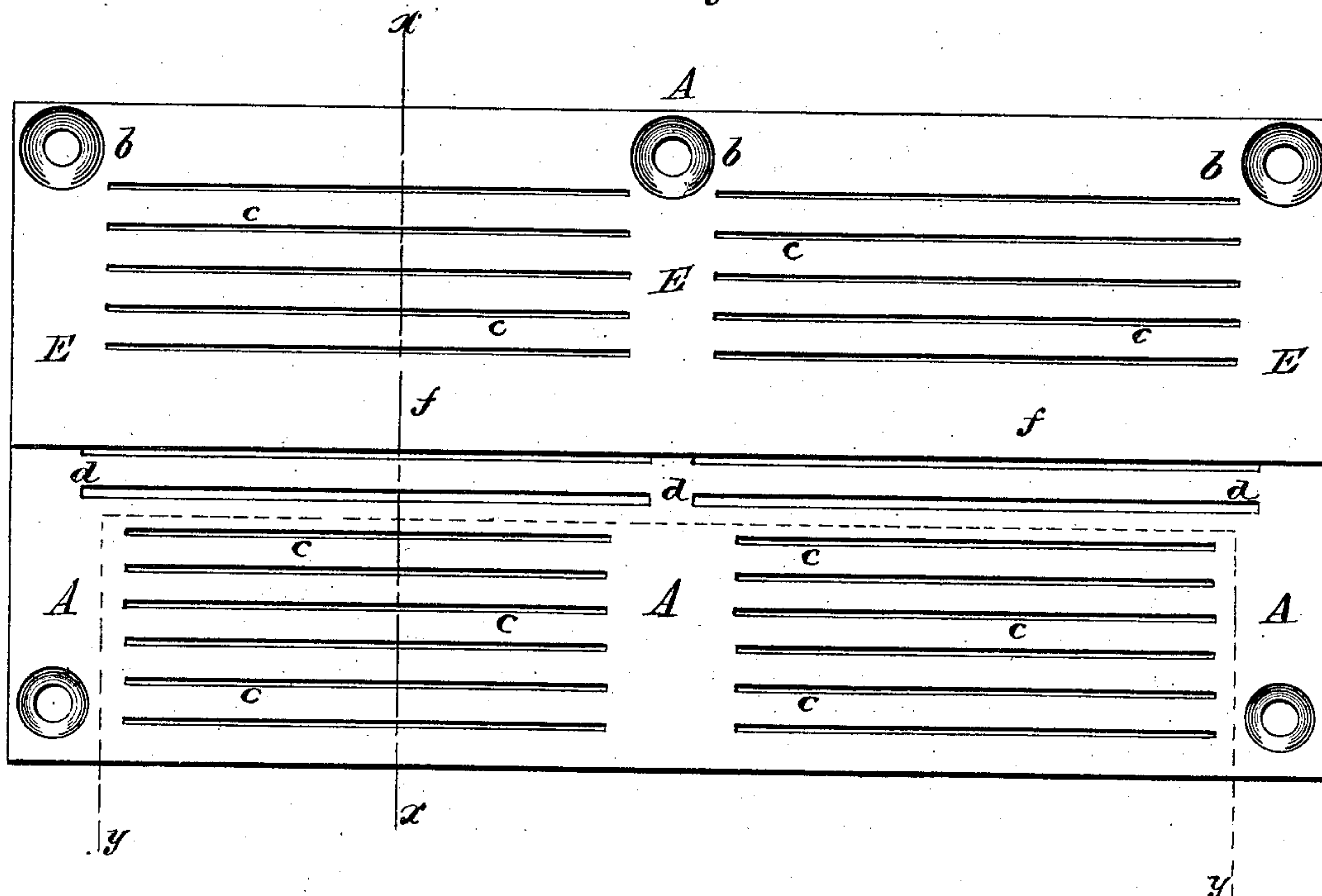


M. S. DRAKE.  
Mode of Renewing Worn Screen-Plates for Paper-Pulp.

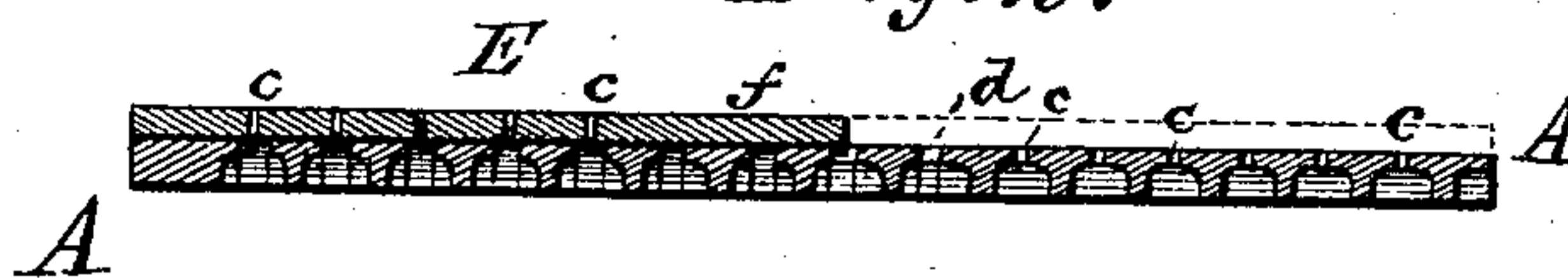
No. 221,221.

Patented Nov. 4, 1879.

*Fig. 1.*



*Fig. 2.*



Witnesses:  
*F. H. Dietrich*  
*J. A. Stockman*

Inventor  
*Mahlon S. Drake*  
Per *C. H. Watson & Co* Attorneys.

# UNITED STATES PATENT OFFICE.

MAHLON S. DRAKE, OF NEWARK, NEW JERSEY.

## IMPROVEMENT IN MODES OF RENEWING WORN SCREEN-PLATES FOR PAPER-PULP.

Specification forming part of Letters Patent No. **221,221**, dated November 4, 1879; application filed June 4, 1879.

*To all whom it may concern:*

Be it known that I, MAHLON S. DRAKE, of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Modes of Renewing Worn Screen-Plates for Paper-Pulp; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 the letters of reference marked thereon, which form a part of this specification.

This invention relates to the repairing of worn screen-plates which are employed to screen pulp in the process of the manufacture of paper.

The nature of my improvement consists in a novel and effective mode of renewing the slits of the damaged or worn-out screen or knotter plates, the same consisting, essentially, in first enlarging to some extent the worn slits, and then securing upon the worn plate a plate or plates having slits of the required shape and size, as hereinafter more fully described and claimed.

Heretofore these plates have been repaired either by inserting the blade of a tool in the slots and then by blows upon the tool forcing or swaging the metal of the plate up against the blade, or by inserting strips of metal in the worn slots and then subjecting the plate at the edges of the slots to pressure by means of rolls, so as to swage the metal up against the strips. Under these processes it is evident that at each operation the metal which composes the plate will be gradually drawn away. Under my improvement, however, this objectionable feature is entirely obviated.

In the accompanying drawings, Figure 1 is a top or plan view of a screen-plate illustrative of my improvement. Fig. 2 is a transverse section taken on the line *x x*, Fig. 1.

Let *A* represent the screen-plate, and *b* the usual corner holes, through which screws or bolts are to be inserted for the purpose of securing it upon the customary bed. These plates are generally made of brass, and the

