and the shell because from its softness the shell would have a tendency to adhere to the plate *i*, which would materially add to the friction of the machine, and moreover it would be liable to rub off and clog the machine; in order to obviate this objection, a thin elastic plate *k*, Figs. 1 and 2 is placed over the upper surface of the shell between it and the plate *i*, this plate being firmly attached to the carriage *b*, at the point *p*, moves along with it, and with the parings of the shell passes over the top of the knife so that the friction will be that of the plates *i* and *k* rubbing against each other these being of metal with smooth surfaces there will be much less friction than though one of the surfaces was a soft gummy material. This upper plate *k*, I do not intend using unless the shell is over heated and gummy, it therefore is not permanently attached to the carriage.

What I claim as my invention and desire to secure by Letters Patent is—

The arrangement for carrying the shell to the knife upon a carriage, in connection with the method of holding the shell steadily upon the carriage by means of the disconnected upright bearings operated upon by the springs as herein described.

JOEL R. MORSE.

Witnesses:
COLUMBUS C. PARKER,
L. H. BORDEN.