

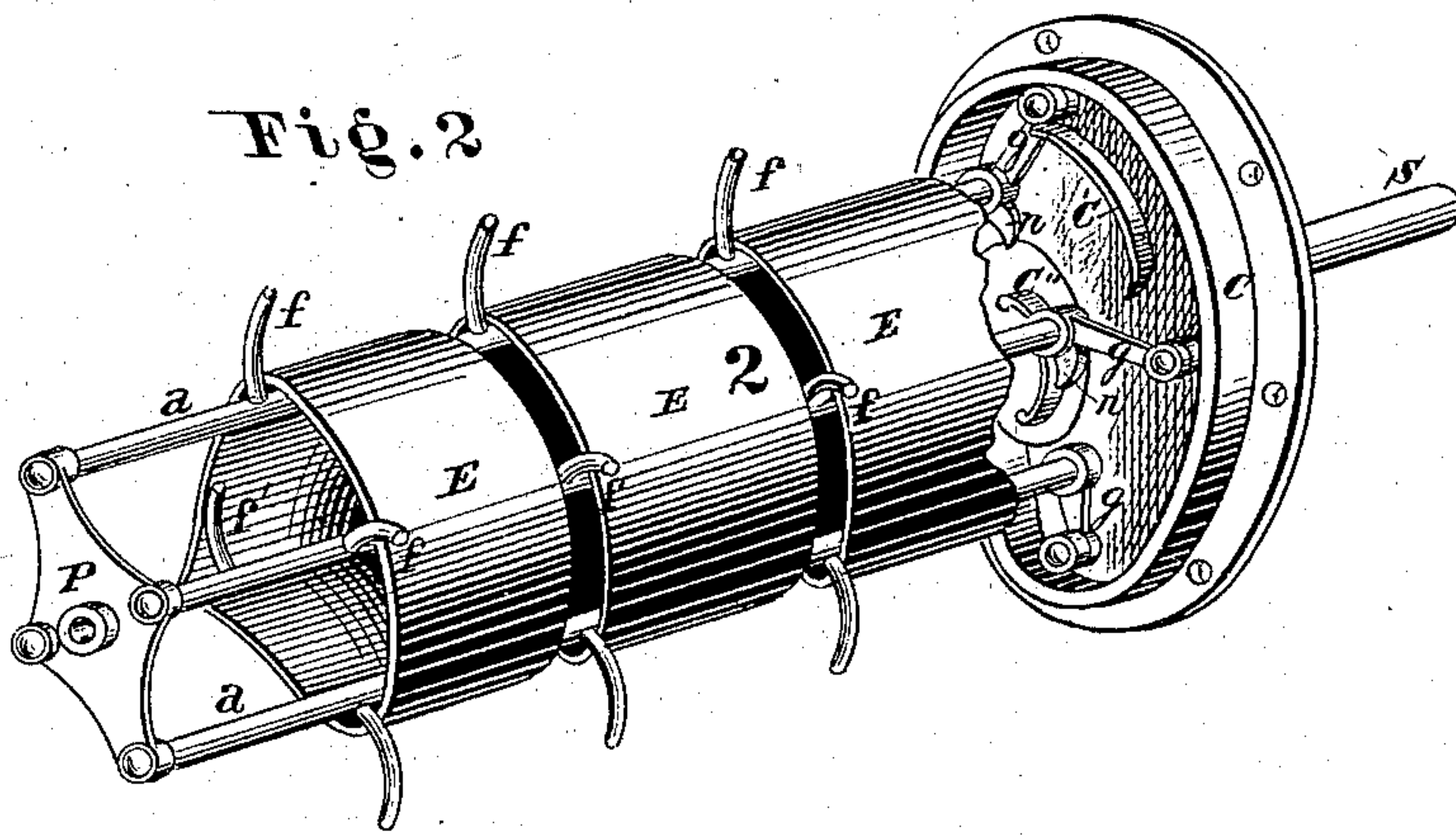
