(No Model.)

5 Sheets—Sheet 1.

S. H. FISH.

POTATO PLANTER.

No. 265,225. Patented Sept. 26, 1882.

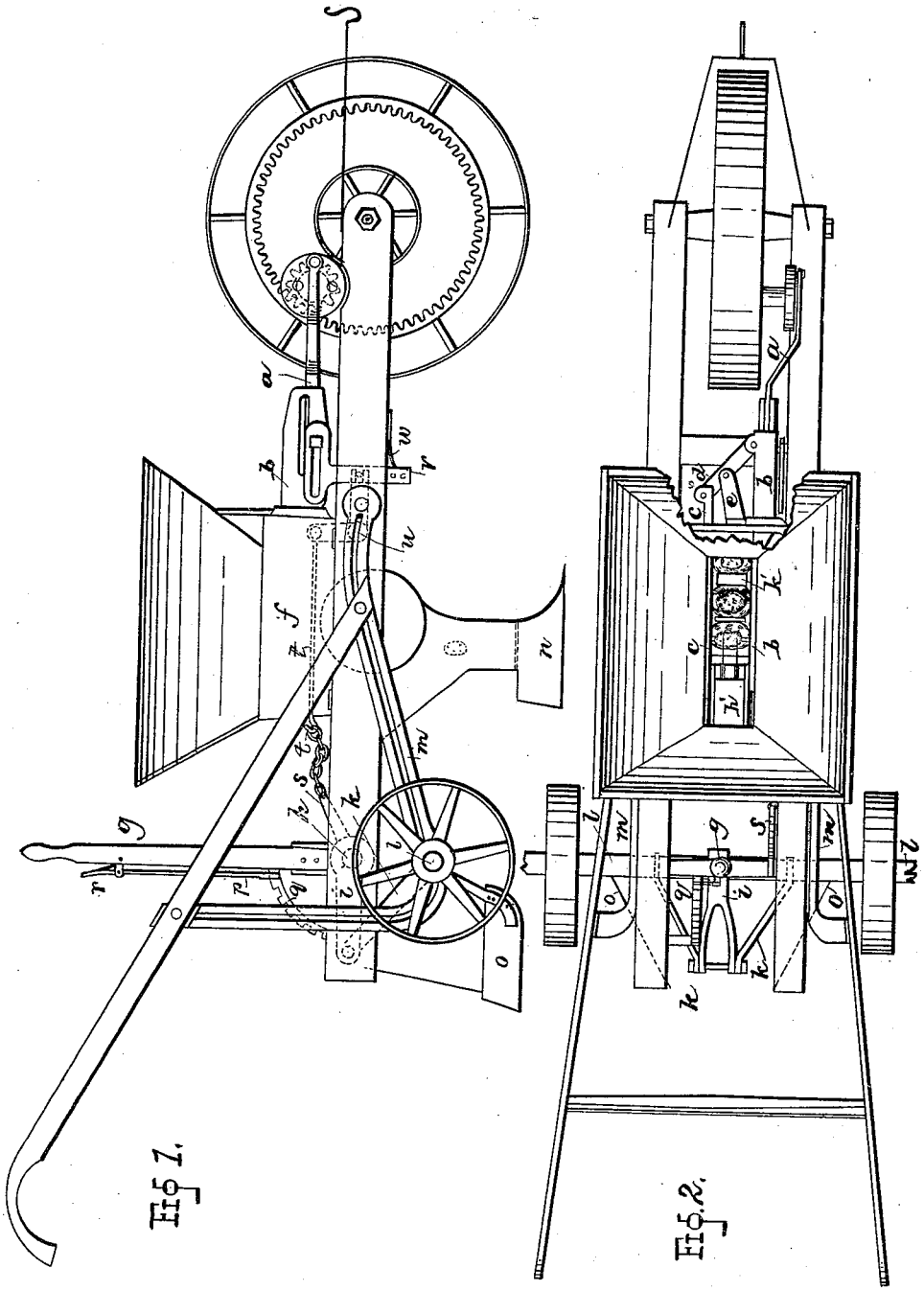

Fig. 1.

