

W. S. Bell.  
Collar Machine.

N<sup>o</sup> 46291

Patented Feb. 7, 1865.

Fig. 2

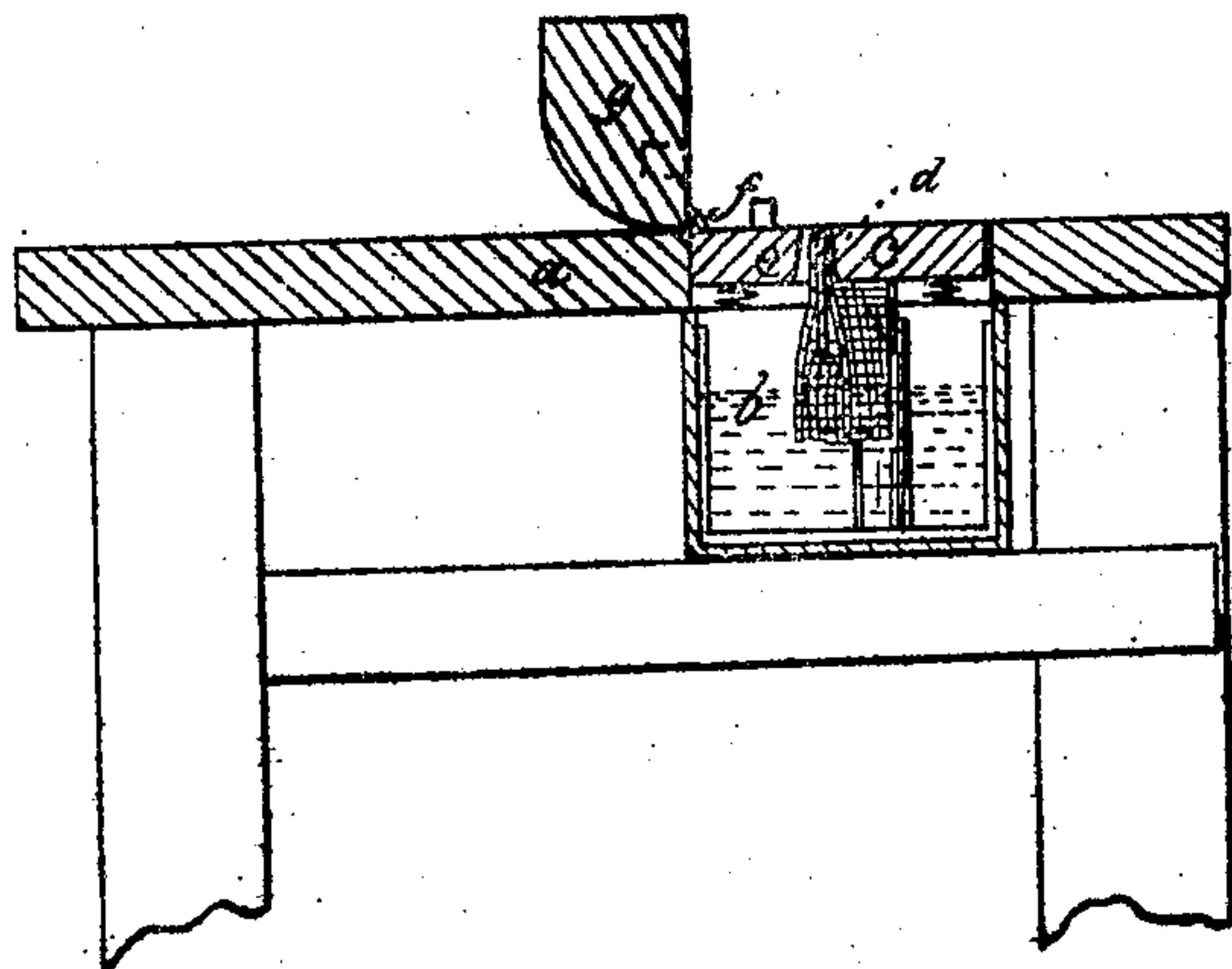
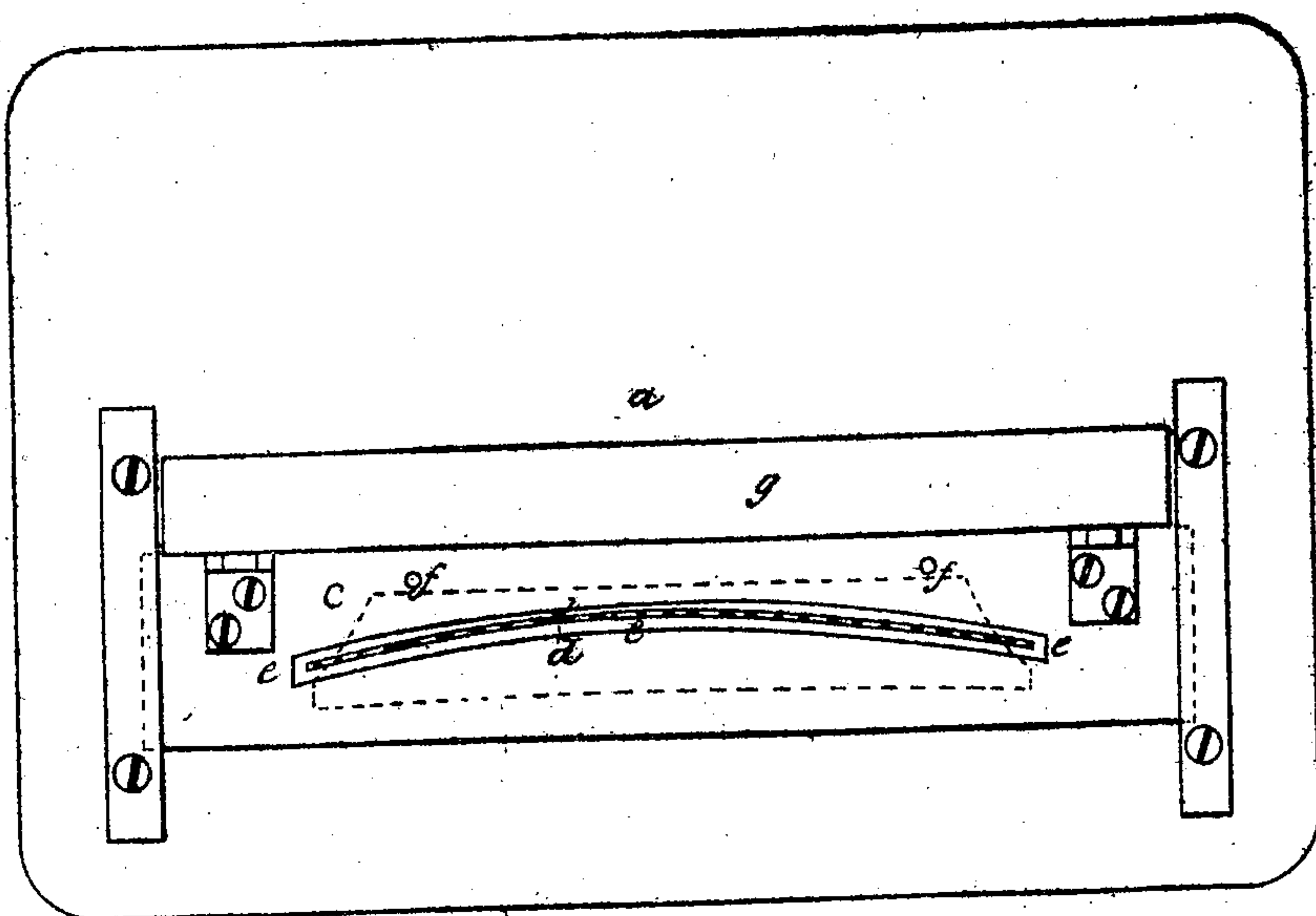


