

(No Model.)

2 Sheets—Sheet 1.

W. N. WHITELEY, W. BAYLEY & L. H. LEE.

SELF BINDER.

No. 283,445.

Patented Aug. 21, 1883.

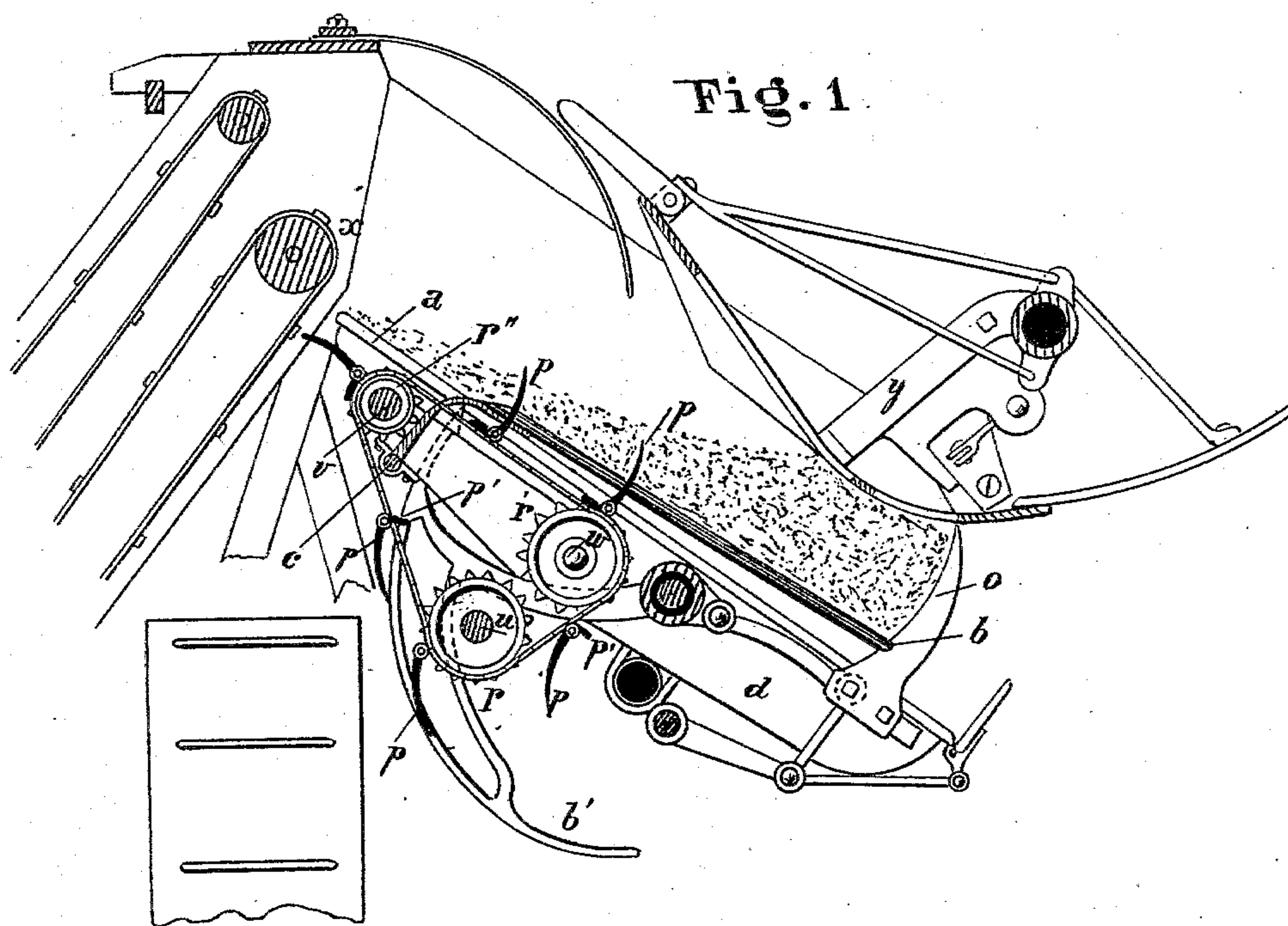


Fig. 1.