Fig. 2.

Witnesses:
Andrew Crawford
Henry C. Middaugh

Inventor
Samuel H. Fish

(No Model.) 5 Sheets—Sheet 2.

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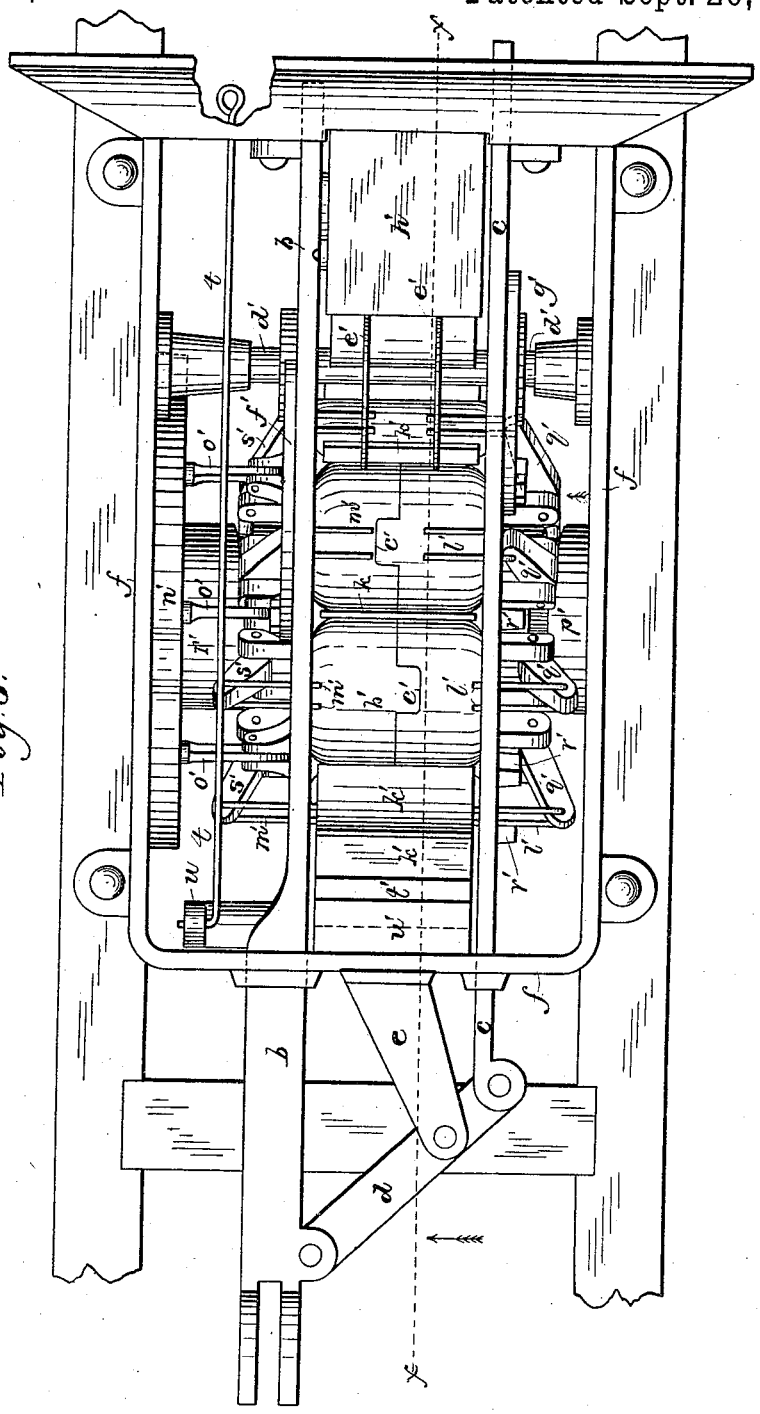

Fig. 3.

Witnesses.
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Attorney.

