Easterbrook & Bronson,

Osier Peeler.

No. 40,252. Patented Oct. 13, 1863.

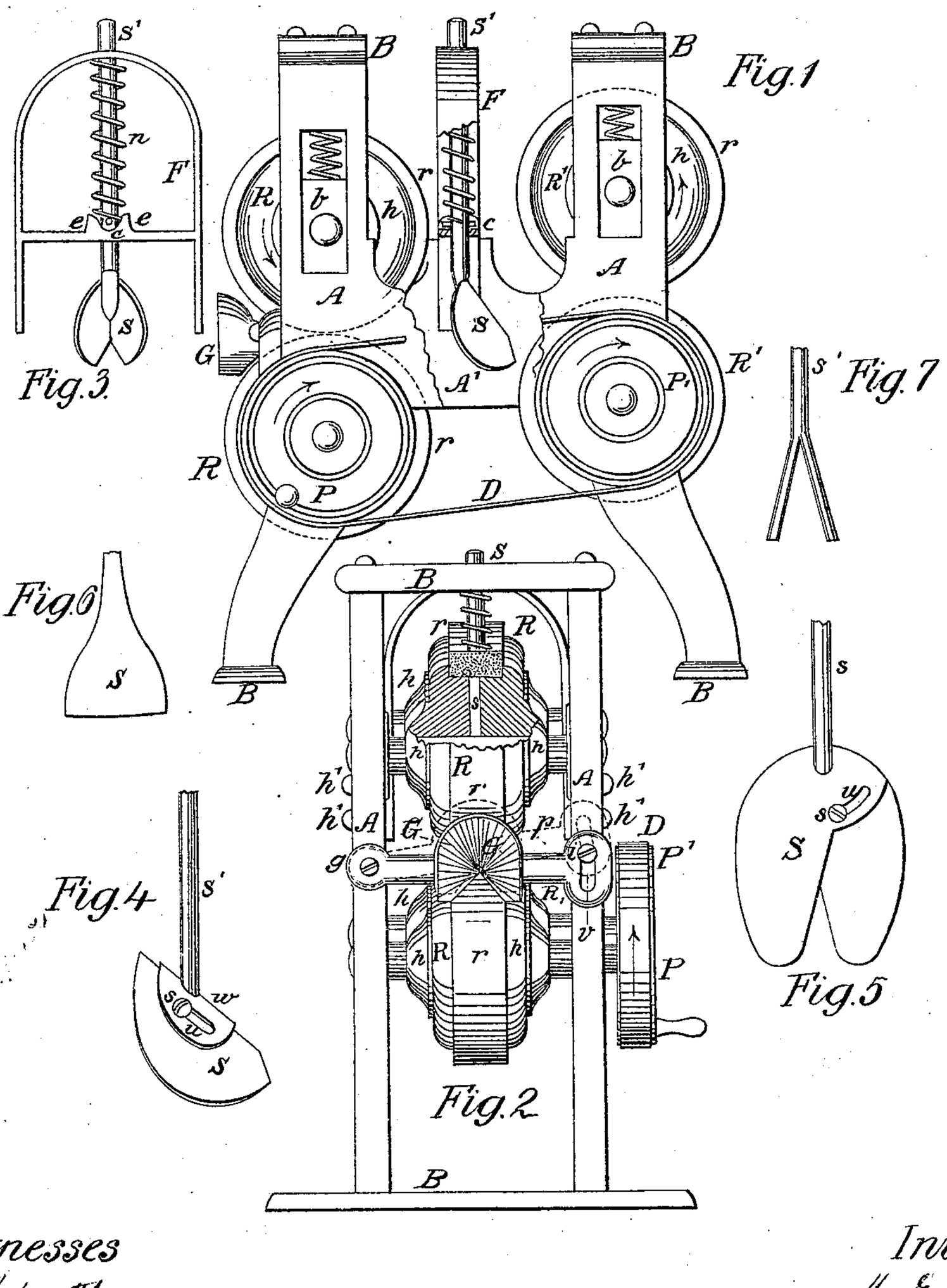

Fig. 1

Fig. 3

Fig. 7

Fig. 6

Fig. 4

Fig. 5

Fig. 2

Witnesses

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UNITED STATES PATENT OFFICE.

MATTHEW EASTERBROOK, JR., AND E. A. BRONSON, OF GENEVA, NEW YORK.

IMPROVEMENT IN MACHINES FOR PEELING WILLOW.

Specification forming part of Letters Patent No. **40,252**, dated October 13, 1863.

To all whom it may concern:

Be it known that we, M. EASTERBROOK, Jr., and E. A. BRONSON, of Geneva, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Willow-Peeling Machines; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation with a section of the side A′ and of the scraper-frame F removed to show the scraper S. Fig. 2 is an elevation of the front end, showing the upper half of the upper feed-roller, R, in vertical section. Fig. 3 is a transverse elevation of the scraper S and its frame F. Figs. 4, 5, 6, and 7 show different constructions of the scrapers S.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to provide a simple, cheap, and efficient machine, for peeling willows by hand, and its nature will be understood by reference to the drawings and specification.