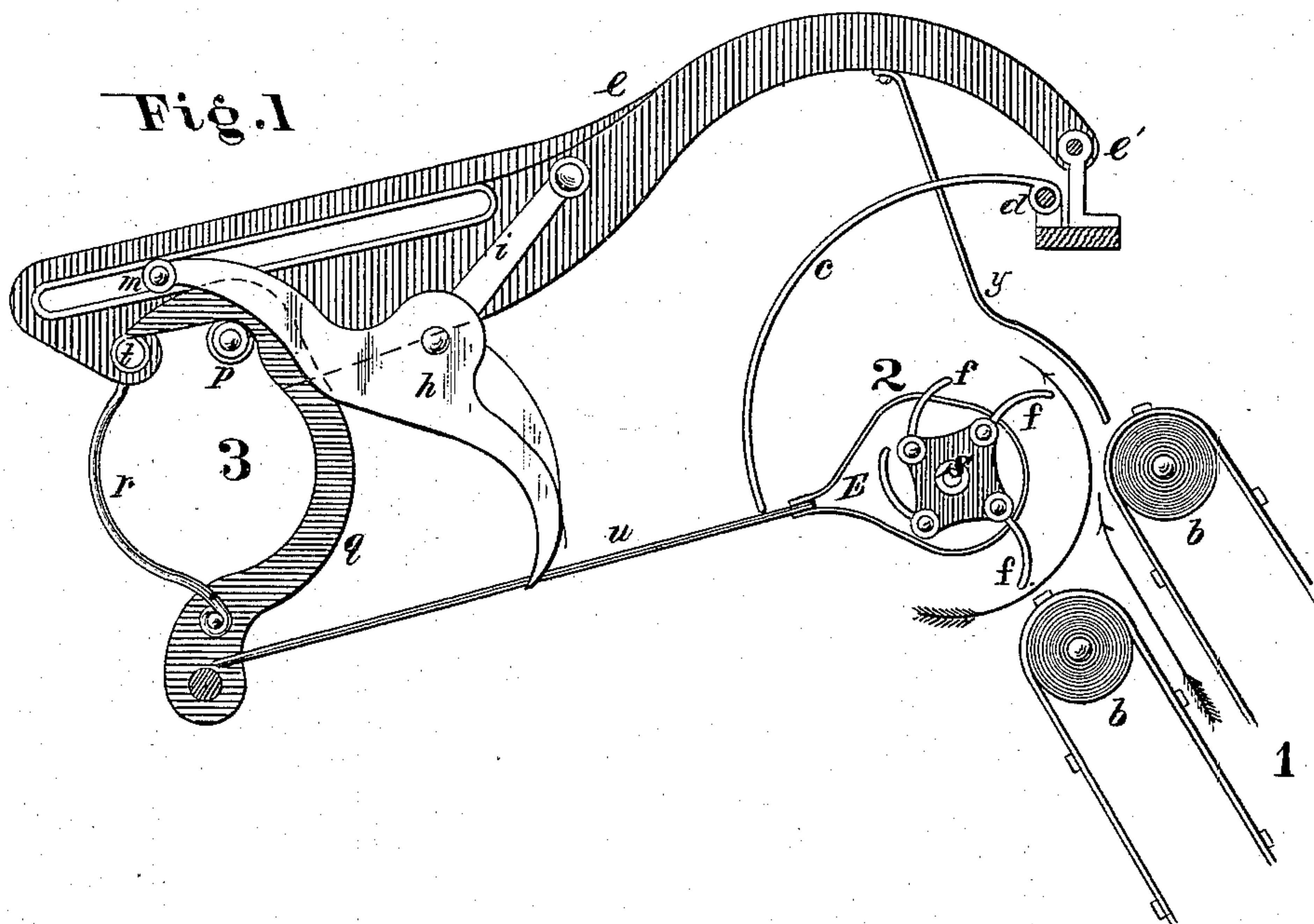
(No Model.)