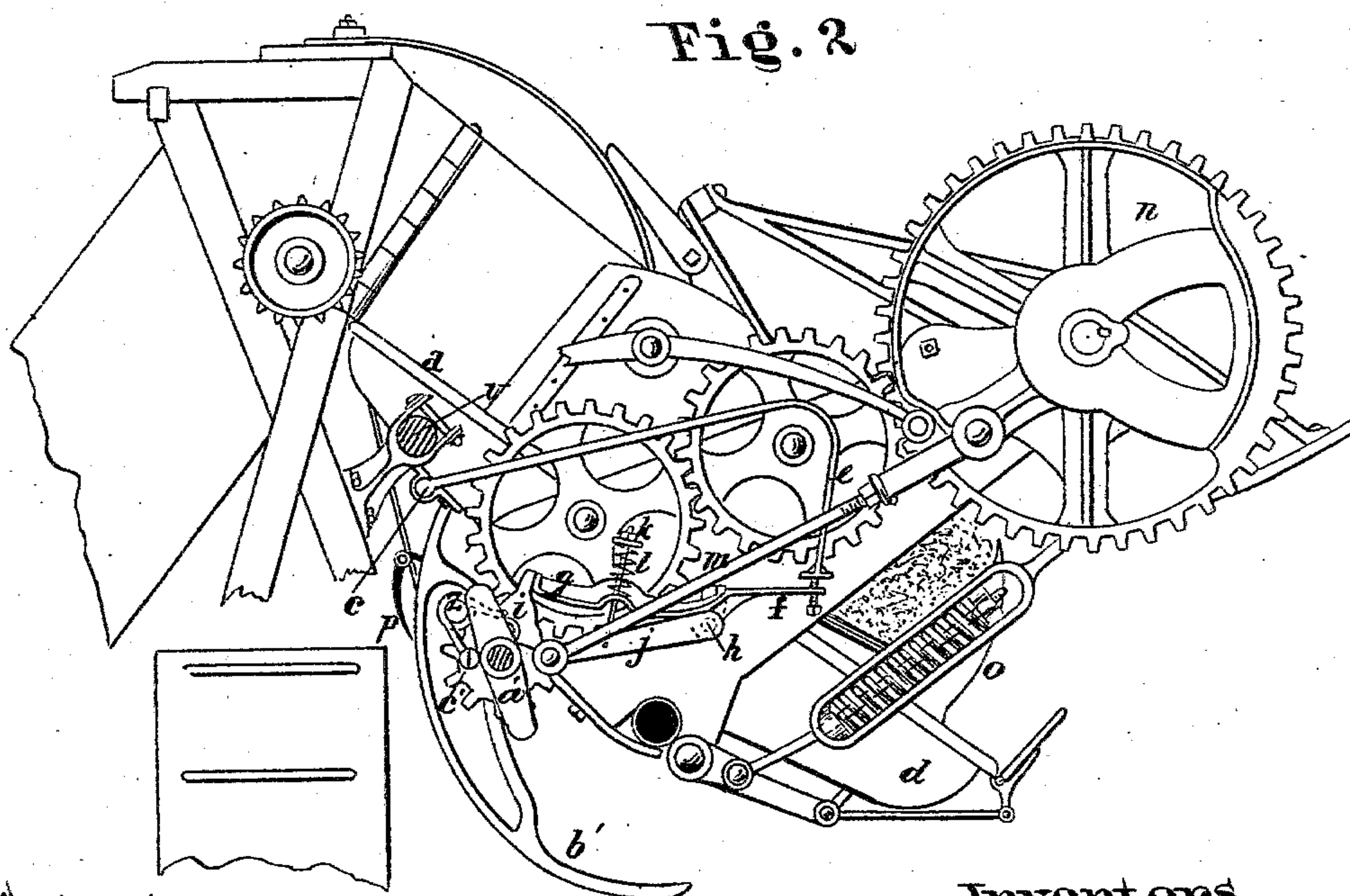


Fig. 2.

