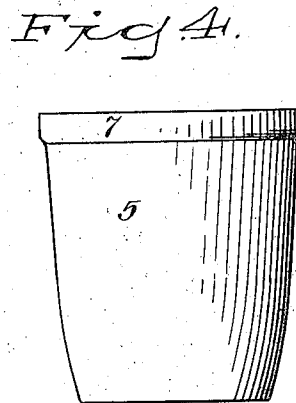
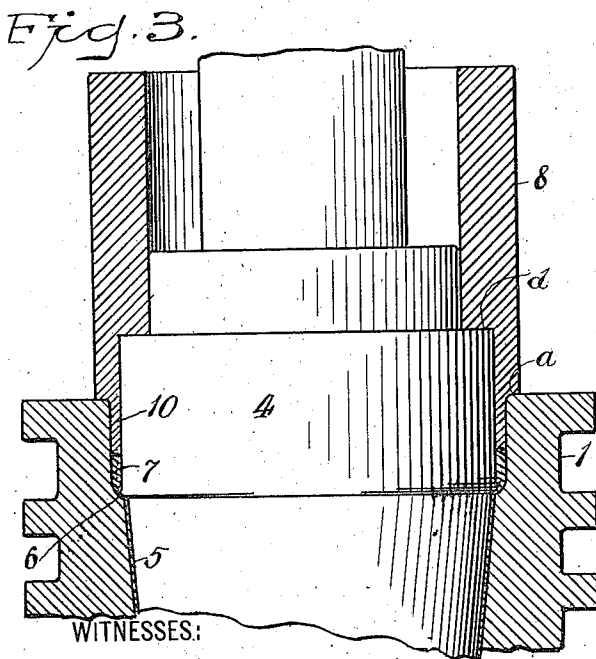
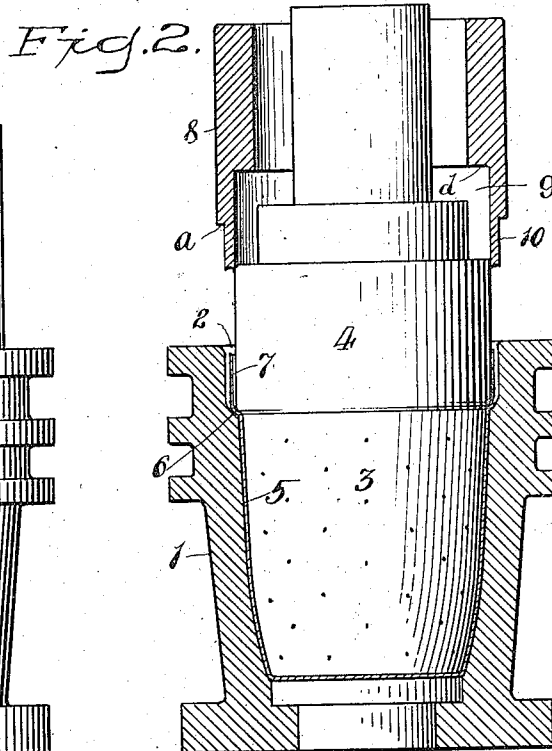
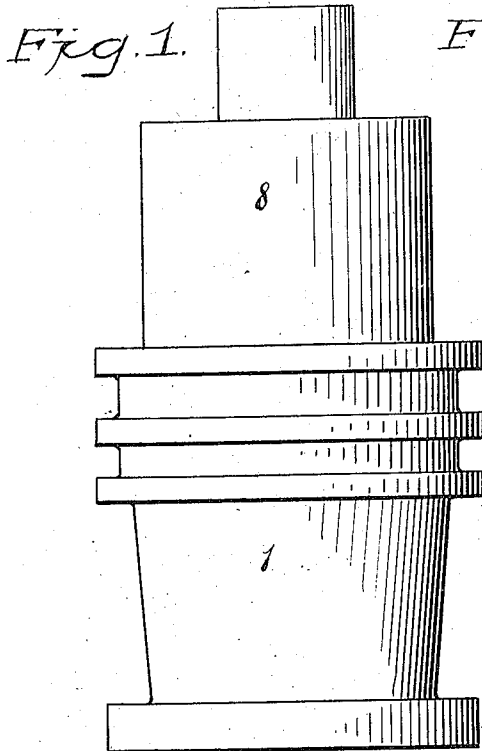


H. A. HOUSE.
 TOOL FOR MAKING PAPER RECEPTACLES.
 APPLICATION FILED APR. 24, 1913.

1,122,393.

Patented Dec. 29, 1914.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY A. HOUSE, OF BRIDGEPORT, CONNECTICUT.

TOOL FOR MAKING PAPER RECEPTACLES.

1,122,393.

Specification of Letters Patent.

Patented Dec. 29, 1914.