Fig. 1



Witnesses:

W. B. Lewis  
Francis Gould

Inventor

William S. Bell

# UNITED STATES PATENT OFFICE.

WILLIAM S. BELL, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF,  
AND WILLIAM S. BELL, JR., OF SAME PLACE.

## IMPROVEMENT IN FOLDING PAPER COLLARS.

Specification forming part of Letters Patent No. 46,291, dated February 7, 1865.

*To all whom it may concern :*

Be it known that I, WILLIAM S. BELL, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in the Manufacture of Paper Collars; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

This invention relates to the construction of paper collars, the object of the invention being to facilitate the doubling or "turning over" of collars without indenting the "blanks" or flat pieces of paper to define the folding-lines.

The invention consists in so treating the blank as to moisten its surface upon the line at which the fold is to be made, the softening of the fabric upon this line accurately defining the fold when one part of the collar is turned over or against the other, either by hand or by mechanism.

The drawings represent a machine for carrying out my invention, Figure 1 showing a top view, and Fig. 2 a central cross-section, of the same.

*a* denotes a table or bench, from the under surface of which a fluid-containing basin or vessel, *b* extends, said basin having a cover, *c*, which rests upon springs inserted in the table-frame. In the basin or reservoir *b* a plate, *d*, is supported vertically, the upper edge of this plate being covered by a piece of cloth drawn tightly over it, and extending down upon one or both of its sides, so as to be in contact with water or other suitable fluid placed in the vessel *b*, capillary attraction drawing the water up the cloth at the side or sides of the plate and keeping the upper edge thereof constantly moist. The top edge of the plate corresponds in form with the curved line upon which a collar is to be turned to give it the proper shape or "set" when worn. A long slit or opening, *e*, corresponding in form to the upper edge of the plate *d*, is made through the cover *c*, the slit being somewhat wider and longer than the plate which projects up into or through the opening *e*, as seen

in Fig. 2. In rear of this opening guide-pins *f* project from the upper surface of the cover, and a holder-bar, *g*, is hinged to the cover, as seen in the drawings.

This apparatus is operated as follows: A collar-blank is laid upon the cover *c* over the opening *e*, with its rear edge (which is to form the dress-edge of the collar) placed against the pins *f* and its opposite ends equidistant from the ends of the opening *e*. This brings the line upon which the blank is to be turned directly over the upper edge of the plate *d*. The bar *g* is now brought down upon the blank, holding it firmly in place between the surface of the bar and cover *c*. If the bar is now depressed, forcing down the cover *c* upon its spring, the lower surface of the collar is brought into contact with the wetted edge of the plate or the cloth drawn over said edge.

This contact moistens a corresponding line on the collar-blank, said line being that upon which the collar is to be turned. The blank is now removed and the temporary softening of the fabric upon the moistened line defines the line upon which the collar will turn if one part of it be folded over upon or against the other, as will be readily understood, this effect being produced without any indentation of the paper or any marking or defining of the line other than that produced by the watermark. The blank may be turned either by hand or by mechanism, such turning being preferably effected soon after the blank is removed from the moistening-plate.

The red lines in Fig. 1 denote the outline of the blank in position upon the cover *c*, the dotted line denoting the line where the watermark will be made. The cover *c* is so applied as to be easily removable from the basin or reservoir *b*, to permit access to the reservoir, and said cover is kept in normal position upon its spring in any convenient manner.

Other forms of apparatus may be used to practice my invention, that described, however, being preferred by me.

I am aware that in manufactures of paper it is common to manipulate the material while in a moist condition, the flacidity facilitating the bending or folding of the paper and permitting expansion of its fiber. Treatment of



paper when in such general moist condition I do not claim, nor would such treatment effect the object desired.

By my process a collar-blank in a dry or approximately dry state is brought into contact with a defined wet edge in such a manner as to impart moisture to the blank upon a corresponding line, which defines said line (which is that upon which the blank is to be turned) and temporarily changes the condition of the material in the blank upon such line, so that

in turning or folding the blank the moistened part determines the line of fold and accomplishes the object of my invention.

What, therefore, I claim is—

The improved method of treating paper collars or collar-blanks, to define and determine the line of fold, substantially as set forth.

WILLIAM S. BELL.

Witnesses:

J. B. CROSBY,

FRANCIS GOULD.