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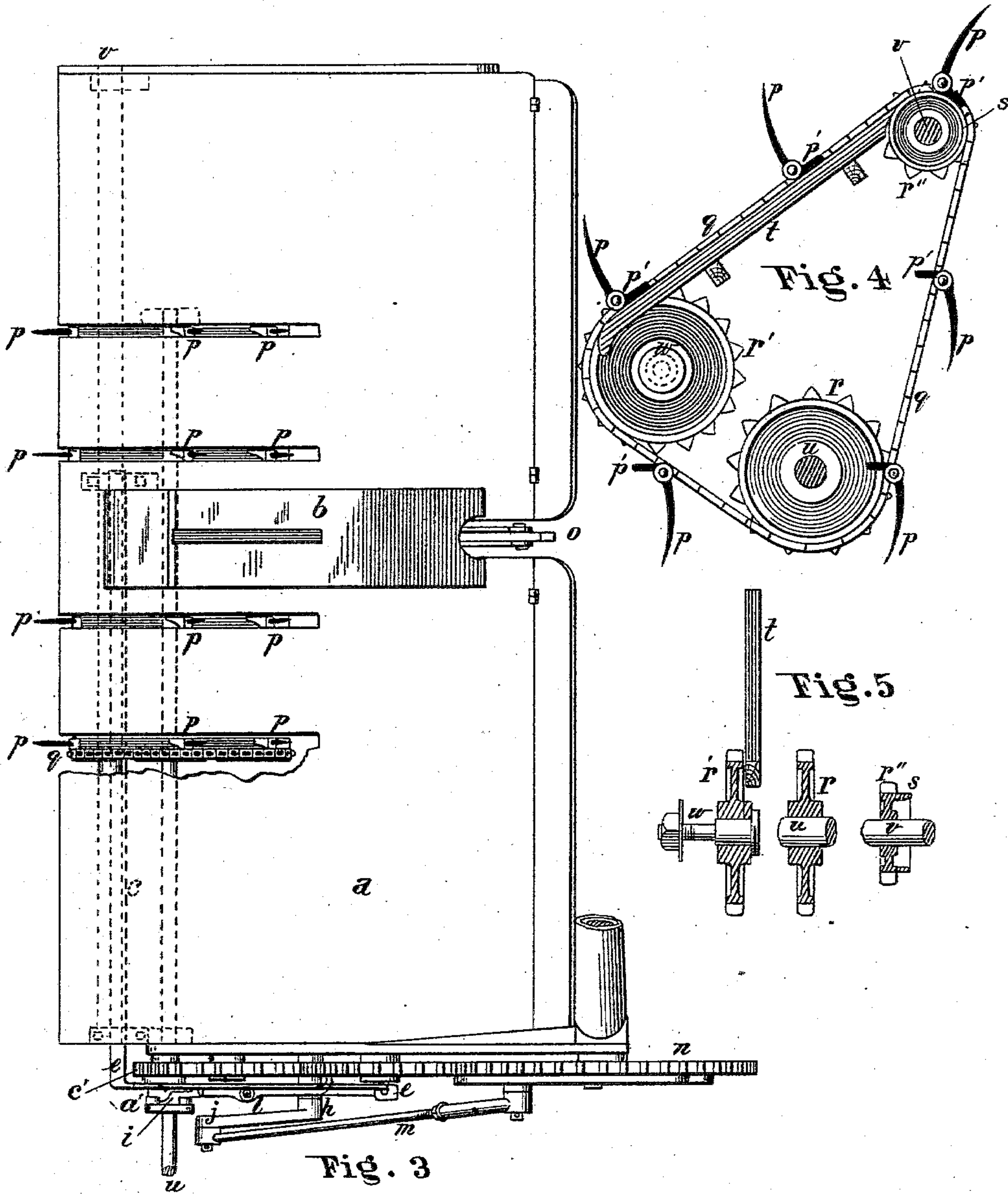
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# UNITED STATES PATENT OFFICE.

WILLIAM N. WHITELEY, WILLIAM BAYLEY, AND LEWIS H. LEE, OF SPRINGFIELD, OHIO, ASSIGNORS TO WHITELEY, FASSLER & KELLY, OF SAME PLACE.

## SELF-BINDER.

SPECIFICATION forming part of Letters Patent No. 283,445, dated August 21, 1883.

Application filed June 28, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM N. WHITELEY, WILLIAM BAYLEY, and L. H. LEE, of Springfield, in the county of Clarke, State of Ohio, have invented a new and useful Improvement in Self-Binders, of which the following is a full, clear, and exact description.

In the accompanying drawings, Figure 1 is a transverse sectional elevation, Fig. 2 is an end elevation, Fig. 3 is a plan view, and Figs. 4 and 5 are respectively elevations and cross-sections, of the packers and sprocket-wheels drawn to an enlarged scale.

This invention relates to a device for automatically coupling a binding to a harvesting-machine by the weight of the accumulating grain upon a grain-board or auxiliary table; and it consists in a machine embodying a series of traveling endless chains upon which are mounted gravitating rake and packer teeth that project through and continuously pass over the binding-table from inner to outer side, for the purpose of transferring the grain from the elevator of the harvesting-machine to an auxiliary table fitted to an arm projecting from a rock-shaft that forms a part of the hereinafter-described automatic coupling device that is thrown into operation by the weight of accumulated grain upon said table.