(No Model.)

5 Sheets—Sheet 3.

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POTATO PLANTER.

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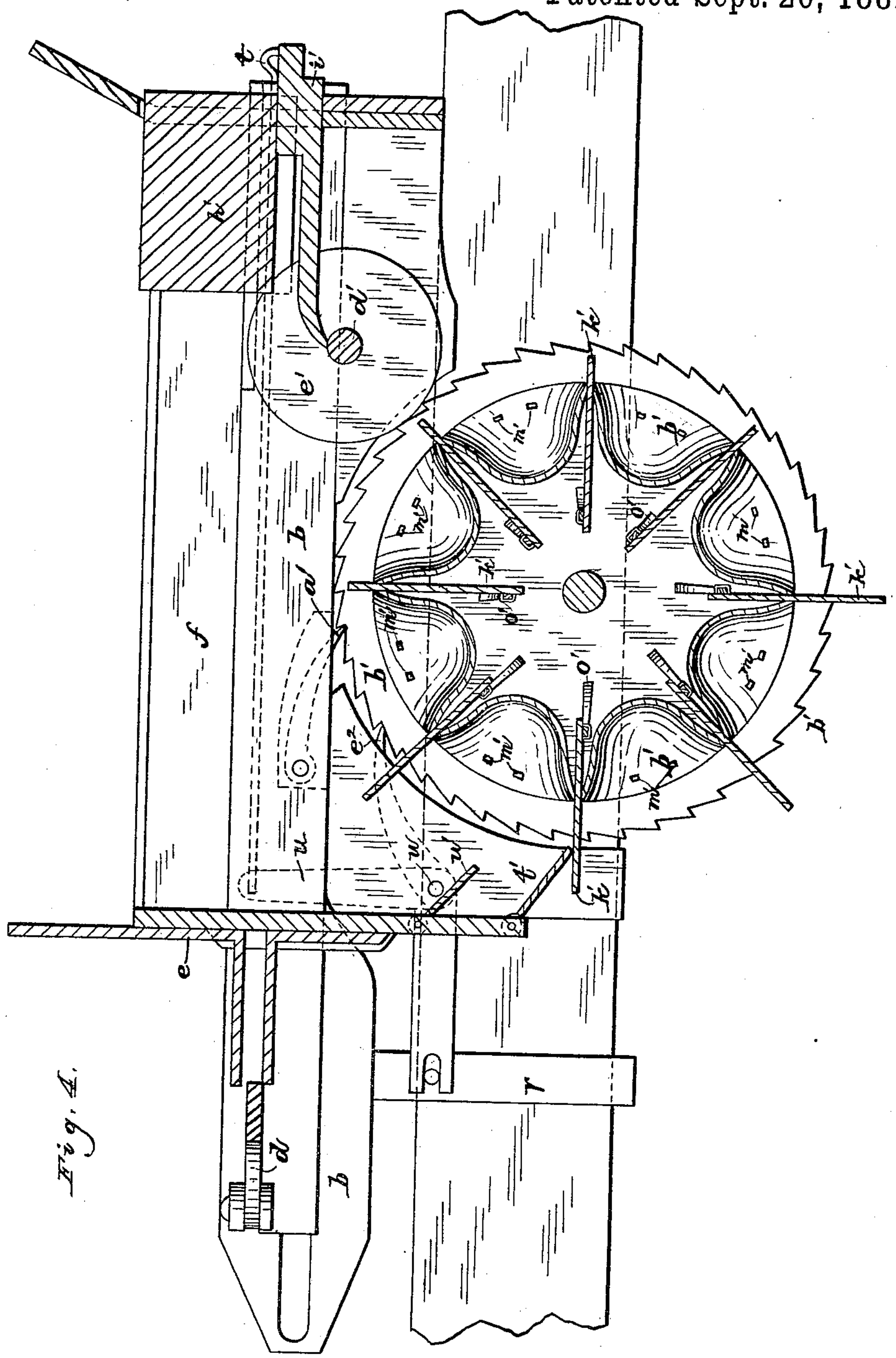

Fig. 4.

