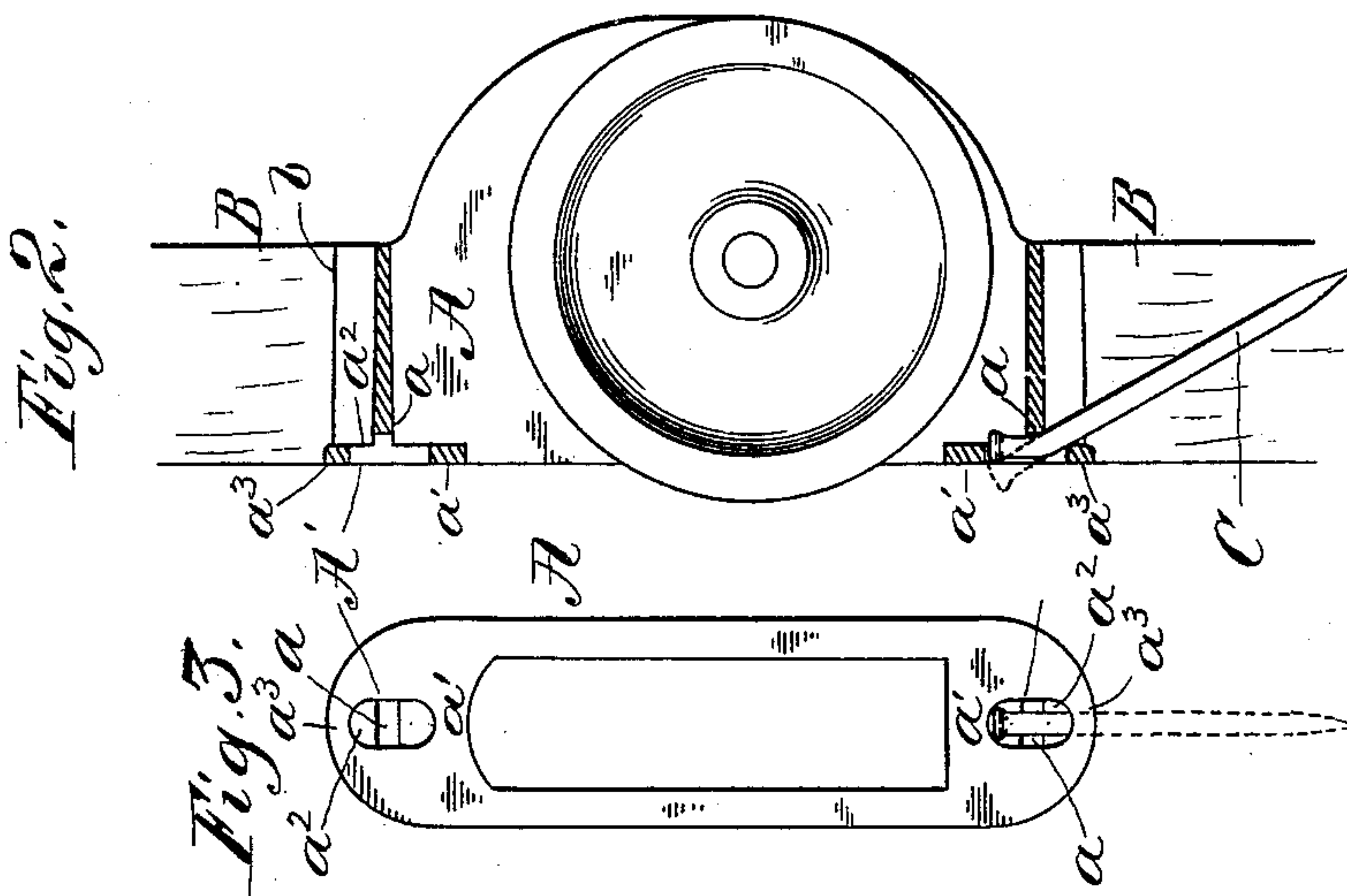
