

(No Model.)

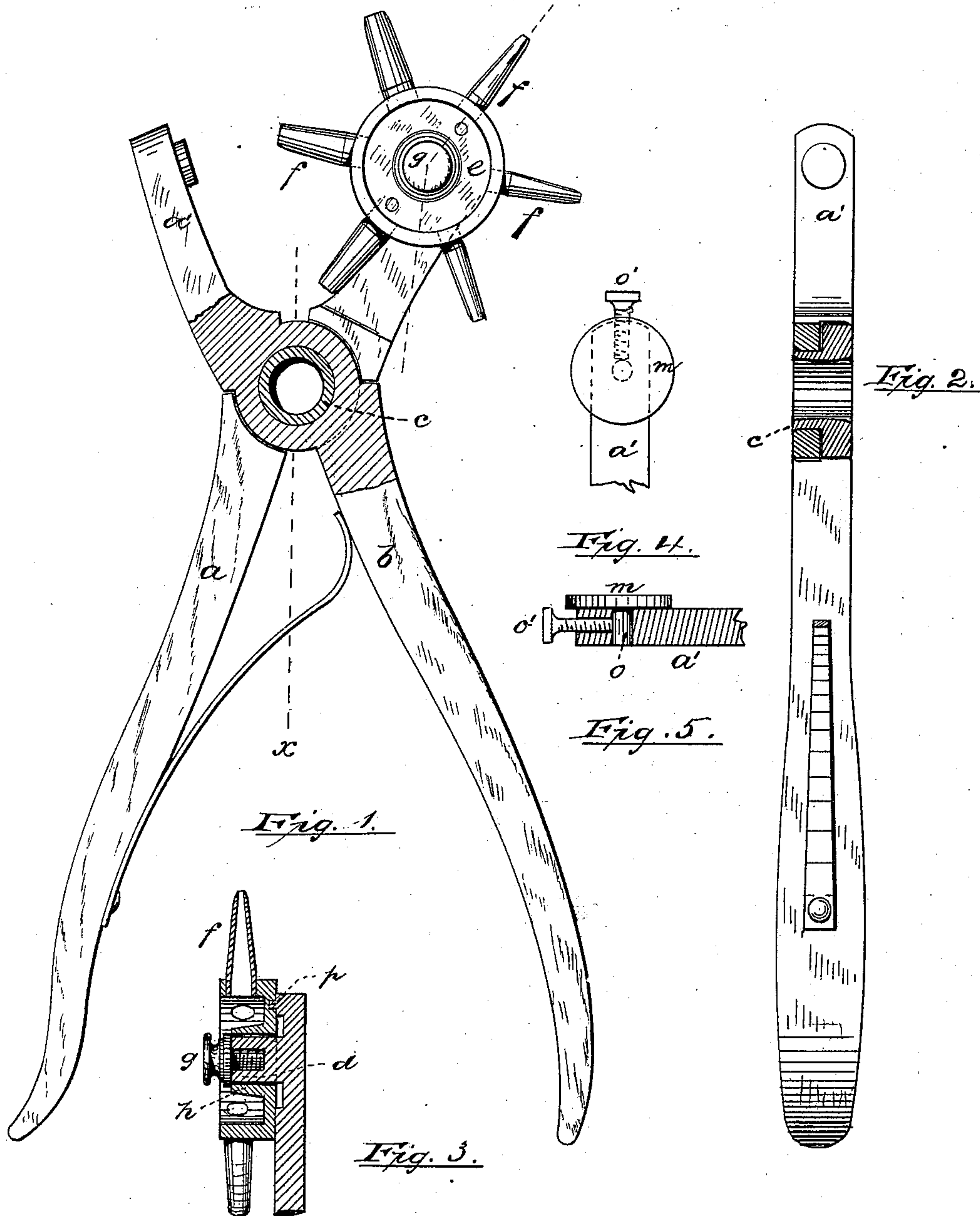
T. M. PLATTS & O. B. CRANE.

M. CRANE, administratrix of O. B. CRANE, deceased.

PUNCH.

No. 337,077.

Patented Mar. 2, 1886.