2 Sheets—Sheet 1.

W. BAYLEY.
GRAIN PACKER.

No. 255,569.

Patented Mar. 28, 1882.



Attest
A. B. Smith
Aug. L. Jordan

Inventor
William Bayley
By his atty
R. D. Smith.

(No Model.)

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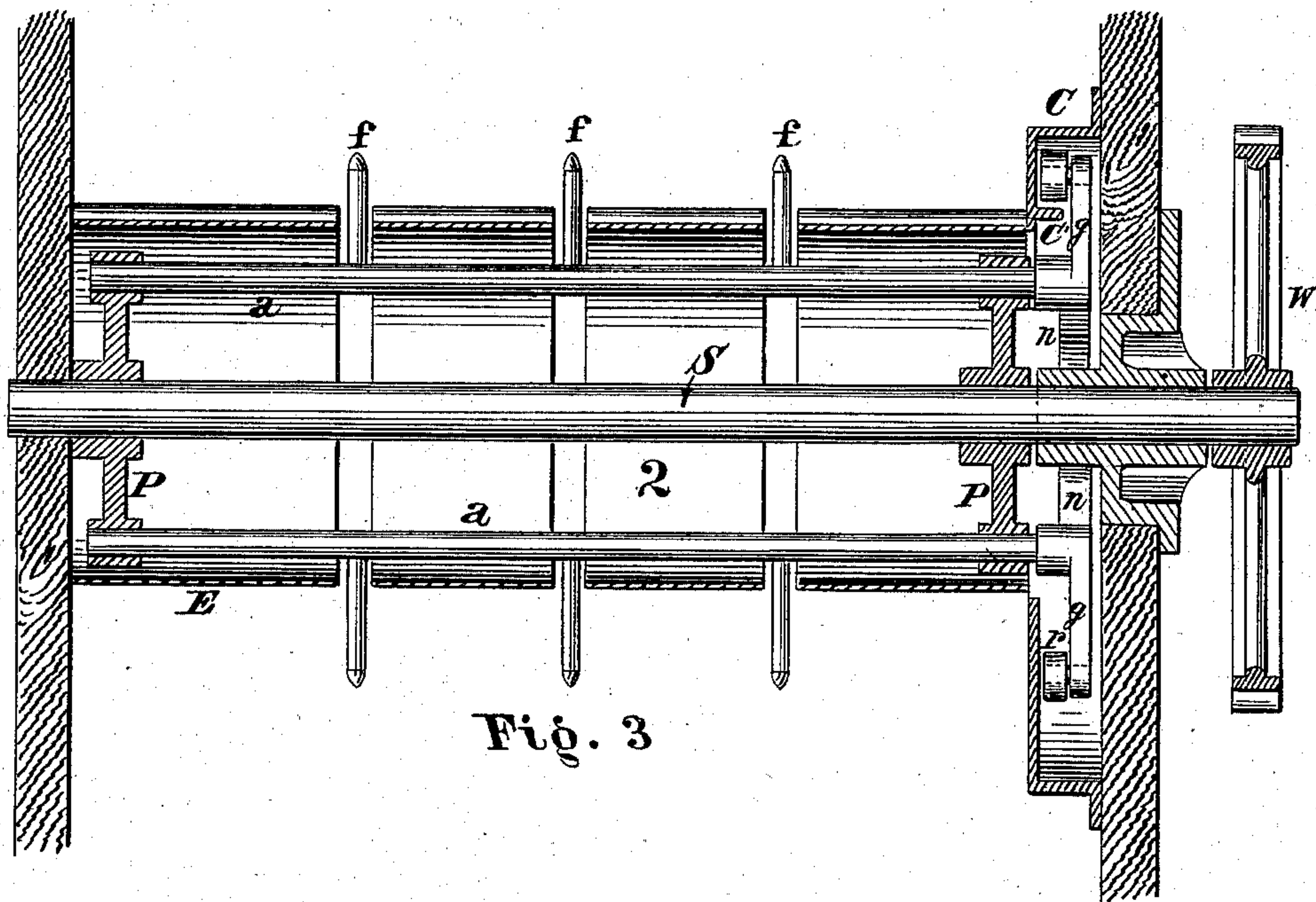