Witnesses.
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N. PETERS. Photo-Lithographer. Washington. D. C.

(No Model.)

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POTATO PLANTER.

No. 265,225. Patented Sept. 26, 1882.

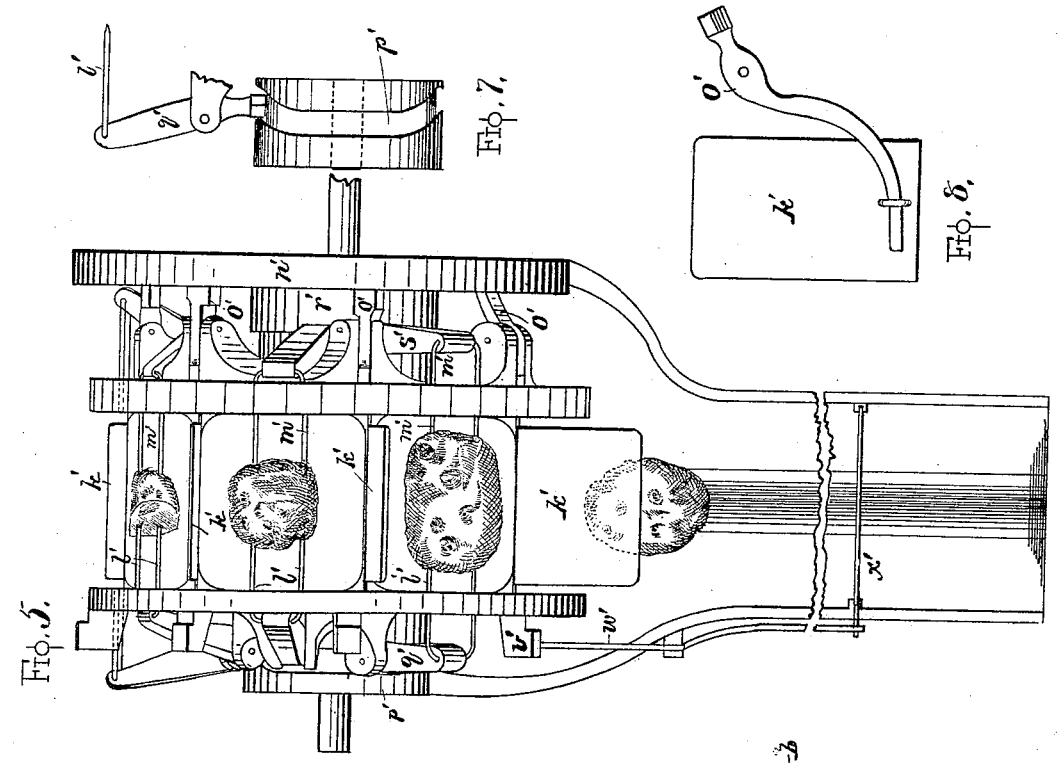

Fig. 7.

Fig. 8.

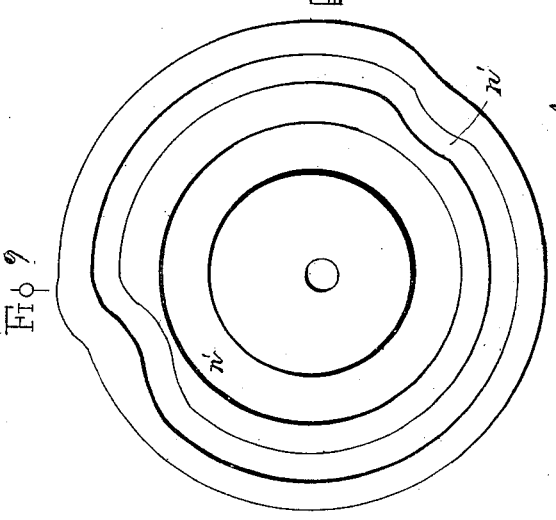

Fig. 9.