Attest:

Inventors:

T. H. Campbell
John C. Turnbridge.

Thomas M. Platts,
Mary Crane,
Administratrix of the estate of
Oscar B. Crane, deceased,
by Drake & Co Attys.

UNITED STATES PATENT OFFICE.

THOMAS M. PLATTS AND MARY CRANE, (ADMINISTRATRIX OF OSCAR B. CRANE, DECEASED,) OF NEWARK, NEW JERSEY.

PUNCH.

SPECIFICATION forming part of Letters Patent No. 337,077, dated March 2, 1886.

Application filed November 13, 1885. Serial No. 182,749. (No model.)

To all whom it may concern:

Be it known that I, THOMAS M. PLATTS, a citizen of the United States, residing at Newark, Essex county, New Jersey, have, jointly with OSCAR B. CRANE, deceased, late of the same place, invented certain new and useful Improvements in Punches; and I, the said THOMAS M. PLATTS, and I, MARY CRANE, administratrix of the estate of the said OSCAR B. CRANE, 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to increase the durability and effectiveness of the punch, to render the sections of the same more firm or steady in their pivotal relations to one another, and to facilitate the adjustment of the punching-tubes.

The invention consists in the arrangements and combinations of parts, substantially as will be hereinafter set forth, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which similar letters of reference indicate like parts in each of the several figures, Figure 1 is a plan of the improved punch, the pivotal portion thereof being partially in section. Fig. 2 is a sectional view through line *x*. Fig. 3 is a sectional view through line *y*. Fig. 4 is a plan of an adjustable bearing-plate, and Fig. 5 is a section showing the arrangements of the same more fully.

In carrying out the invention we pivot the punch-sections *a b* together in any suitable manner, the preferred mode being to form on one of said sections, as *a*, an annular and hollow pivotal projection, *c*, adapted to conform in size to a pivotal perforation in the co-operating section *b*. Said perforation is reamed out or enlarged near the outer edge thereof, so that when the annular projection *c* is arranged in the perforation the edge may be turned over with a suitable tool, thus firmly uniting the parts. This construction of the annular pivot gives a large and firm bearing for the section *b*, one that will not be readily worn away by use, and one easily and cheaply made.

Near the punching extremity of the section

a is formed a projection, *d*, which forms a pivotal bearing for an adjustable hollow hub, *e*, having graduated punching-tubes *f*. Said extremity is also provided with eccentric lugs or pintles *p*, adapted to project into recesses in said hub, to prevent said hub from turning when the punching-tubes are in use. The hub is secured on the projection *d* by a set-screw, *g*, which engages with a central bearing, *h*, to throw said hub against or into holding contact with the section *a*.

To provide a flat adjustable bearing for the punching-tubes, we arrange a revolving plate, *m*, on the perforated extremity *a'* of the section *a*. Said plate is provided with a shank, *o*, to enter said perforation, which shank is held rigidly by a set-screw, *o'*. By loosening the said set-screw *o'*, the plate may be revolved or adjusted to provide a new bearing for the punch, or a bearing may be provided for each of the several arms.

Having thus described the invention, what we claim as new is—

1. In combination with the punch-sections *a b*, the former having a projecting pivotal portion, *d*, an adjustable hub, *e*, having radial hollow punches, and a set-screw, *g*, all said parts being arranged and operating substantially as set forth.

2. In combination, in a punch, the section *a*, having the pivotal projection *d* and holding projection *p*, the hollow hub having tubes *f*, and a central projecting bearing, *h*, and the set-screw *g*, substantially as set forth.

3. In combination, in a punch, the punching-tubes *f* and an adjustable plate, *m*, presenting a flat bearing to said tubes, substantially as set forth and shown.

4. In a punch, the perforated section *a'*, the revolving plate presenting a flat surface to the punches and having a shank arranged in said perforation, and a set-screw, *o'*, all arranged and operating substantially as set forth and shown.

In testimony that we claim the foregoing we have hereunto set our hands this 27th day of March, 1884.

THOMAS M. PLATTS.

MARY CRANE,

Administratrix of the estate of Oscar B. Crane, deceased.

Witnesses:

CHARLES H. PELL,

MARY F. PLATTS.