Fig. 3

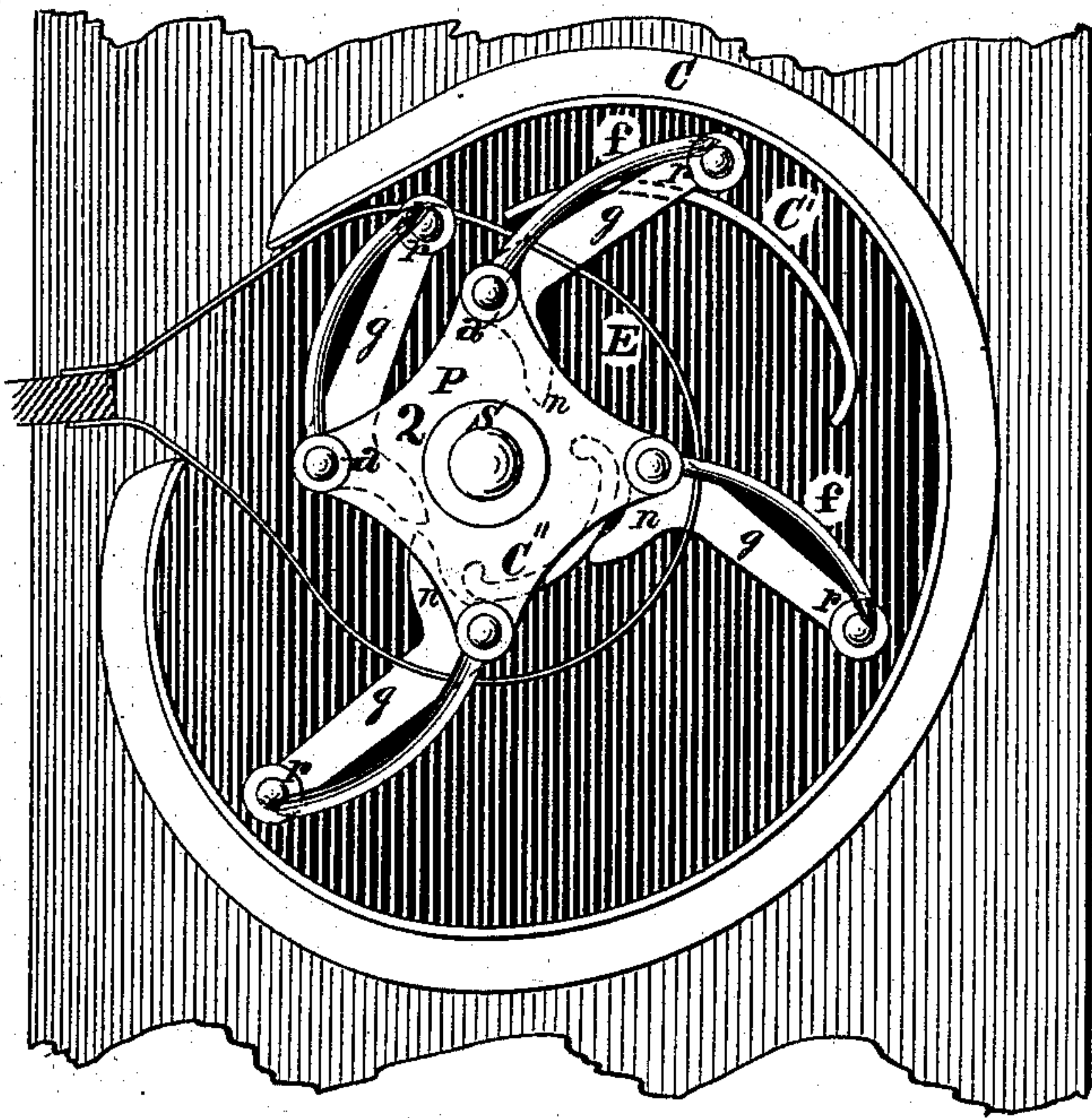


Fig. 4

Attest
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Aug. 2 Jordan

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By his atty R. D. Smith

UNITED STATES PATENT OFFICE.

WILLIAM BAYLEY, OF SPRINGFIELD, OHIO, ASSIGNOR TO WHITELEY,
FASSLER & KELLY, OF SAME PLACE.

GRAIN-PACKER.

SPECIFICATION forming part of Letters Patent No. 255,569, dated March 28, 1882.

Application filed October 5, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BAYLEY, of Springfield, Clarke county, Ohio, have invented a new and useful Improvement in Grain-Packers for Harvesting-Machines, of which the following is a specification.

My invention relates to grain-packers applied to harvesting-machines which are made up of a series of mechanical movements, in which, in the following order, the grain is cut and carried across an endless apron, and by the aid of an inclined or vertical elevator and an intermediate deflector delivered to a binder in sufficient and regular quantities to insure sheaves of uniform size; and the object of my invention is to provide a series of revolving rake-teeth which take up the grain as it leaves the inclined or vertical elevator and carry it to and compress it against the aforesaid deflector in a suitable manner to cause the binding machinery of which said deflector forms a part to be automatically set in motion at regular or irregular intervals, according to the evenness or unevenness of the crop of grain the harvesting-machine is operating upon, and by means of a system of stationary cams and levers which revolve with the rake-teeth of the packer and of a sheet-metal drum that surrounds and protects the aforesaid cams and levers permits the rake-teeth to freely leave the grain at the desired point and without a probability of the clogging of the moving parts.

While it is my intention to apply this my invention to harvesting-machines in which the cutting of the grain is a part of the operation of such machine, yet it is obvious that it may be applied to a combined gleaning and binding machine operating subsequently to the cutting of the grain; and my invention consists in a combination of parts which will be hereinafter fully described.

In order to elucidate the nature of my invention, I have represented in the accompanying drawings a portion of an inclined elevator forming part of an ordinary harvester or gleaner and a partial sectional elevation of a binding apparatus attached thereto, with my invention shown as thereto attached, so as to clearly illustrate the relative positions of each. (See Figure 1.)

Fig. 2 is a perspective view of my grain-packer, showing parts of the sheet-metal drum broken away or removed, as is also the front of the cam-box, for the purpose of better illustrating the invention. Fig. 3 is a longitudinal sectional elevation of my improved grain-packer; and Fig. 4 is an end view, in section and elevation, so as to represent the construction as clearly as possible.

In each of the figures letters of like character represent corresponding parts.

