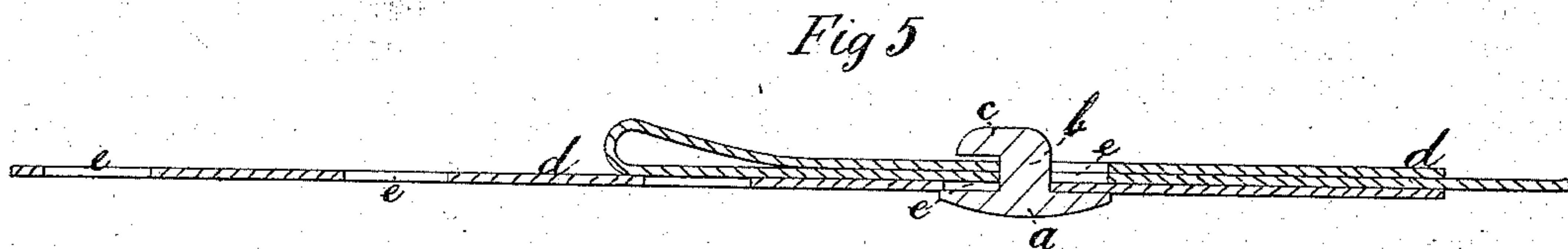
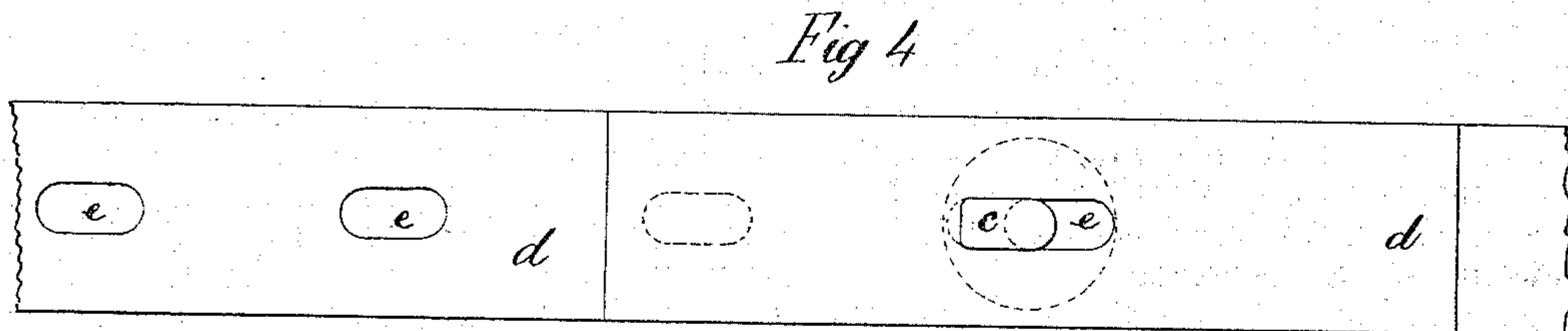
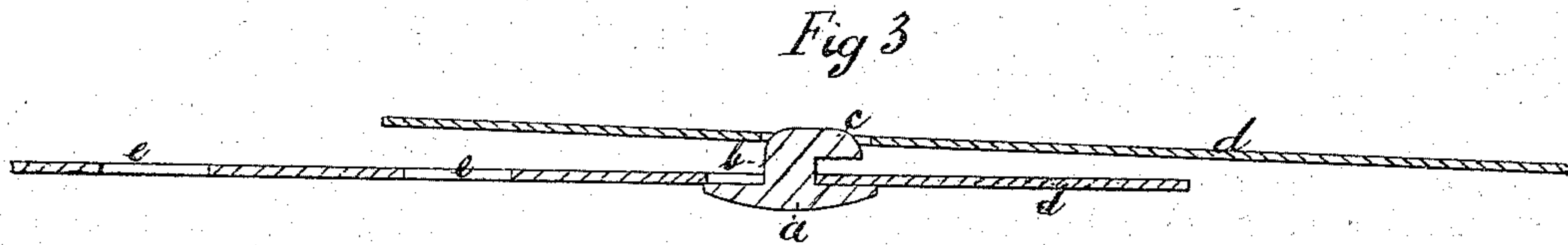
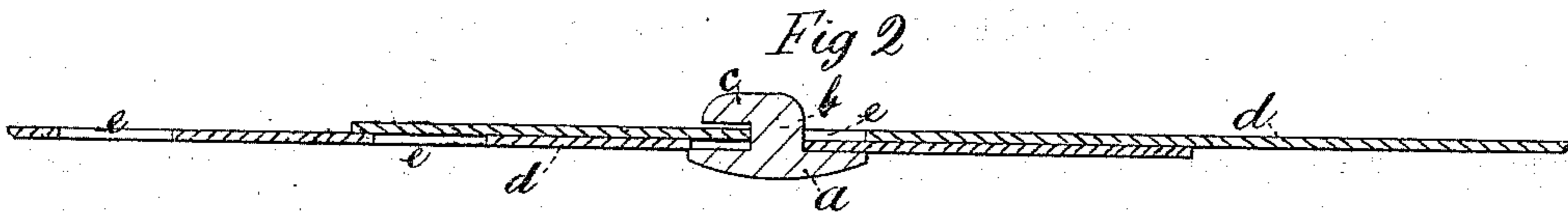
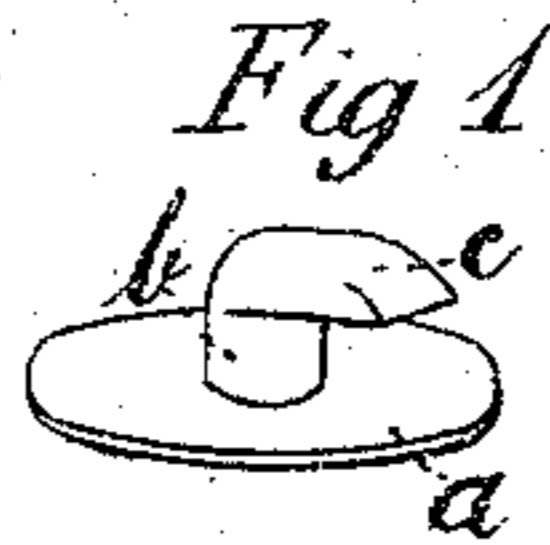