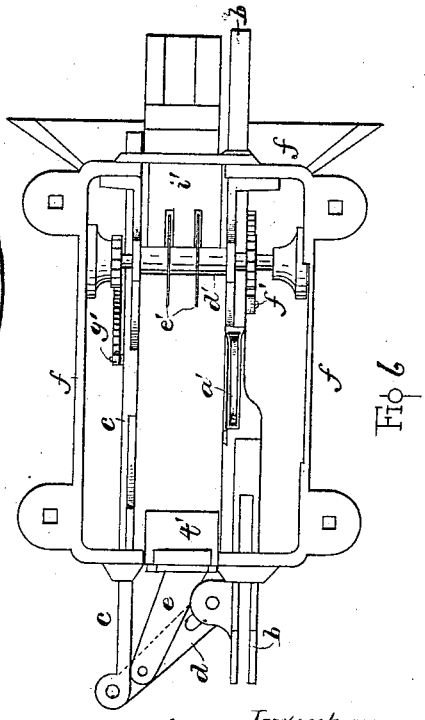

Fig. 6.

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(No Model.) 5 Sheets—Sheet 5.

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POTATO PLANTER.

No. 265,225. Patented Sept. 26, 1882.

Fig. 10.

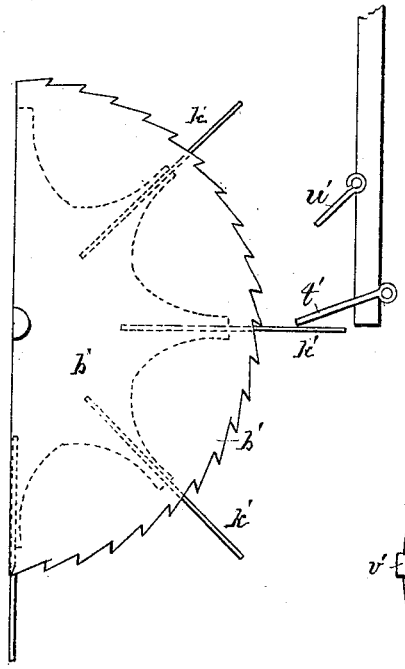


Fig. 12.

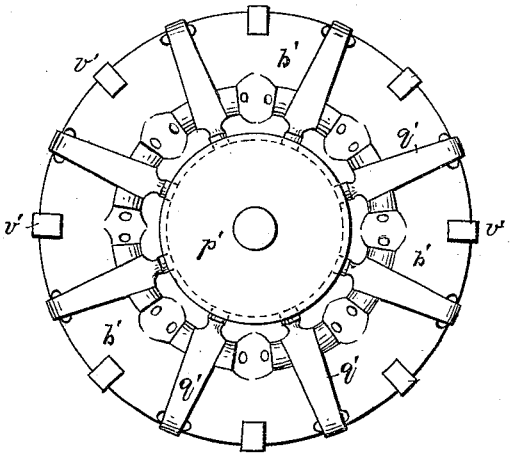
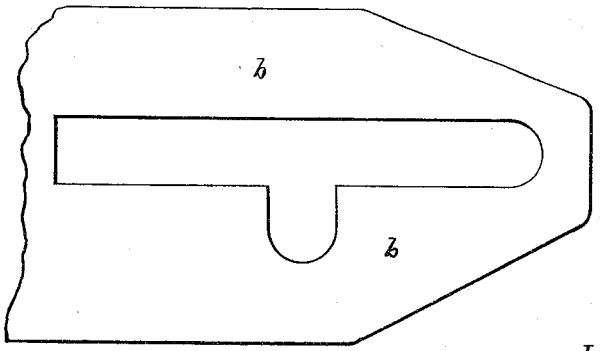


Fig. 11.

Fig. 11.



Witnesses
Andrew Crawford
Henry C. Hazelhurst

Inventor
Samuel H. Fish

UNITED STATES PATENT OFFICE.