It will be observed, reference being had to the accompanying drawings, and more especially to Fig. 1 thereof, that the separate parts of the harvesting-machine have been divided and designated by conspicuous numerals marked thereon, the numeral 1 indicating the location of the partial view of the inclined elevator, the numeral 2 indicating the location of my improved grain-packer, and the numeral 3 indicating the location of the binding apparatus.

The operations of harvesters, gleaners, and grain-binders are so well and familiarly understood that it would be superfluous for me to now describe them. I will therefore confine myself to a full description of my improved grain-packer and its application to a combined harvester and binder or gleaner and binder, and a brief description and reference by letters to the well-known parts of the binder is represented in Fig. 1 of the accompanying drawings, in which *e* is a supporting-frame with a slot formed therein for the limited travel of the friction-roller *m*, which, with the aid of the rocking-strap *i*, confines and actuates the divider-arm *h*, so that it at given intervals removes the sufficiently-accumulated grain from the table *u*, between the packer 2 and deflector *c*, and conveys it to the combined compressor, binder, and knotter 3, which is composed of the following principal parts: *r*, half of compressor; *q*, the other half of compressor and binder-arm; *p*, cutter and griper, and *t* the knotter. As the grain is being discharged from the elevator 1 in the direction indicated by that arrow located between the traveling endless aprons *b b*, the packer 2, by means of the rake-teeth *f*, revolving in the direction indicated by the semicircular arrow located be-

tween the elevator and packer, and through the aid of the shield *y*, continues the grain in its desired course, and both delivers and packs it against the deflector *c*, moving said deflector sufficiently to automatically start the divider-arm, and with it the binding apparatus, which has been previously very briefly described, but which I deem sufficiently clear for this purpose.

Description of grain-packer.—The main shaft *S* is actuated by gear-wheels connecting with the harvester, and revolves upon journals situated in or on the frame of the said harvester. The brackets *P* are rigidly attached to the shaft *S*, and support and provide journals for the rake-shafts *a*, which are provided at suitable distances along their length with curved rake-teeth *f*, screwed into or otherwise securely fastened to the shafts *a*, and the rake-teeth *f*, shafts *S* *a*, and brackets *P* are protected by a series of sheet-metal covers, *E*, which are set at sufficient distances apart to allow the rake-teeth to traverse between them. Each of the rake-shafts *a* is provided at one of its ends with a lever, *g n*, one extremity of which is provided with a friction-roller, *r*, arranged to ride over the cam *C'*, the cams *C'* and *C''* and levers *g n* being incased, and the former—the cams—rigidly attached to the metallic cover *C*.

Having thus described the component parts of my improved grain-packer, I will now describe its mode of operation.

The shaft *S*, being put in motion by the gear-wheel *W*, revolves in the direction indicated by the curved arrow shown in Fig. 1 of drawings, and through the rigidly-attached brackets *P* the shafts *a* rotate with it; and when the parts *n* of levers *g n* engage with cam *C''* they and the rake-teeth *f* are forced into the positions indicated in Fig. 4 of the accompanying drawings, in which position they are ready to take hold of the grain delivered from the elevator *b b*, and by the interposition of the cam

C' and rollers *r* they are retained in that desirable position until the grain has been delivered in front of and packed against the deflector *c*, at which time the cam *C'* releases the roller *r*, and with it, of course, the lever *g n* and rakes *f*, which assume the position indicated by *f'*, Fig. 2 of drawings, leaving the grain very freely and as easily as could be desired.

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

1. In a combined harvester and binder, a rotating grain-packer provided with shafts *a*, having partial revolutions in bearings in the revolving brackets *P*, and provided with rake-teeth *f*, and levers *g n*, operated by the stationary cam *C'*, combined with the slotted inclosing-case *E*, united at its back to and supported by the table *u*, and the deflector *c*, whereby the operative mechanism is set in motion, the gatherer *h*, band-carrier, and compressor *q*, substantially as set forth.

2. In a combined harvester and binder, a rotating grain-packer provided with shafts *a*, levers *g n*, and cams *C'* and *C''*, in combination with inclosing-case *C*, whereby the cams and levers are covered and protected, as and for the purpose set forth.

3. In a combined harvester and binder or combined gleaner and binder, a rotating grain-packer having shafts *a* and *S* and levers *g n*, combined with cams *C'* and *C''*, attached to the inner surface of the inclosing-case *C*, substantially as and for the purpose specified.

In testimony whereof I have hereunto placed my hand this 24th day of September, 1880.

WILLIAM BAYLEY.

Witnesses:

HENRY MILLWARD,
CHAS. L. BOGLE.