A and A′ in the drawings represent the si les of the frame, and they are connected together by the bars B at the top and bottom.

The letters R represent the feed and R′ the discharge rollers, F the scraper-frame, S the scraper, and G the feeder-guide.

The rollers R and R′ are each composed of two heads, *h*, which are fixed to their respective shaft, leaving a space between them, as shown at *s*, Fig. 2, and of a ring, *r*, which may be composed of any elastic substance. The ring is stretched over the heads and let into the recess formed in their inner edges, and the space *s* is thereby covered and produces an additional preventive of the tendency to crush the passing willow or the rubber ring *r*.

The scraper S is made of a plate of steel, shaped as seen in Figs. 1 and 3, having a V-shaped notch in the lower end. It is riveted or otherwise fixed to the vertical shaft S′ in a sloping direction toward the lower discharge-roller. The shaft is surrounded by a spiral spring, *n*, between the arch and cross-bar of the frame F. The lower end of the spring rests upon the pin *c* of the shaft. The frame F is fixed to the sides A and A′ by screws *h′*.

The scraper S is sharpened by grinding the V-shaped notch.

The upper feed and discharge rollers, R and R′, are made self-adjusting by means of the spiral springs *m* over their journal-boxes *b*.

The feeder-guide G is hinged at one end to the side A′ by the screw *g*, and the other end is allowed to swing vertically by the screw *i*, fitting loosely through the slot *v*.

The head *w* in Fig. 4 is riveted to the stem S′, and the scraper S is attached to this head by a set-screw, *s′*, passing through a slot, *u*, in each side of the head. This scraper is sharpened similarly to that shown in Figs. 1 and 3, but the wear thus caused is compensated for in this by means of the set-screws.

The scraper S (shown in Fig. 5) is composed of two flat plates, pivoted to the shaft S′, and the angle of the V-shaped notch is made adjustable by means of the set-screw *s′* and the curved slot *u*. Such adjustment may be found necessary for differently-conditioned willows.

Fig. 6 shows a scraper composed of a simple flat plate with a plain edge. It is made to slope from the terminus of the shank toward the lower discharge roller, the same as the other varieties.

Fig. 7 shows the construction of the ordinary scrapers, as used by hand. Any of these varieties are applicable in this machine.

The operation is as follows: Motion is transmitted from the lower feed-roller, R, to the lower discharge-roller, R′, by the band D, and the upper rollers, R and R′, are driven by traction from the lower ones. The willows are fed singly to the machine by placing the tips in the funnel-shaped feeder G, which is hung below the bite of the two rollers, by which they are guided accurately to the center of the rubber ring of the lower roller, R, without any extra care on the part of the attendant. As the willow is carried in between the rollers, the guide G is raised, as shown by the dotted lines *n*, Fig. 2, allowing it to pass, and as it is thus fed through the V-shaped notch of the scraper S and between the discharge-rollers, it is drawn up firmly against the scraper by the rollers R′ being arranged higher up and driven a trifle faster than the rollers R. When the scraper is thus raised by the passing willow, the pin *c* being released from the saddle *e*,

the shaft S′ is allowed to turn on its vertical axis, and thereby accommodate itself to any crooks in the willow, and, as the latter is discharged, the spring drives the scraper down with such force that the concussion of the pin, striking in the saddle *e* on the cross-bar, relieves scraper S of all shreds of bark or other matter that may have accumulated during the passage of the willow. The proper position of the scraper is secured by the pin *c*, dropping between the wings of the saddle *e*, Fig. 3. All that is required after this process, when the willows are in proper condition, is simply to strip the bark from the tips, it having been already loosened by the machine.

The upper and lower rollers may be geared together, if desired, as may also the feed with the discharge rollers, by placing an intermediate gear between the lower ones.

The bark is loosened by the pressure of the feed rollers, R, and it is stripped off by the friction of the scraper S.

The number of the feed or of the discharge rollers, or of both, may be increased, if desired, and there may be two or more scrapers used, so arranged as to operate upon different sides of the willow at the same time, if necessary.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination of a scraper, S, in willow-peeling machines, with feed and discharge rollers R and R′, substantially in the manner specified, when said rollers have a yielding or elastic periphery, as set forth.

2. The construction, arrangement, and operation of the scraper S, substantially as shown in Figs. 1 and 3, and for the purposes set forth.

3. The construction of the feed and discharge rollers R and R′ of willow-peeling machines, with a vacant space centrally under the rubber ring *r*, substantially in the manner and for the purpose described.

4. The feeder-guide G, constructed, arranged, and operating substantially in the manner and for the purpose set forth.

5. The relative arrangement of the feed and discharge rollers R and R′ with the scraper S, the latter being below a direct line between the bite of the front and that of the rear rollers, substantially as shown, and for the purpose specified.

6. Driving the discharge-rollers R′ faster than the feed-rollers R, so as to insure the drawing of the willow up through the V-shaped notch of the scraper, as and for the purpose specified.

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Witnesses:
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