Application filed April 24, 1913. Serial No. 763,242.

To all whom it may concern:

Be it known that I, HENRY A. HOUSE, citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Tools for Making Paper Receptacles; 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.

My invention relates to tools for making paper receptacles, particularly to reinforcing the rim or mouth of the receptacle by compressing or upsetting the paper under heat, moisture and pressure, so that the mouth will be thicker and stiffer than would otherwise be the case were such rim of the same thickness and consistency as the body portion.

Referring to the drawings wherein the same figures and letters of reference indicate like parts throughout the several views: Figure 1 represents the die, punch and compression ring in close engagement; Fig. 2 is a central sectional view of the die, compression ring and paper receptacle within the die with the punch seated therein and the compression ring elevated; Fig. 3 is a broken sectional view of the die, sectional view of the compression ring, broken view of the punch and broken sectional view of the paper receptacle within the die with its mouth compressed or upset by the compression ring; Fig. 4 is a view of a finished receptacle; and Fig. 5 is an enlarged broken sectional view of the upper edge or lip of the receptacle after compression.

The die 1 has the enlarged or recessed mouth 2, and the punch 3 has the enlarged portion 4 adapted to enter said recess of the die and is smaller in diameter than the recess. The difference in these diameters of the enlarged portion of the punch and mouth of the die will represent the thickness of the rim of the finished receptacle.

The paper receptacle 5 is formed from a plaited blank and is forced into the die by the punch in the usual manner. When the lower edge of the enlarged portion 4 of the punch rests, with the interposed walls of the cup, on the shoulder 6 of the die, it will force the mouth 7 of the receptacle into the enlarged mouth of the die as shown at Fig. 2, in readiness to be compressed or upset by the compression ring 8. This ring has the

recess 9 adapted to embrace the enlarged portion 4 of the punch and have a slidable engagement therewith. The lip 10 of the ring will enter the annular space surrounding the enlarged portion 4 of the punch and compress the mouth of the receptacle, thus reducing the height of the lip 7 and, at the same time, thickening the same proportionate to the width of said annular space surrounding the punch, as shown at Fig. 3, thus compressing, enlarging and solidifying the lip or mouth of the receptacle in about the proportion shown at Fig. 5 with respect to the main body 5. To insure a uniform compression of the lip of the receptacle, the outer shoulder *a* of the compression ring or follower will rest on top of the die, and the inner shoulder *d* engage the upper surface of the enlarged portion 4 of the punch.

As before mentioned, the reinforced mouth of the receptacle is done under heat, moisture and pressure, as only by such means can the paper be compressed and be made to retain indefinitely the shape in which it is compressed.

It will be understood that any well known means may be employed to operate the punch and follower independently thereof.

Having thus described my invention, what I claim is:

1. The herein described tools for reinforcing the lips or rims of paper receptacles comprising a die in which the body portion of the receptacle is seated, said die having a recessed mouth into which the lip or upper portion of the receptacle projects, a punch adapted to be seated in the receptacle and having an enlarged portion in the recess of the die and a shouldered portion of the punch adapted to pinch the receptacle against the shouldered portion of the die, and a follower having a lip adapted to enter the recess of the die and compress and enlarge the rim of the receptacle.

2. Tools for reinforcing the lips or rims of paper receptacles, comprising a die having a recessed mouth, a punch having an enlarged portion of smaller diameter than the recessed mouth of the die so as to leave an annular space around such enlarged portion, the shoulder of the punch adapted to pinch the receptacle against the shoulder of the die, and an independently actuated follower having a lip adapted to enter said annular space for the purpose of compressing the lips or rims of paper receptacles.

3. Tools for reinforcing the rims of paper receptacles, comprising a die having a recessed mouth, a punch having an enlarged portion adapted to enter said mouth and
5 leave an annular space between the inner wall of the recess and the outer surface of such enlarged portion of the die of greater width than the thickness of the body portion of a paper receptacle, the shoulder of
10 the punch adapted to pinch the receptacle against the shoulder of the die and offset the mouth of the receptacle, and a follower surrounding the enlarged portion of the punch and having a lip adapted to enter said annular
15 space to compress and enlarge the rim of the paper receptacle.

4. Tools for reinforcing the rims of paper receptacles, comprising a die having a re-

cessed mouth, a punch having an enlarged portion smaller than the diameter of said
20 mouth so as to leave an annular space around such enlarged portion, the shoulder of the punch adapted to pinch the receptacle against the shoulder of the die, an independently actuated follower having a lip adapted
25 to enter said annular space and practically fill the same for the purpose of compressing the rim of a paper receptacle, and means on the follower for limiting the amount of such
30 compression.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY A. HOUSE.

Witnesses:

FRANK B. JAYNES,
GEO. W. FINN.