SAMUEL H. FISH, OF HINSDALE, ILLINOIS, ASSIGNOR OF ONE-HALF TO HENRY C. MIDDAUGH, OF SAME PLACE.

POTATO-PLANTER.

SPECIFICATION forming part of Letters Patent No. 265,225, dated September 26, 1882.

Application filed February 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. FISH, of Hinsdale, in the county of Du Page and State of Illinois, have discovered certain new and useful Improvements in Potato-Planters, of which the following is such a full, clear, concise, and exact description as will enable others skilled in the art to practice my invention, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to machines for dropping and covering potatoes; and it consists in the combinations hereinafter described and claimed.

Figure 1 of the drawings is a side elevation of my potato-planter drawn on a scale of one and a half inch to the foot. Fig. 2 is a top view thereof. Fig. 3 is a top view of the mechanism for dropping the potatoes. Fig. 4 is a sectional view upon line *x x* of Fig. 3. Fig. 5 is a rear view of the cylinder, showing the position of the forks and tongues, and also the slide in the section of the hollow shoe, which slide is operated by the lugs upon the cylinder. Fig. 6 is a bottom view of the casting which supports the hopper. Fig. 7 is a detail of one of the forks and the cam which operates the forks on one side. Fig. 8 is a detail view of one of the tongues or plates of the cylinder. Fig. 9 is a detail of the cam which operates the levers of the tongues. Fig. 10 is a side view, in detail, of the tongues and guides. Fig. 11 is a full-sized side detail of the front portion of one of the reciprocating slides, showing the notch in which the pin of the pitman rests when the machine is in gear. Fig. 12 is a side elevation of a cam and the cylinder.

Like parts are indicated by similar letters of reference in the different figures.

By reference to Figs. 1 and 2 it will be seen that power is transferred to the dropping mechanism by means of the pitman *a*. I have shown the pitman connected with a wrist-pin of a crank-wheel. The crank-wheel is on the same shaft with the pinion which gears with cogs of the front or drive wheel, as shown.

The reciprocating slides *b c* are connected with the arm *d*, which is pivoted to the lug or piece *e*, which is attached rigidly to the casting *f*. When the machine is in operation these slides reciprocate back and forth, the length of their stroke being governed by the stroke or oscillation of the pitman, which may be regulated by placing the wrist-pin of the crank-wheel at different distances from the center of said crank-wheel. The work done by the reciprocating slides will be more fully described in connection with Figs. 3, 4, and 6.

The lever *g* is connected with the shaft *h*, which has its bearings in the frames. The arm *i*, which may be of cast-iron, extends from this shaft, and is pivoted with the lower arms, *k*, preferably of wrought-iron, which extend to the axle *l*. The axle is supported by the castings *m*, as shown, and passes through the lower arms, *k*, which may turn thereon as the lever is moved. A knee-joint is thus formed, and when the lever is drawn back the body of the machine is raised, so as to lift the hollow shoe *n* and shovels *o o*. The lever is held in the position shown by the dog *p*, which engages with the teeth of the segment-gear *q*. The segment is preferably a casting with lateral projections, so that the segment may be bolted to the frame. The dog is disengaged from the segment-gear by pressing upon the bell-crank lever *r*, which is pivoted to the lever, as shown. The arm *s* projects from the shaft *h*, and is connected by a chain of suitable length, preferably as shown, to rod *t*, which is connected with the bell-crank lever pivoted at *u*. By drawing back the lever *g* sufficiently the bell-crank lever pivoted at *u* will be turned and the guide *v* will be raised against the force of the spring *w*, so as to throw the pitman out of engagement with the slide *b*.

The axle *l* may be of such length that the hind or guide wheels may be regulated so as to mark out rows of any desired width apart. The slide *b*, Fig. 4, is provided with the pawl *a'*, which engages with the teeth of the cylinder *b'*, as shown. The cylinder is hollow and preferably cast in two parts, as indicated by the line *c'* in Fig. 3. The cylinder has its bearings or boxes in the frames.