**A. ALLAN & J. BURNS.**  
**Bale-Ties.**

No. 156,965.

Patented Nov. 17, 1874.



Witnesses  
*Edwin C. Gurney*  
*for Johnson*

Inventors  
*Aurel M. Allan*  
*John Burns*

# UNITED STATES PATENT OFFICE.

ANDREW ALLAN AND JOHN BURNS, OF LIVERPOOL, ENGLAND.

## IMPROVEMENT IN BALE-TIES.

Specification forming part of Letters Patent No. **156,965**, dated November 17, 1874; application filed April 9, 1874.

*To all whom it may concern:*

Be it known that we, ANDREW ALLAN, of Liverpool, in the county of Lancaster, England, civil engineer, and JOHN BURNS, of the same place, stevedore, have invented an Improved Stud or Fastening for Securing the Ends of Bale-Bands, of which the following is a specification:

Heretofore the studs employed to fasten or secure the perforated ends of bale-bands have either been riveted or so formed that it has been necessary, before the tied-up produce or merchandise could be released, to cut the bands or the studs, or to re-subject the bale to pressure. The cost and disadvantages attending these operations are evidently objectionable, and practically prohibitory as regards the use of studs so used or constructed.

The object of our invention is to provide an inexpensive stud or fastening, which can be easily and quickly applied while the bale is in the press, is efficient when in use, and is capable of being disconnected without injury to itself or the band.

For these purposes we have devised a stud, which, for convenience, we will describe as consisting of three parts: first, an inner head, of button-like or other form; second, a stem rising from the inner head, and connecting it to, third, the outer head. The length of the stem is about equal to the thickness of the two overlapping ends of the band to be connected. The outer head is led from the stem at or about a right angle in one direction, and is caused to pass through the oblong or elongated apertures, with which it is used in combination, in such manner that it points in the direction of the free overlapping end of the band. To release a bale-band secured by the said stud, as described, it is simply necessary to give the outer head a half-turn, when the

free overlapping end of the band can be slipped over the outer head of the stud.

The drawings appended hereto will enable others to comprehend our invention at sight.

Figure 1 is a perspective view of the stud or fastening; Fig. 2, a longitudinal section, showing the bands secured; Fig. 3, a longitudinal section, showing the bands released; Fig. 4, a plan view, and Fig. 5 a section, of a modification, in which the top overlapping band is bent back.

In all these views like letters denote the same parts.

*a*, inner head, here shown convex on the side which comes into contact with the bale, and flat on the side in contact with the band; *b*, stem, here shown cylindrical; it may be of other form; *c*, outer head; the form of this may also be varied, but in all cases it must project from the stem outward at one part, and must not go beyond the stem at what may be called its near end. *d*, bands; *e*, apertures therein.

Having now described our said invention, we would have it understood that we do not claim as of our invention perforating the ends of the bands, nor, generally, the use of a stud to connect the band by being passed through the apertures.

What we do claim is—

A cotton-bale tie having a button-like inner head, *a*, a round stem, *b*, rising from the inner head, and connecting it with the outer head *c*, projecting at right angles from the stem *b*, all combined substantially as specified.

ANDREW ALLAN.

JOHN BURNS.

Witnesses:

EDWIN C. GORMLY,  
JAS. JOHNSON.