slits are cut either lengthwise or across the same. As is well known, these slits, by constant use, become too wide to thoroughly screen the pulp. In Fig. 1 I have represented such worn slits as included within the dotted line *y y*, and have designated them further by letters *c*.

Preparatory to employing the hereinbefore-mentioned additional plate or plates having slits of the required dimensions, I cut or enlarge in any suitable way such worn slits; and at *d*, I have illustrated one of the slits thus enlarged. After this I take one or more thin plates—such as shown at *E*—the same being formed with slits corresponding to the original and perfect slits in plate *A*. This plate or plates I secure upon the screen-plate *A* in any convenient or suitable way, the slits of the upper plate, of course, being made to correspond in position with the slits of the lower.

The plate *E* may be made sufficiently large to cover the entire area of the screen-plate *A*, or several plates may be employed with good results.

It will be seen that by enlarging to some extent the worn slits, as above described, when the plate *E* is secured in position perfectly-free passage will be afforded for pulp through the slits of the screen-plate.

In Fig. 1 I have shown, at *f*, a portion of the additional or auxiliary re-enforcing plate *E* without slits, to the effect that the slits may be cut after as well as before the auxiliary plate is secured to the screen-plate.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The mode herein described of renewing worn screen-plates, the same consisting in enlarging the worn slits and then securing to the screen-plate an auxiliary plate provided with slots of the required original dimensions, substantially as specified.

2. As a method of renewing worn screen-plates, securing to the worn plate an additional plate having slots of the required original dimensions, and formed to correspond with the locations of the slots in the said worn plate, as specified.



3. In a screen-plate, the plate A, provided with slits, in combination with the plate or plates E, formed with a like series of slits, as set forth.

4. The plate E, formed with a series of slits, and adapted to be secured upon the screen-plate A, as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

MAHLON S. DRAKE.

Witnesses:

JAMES L. TOBIN,  
EDWD. O. CHASE.