To enable others skilled in the art to which our invention belongs to make and use the same, we will proceed to describe its construction and operation.

*a* is the customary binding-table.

*b* is an auxiliary grain-supporting board or partial table, which, in its normal position, forms an acute angle with the table *a*. The auxiliary grain-board is mounted upon an arm extending from a rock-shaft, *c*, that is journaled to the edges of the table-supports *d* and extends past the rear end of said table, where it is provided with an arm, which extends in the curved shape seen at *e*. The end of the arm *e* engages with the heel *f* of a pivoted spring-lever, *g*, that is journaled to the binding-arm shaft *h* in such a manner as to be free to oscillate upon it for a limited space, so as to permit the lever *g* to move independent of said shaft a distance suitable for the release of the

spring-latch *i*, upon the release of which a union takes place between the binding and harvesting machinery, and the lever *g* will ascend with the arm *j*, to which it is attached by means of a screw-bolt, *k*, and a coil-spring, *l*. The arm *j* is secured to the shaft *h*, and is actuated by a pitman, *m*, and a gear-wheel, *n*. The compressor-finger *o* and coupling device, as represented, are similar to those patented to John F. Appleby, February 18, 1879. However, we do not deem this arrangement absolutely necessary, as any other well-known compressing device operating in a manner suitable for the compression and final free passage of the bound sheaves would answer.

*p* are rake-teeth, pivoted at suitable distances apart upon a chain, *q*, and provided with heel projections *p'*. These chains *q* are actuated by sprocket-wheels *r*, and, for the purposes of proper direction, pass over idlers *r'* *r''*. The idler *r''* has a circumferential flange, *s*, over which the heel portions *p'* of packers *p* ride when approaching their work, giving to said packers a vertical or nearly vertical position, and in which position they are retained by a guide or support, *t*, until they have passed over that part of the periphery of idler *r'* to which the support *t* extends, after which they fall by their own gravity and travel in the manner indicated by Fig. 4 of the drawings. The sprocket-wheels *r* are fast upon a shaft, *u*, and the idlers *r''* run loosely on a shaft, *v*, that may also be used for the support of the binding mechanism, and the idlers *r'* run loosely on studs *w*, which are preferably adjustable for the convenience in putting on or taking off chains. It will be observed that the rake-teeth *p* come quite close to the elevator-belt *x*, and thus prevent grain from falling between said belt and the binding-table *a*.

The knotting device used to unite the ends of the binding material is located upon the support, (indicated by the letter *y*,) and may be of any approved construction.

The grain is carried along the table *a* upon the supporting-board or auxiliary table *C* and compacted against a compressor-arm, *o*, by the packers *p* until sufficient has accumulated upon the board *C* to overcome the resistance



of spring *l*, at which time the board *C* will descend on account of the weight of grain upon it, and the rock-shaft *c* being rocked, the curved lever *e* presses on the heel *f* of spring-lever *g* and releases the spring-latch *i*, which will then, through the agency of spring *z*, fly into the path of the continuously-revolving dog *a'* and cause a union of harvester and binder. The binding may be accomplished in any of the well-known ways, after which the compressor *o* will drop below the binding-table, and the sheaf may be ejected. When the binding-arm *C'* ascends to encircle the sheaf it carries with it the spring-lever *g*, and thereby leaves the latch *i* free to revolve with the pinion *c'*, to which it is pivoted, and thus communicates motion to the train of wheels to which said pinion belongs. When the binding-arm descends the lever *g* will arrest the latch *i* and remove it from the path of the dog *a'*, and the binding-machine will come to rest.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

A self-binding machine having a packing mechanism composed of rake and packer teeth carried by traveling endless chains, a binding-table, *a*, and a grain-supporting board or auxiliary table, *C*, a rock-shaft, *c*, having at its end a curved arm, *e*, a pivoted spring-lever, *g*, having extension *f*, a spring-latch, *i*, pivoted to a pinion, *c'*, and a continuously-revolving dog, *a'*, fast to a shaft, *u*, substantially as and for the purpose specified.

In testimony whereof we have hereunto set our hands this 17th day of June, 1882.

WILLIAM N. WHITELEY.

WILLIAM BAYLEY.

LEWIS H. LEE.

Witnesses:

HENRY MILLWARD,

E. O. BOWMAN.