The shaft *d'*, which carries the disks *e'*, is kept turning by the pawls *f' g'*, which are carried respectively by slides *b c*, as shown.

The block *h'* is attached to slide *b*, so as to move back and forth with it. This block rests

upon the plate i', (see Fig. 6,) and is provided with slots in the lower edge, so that the disks e' may enter the slots and allow the block to move forward, as shown in Fig. 4. Potatoes carried toward the block by the movement of the cylinder would tend to clog the machine were it not for the block, which, while the cylinder is held by detents e^2, is carried forward, thus crowding back such potatoes as may be in its path. The disks are designed to prevent more than a single potato, or such as may be held under or by a single pair of forks, from dropping at the same time. In case a very large potato held by a pair of forks comes against the disks, the disks will cut into it on one side far enough to allow it to pass under them. The disks are especially useful when the potatoes differ greatly in size.

I will now describe more in detail the tongues or plates k', Fig. 5, and the forks l' m', and point out their modes of operation.

The series of forks l' are placed opposite the series m'. The tongues or plates and forks are arranged so as to move with the cylinder. The forks may be compared to the fingers, since each pair is designed to grasp or hold one potato (or such as may fall in the recess or pocket under the pair) and hold it until carried to the place where it is wanted, when the potato is released and falls. But the forks cannot, like the fingers which are guided by the intelligent owner, pick out a large potato here or two or three small ones there from a miscellaneous lot. It is therefore necessary to arrange the potatoes before the forks, so as to be grasped or held at the right moment. The cam n' (see Fig. 9) is provided for the levers o' (see Fig. 8) of the tongues k'. Cam p' (see detail, Fig. 7) is provided for the levers q' of the series of forks l'. Cam r', which is symmetrical with cam p', is provided for the levers s' of the series of forks m'. As the cylinder revolves step by step the levers of the forks and tongues are carried around in the cams.

The potatoes are placed in the hopper, which rests upon the casting above the cylinder and should direct the potatoes between the slides. Potatoes not too large to pass between the reciprocating slides (which in the machine from which the drawings are taken I have placed two and a half inches apart) and potatoes not so small as to slip through or by the forks may be mixed together and fed successfully. As the tongues come successively under the guides t' w' said tongues are one after the other extended so as to come under the guides, (which are plates about the width of the tongues, pivoted to the casting, as shown,) and as they rise toward the upper portion of the cylinder they serve to bring the potatoes into position so as to be held by the forks when the forks are brought together. As the forks come together the tongues are drawn in, (see Fig. 5,) and the forks hold the potatoes until they are brought over the hollow shoe, and then the forks separate and the potatoes fall. The lugs v', as they come against the lever w', tilt the slide x' in the hollow shoe, and the potatoes fall.

I claim as my invention and desire to secure by Letters Patent—

1. The combination, substantially as hereinbefore set forth, of the tongues or plates and the series of forks carried by the cylinder, and means whereby the said tongues are extended and drawn in and the forks of each pair brought toward each other and separated, as and for the purpose specified.

2. The combination of reciprocating slides b c, pivoted to the arm e, and pawls a' f' g', whereby the cylinder is moved step by step and the disks kept in motion, substantially as and for the purpose specified.

3. The combination, with the cylinder carrying the tongues and forks, of the disks e', whereby large and small potatoes may be fed when mixed together, substantially as shown and described.

4. The combination, with the cylinder carrying the tongues and forks, of the block h', whereby potatoes carried back by the cylinder are crowded forward while the cylinder is at rest, as and for the purpose set forth.

5. The hollow cylinder, in combination with series of forks and tongues, said forks and tongues being provided with levers and operated by the cams p' r' n', and means for turning said cylinder step by step, substantially as and for the purpose specified.

6. The combination of the tongues carried step by step with the cylinder and one or more guides, t' w', whereby the potatoes are directed to the successive tongues as the tongues are extended, substantially as shown and set forth.

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Witnesses:
HENRY C. MIDDAUGH,
GEORGE P. BARTON.