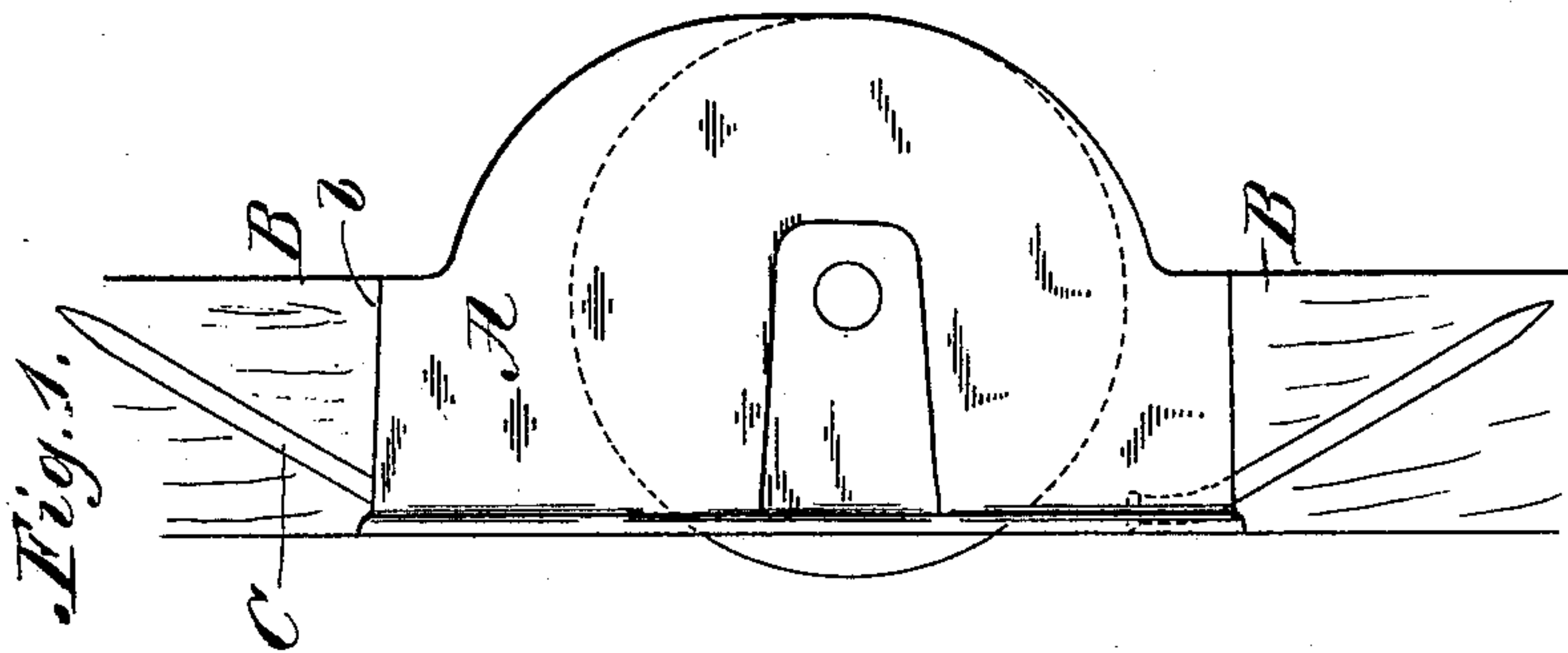


(No Model.)

F. V. PHILLIPS.
SASH PULLEY.

No. 481,510.

Patented Aug. 23, 1892.



Witnesses:

J. B. Weir.
Louis M. F. Whitehead.

Inventor
Francis V. Phillips
By his Attorneys
Dayton. Pool & Brown

UNITED STATES PATENT OFFICE.

FRANCIS V. PHILLIPS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE SMITH & PHILLIPS MANUFACTURING COMPANY, OF SAME PLACE.

SASH-PULLEY.

SPECIFICATION forming part of Letters Patent No. 481,510, dated August 23, 1892.

Application filed October 21, 1891. Serial No. 409,439. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS V. PHILLIPS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Sash-Pulleys; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form
10 a part of this specification.

This invention relates to a novel construction in sash-pulley shells, having reference to the ready and secure fastening of the shell in the mortise of the window-frame in which
15 it is placed.

In the accompanying drawings, Figure 1 is a vertical section of the frame-stile, taken through the middle of the mortise and showing the pulley-shell in said mortise, with its
20 fastening-nails in side view. Fig. 2 is a central longitudinal section of the pulley-shell in the plane of the wheel or pulley proper. Fig. 3 is a front view of the pulley-shell.

A represents the pulley-shell, and B a window-frame stile having a mortise *b*. The shell A is of the unflanged order intended to fill the mortise *b* and to be secured by nails at its opposite ends or by a nail at one end and by any other device at the other.

30 For the purpose of receiving the nail C the face of the shell is provided with an oblong opening A' near its end, beneath which and at or near the middle thereof is a transverse cross-bar *a*, which will usually be the upper edge
35 of the end wall of the pulley-opening, and at the inner end of which recess is the cross-bar *a'*. The opening or recess leads to a through nail passage *a*² exterior to the wall of cross-bar *a*, and the nail C, which is malleable or of
40 wire, is driven through this hole into the end of the mortise *b*. The nail is driven in a direction as nearly parallel to the face of the shell and stile as practicable, and when it has been driven in far enough to bring its
45 head over the inner end of the recess A' said head is forced inward into the said opening by a blow upon a nail-set, and the shank of the nail is thereby bent over the bar *a*, as

illustrated in full lines in Fig. 2. In this position of the nail-head and bent form of the
50 nail it will bear against the cross-bar *a'*, which stands so nearly in line with the body of the nail as to effectually prevent the latter from moving outward. Meantime the nail holds the shell from moving outward
55 by its contact with the shoulder or end wall *a'*, and it equally prevents the shell from inward displacement by contact with the outer cross-bar *a*³ when the latter is present, as it should be, for the best results in all cases.
60 The opening A' may lead to a through-passage only at the outside of the bar or end wall *a'* and at its opposite or inner end may constitute merely a recess deep enough to admit the nail-head.
65

The difficulty of loosening in the stile is greatest at the upper end of the shell, and the shell may therefore have the special construction described at that end only, if desired; but said construction being both cheap
70 and effective it may with advantage be employed at both ends of the shell.

I claim as my invention—

1. A sash-pulley shell provided with an opening or recess A', extending both sides of
75 a subjacent wall or cross-bar *a*, said recess terminating at a shoulder *a'* at its inner end and forming a through-passage outside said bar *a*, whereby a nail driven through the passage into the end of the mortise in the stile
80 may be bent to bring its head opposite the shoulder or cross-bar *a'*, substantially as and for the purpose set forth.

2. A sash-pulley shell provided with a recess A', bounded at its inner and outer ends,
85 respectively, by the cross-bars and extending both sides of a subjacent cross-bar *a*, exterior to which said recess forms a through-passage, substantially as and for the purpose set forth.
90

3. The combination, with a mortised window-stile and a pulley-shell having in its face a recess A', bounded at its inner and outer ends by cross-bars *a'* and *a*³ and extending
95 both sides of a subjacent cross-bar *a*, exterior to which it forms a nail-hole *a*², of a nail

entering the end of the stile-mortise through
the hole a^2 and bent over the cross-bar a ,
with its head in position to encounter the
cross-bar a' in moving or tending to move
5 outward in the direction of the unbent por-
tion of its shank.

In testimony that I claim the foregoing as

my invention I affix my signature in presence
of two witnesses.

FRANCIS V. PHILLIPS.

Witnesses:

M. E. DAYTON,

TAYLOR E. BROWN.